



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

COMMENT RESPONSE DOCUMENT
PART 2 of 2

Environmental Protection Performance
Standards at Oil and Gas Well Sites

Title 25. Environmental Protection
Part I. Department of Environmental Protection
Subpart C. Protection of Natural Resources
Article II. Land Resources
Chapters 78 and 78a. Oil and Gas Wells

43 Pa.B. 7377 (December 14, 2013)
Environmental Quality Board Regulation #7-484
Independent Regulatory Review Commission #3042

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INTRODUCTION:

On December 14, 2013, the Environmental Quality Board (EQB) published notice in the *Pennsylvania Bulletin* (43 Pa.B. 7377) announcing seven public hearings and a 60-day public comment period for a proposed rulemaking concerning revisions to 25 Pa. Code Chapter 78 (relating to Oil and Gas Wells).

The proposed rulemaking would amend Chapter 78 to adopt new requirements that ensure oil and gas operators employ effective measures that prevent pollution, while allowing flexibility for the optimal development of the natural resources. The amendments are designed to strengthen the environmental controls employed by the industry to ensure the protection of public health, safety, and the environment.

On February 1, 2014, the EQB published a notice in the *Pennsylvania Bulletin* (44 Pa.B. 648) announcing two additional public hearings and an extension of the public comment period by 30 days. In total, the EQB held nine public hearings over a 90-day public comment period accepting comments on the proposed rulemaking. During this comment period, 3,128 comments were received from 23,213 commentators.

During the pendency of this rulemaking process, the General Assembly also passed two acts directly relating to the subject matter of the proposed rulemaking. As a result of the passage of the act of July 10, 2014 (P. L. 1053, No. 126), all regulations promulgated under 58 Pa.C.S. (relating to oil and gas) were required to differentiate between conventional oil and gas wells and unconventional gas wells. The Department determined that the current rulemaking process would continue, but that the regulations would be completely bifurcated (separated into two distinct chapters) on final-form rulemaking. The act of October 22, 2014 (P. L. 2853, No. 173) requires monthly reporting of production by unconventional well operators to the Department of Environmental Protection (Department or DEP).

On April 4, 2015, the Department published notice in the *Pennsylvania Bulletin* (45 Pa.B. 1615) announcing an Advanced Notice of Final Rulemaking (ANFR) procedure. This allowed DEP to solicit additional comments on the draft-final rulemaking for 30 days. On April 18, 2015, DEP published notice in the *Pennsylvania Bulletin* (45 Pa.B. 1951) announcing three public hearings and extending the ANFR public comment period by 15 days. During this additional public comment period, 2,482 comments were received from 4,914 commentators.

In assembling this document, the Department has addressed all pertinent and relevant comments associated with this rulemaking. For the purposes of this document, comments of similar subject material have been grouped together and responded to accordingly.

Due to the volume of comments received, this document is separated into two parts. Part one contains all of the comments received during the initial public comment period from December 14, 2013 through March 14, 2014. Part two contains all of the comments received during the ANFR procedure, open from April 4, 2015 through May 19, 2015. Each part of the comment response document has its own Commentator List. Additionally, several large attachments were submitted and are included in Appendices to each of the parts of the Comment Response Document.

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§§ 78.1 and 78a.1 Definitions

1. Comment: There are several new concepts introduced for the first time in the proposed ANFR. Provisions including these new concepts should be required to go through the proposed rulemaking process under the Regulatory Review Act. Several of those new sections use terms that are not defined in 78a.1, for example: playground, servicing activities, common areas on a school property, wellhead protection area, floodway, and centralized tank storage. The meaning of these terms is not self-evident. Unless these terms are defined, the proposed provisions do not clearly establish a cogent standard with which industry can comply. Several of these proposed terms are also undefined in other Pennsylvania statutes and regulations and will require a new definition. In other instances, the term has a well understood definition that should be interpreted the same way in this rulemaking, e.g., floodway in 25 Pa. Code Chapter 105. Another example, wellhead protection area, is defined in Chapter 109, but we recommend a revised definition for the use of the term in 25 Pa. Code § 78.15. Relying on the Chapter 109 definition of wellhead protection area would likely have broad implications not considered by the drafters of the proposed ANFR; at a minimum, the definition should be limited to Zone I wellhead protection areas as defined in § 109.1. (210)

Response: The Department disagrees with the comment. The terms listed are all commonly used and self-evident. The reference to the wellhead protection area and limiting it to the Zone I wellhead protection area is too restrictive to be useful in protecting a water supply.

2. Comment: There are a number of definitions and sections of text that refer the reader to other statutes or regulations. This causes the reader to search elsewhere to find that other statute or regulation and look it up before being able to understand what Chapter 78a requires. This is not user friendly and does not facilitate regulatory understanding and compliance. For example, with regard to definitions, it would be better to provide the intended definition in §78a.1 or to state, “As defined in 25 Pa. Code § XXX.X,” rather than refer to a statutory citation that requires more effort to locate. This should be done for the definitions of, process or processing, and regulated substance. It should also be done for §78a.13, §78a.51(d)(2), § 78a.60 (a), and numerous other sections where citations to other statutes or regulations are given. (193)

Response: The Department acknowledges that the interrelation of environmental statutes and regulations can be complex, as befits the complexities of the activities being regulated under those authorities. There are two problems with inclusion of the referenced language in Chapter 78 and Chapter 78a. First, and most importantly, if the referenced language changes through statutory amendment or regulatory development, the language in Chapter 78 and Chapter 78a would not automatically change to match the new language. This would create two sets of regulations addressing the same subject in different ways. Simply referencing the other statute or regulation allows for these updates to occur automatically. Second, including the cross-referenced language would result in Chapter 78 and Chapter 78a being significantly larger than it is without including that language. The Department notes that all of the cross-referenced authorities are available for free on websites accessible to the public.

3. Comment: We have no objection to the proposed definition of inactive well. However, PADEP does not clarify what constitutes an “active well” in this proposed ANFR. (210)

Response: The term “active well” is not used in the regulation, therefore a definition for the term is not provided.

4. Comment: 78a. 1 We strongly support the language clarification protecting our water supplies. Everyone in our area has a drilled well. All water wells need to meet the minimum PA SDWAS standards. Water wells of a higher quality than required under the PA Safe Drinking Water Act Standards that are polluted as a result of gas activities should be restored to the same quality prior to pollution. (233).

Response: The Department acknowledges the comment.

5. Comment: Brine should be defined in 78 and 78a. (237, 246, 249)

Response: The definition of the term is the common English definition.

6. Comment: The proposed regulation only includes a definition of fresh groundwater, not freshwater.

Typical definition of freshwater, brackish water, salt water and brines are based on specific total dissolved solid concentration and not generic as presented above. Hydrogeological systems that have brackish water are part of the hydrologic cycle and occupy the pore spaces and fractures of saturated subsurface materials. Please define freshwater based on less than 0.05 % salinity. (see below)

Water salinity based on dissolved salts			
Fresh water	Brackish water	Saline water	Brine
< 0.05%	0.05–3%	3–5%	> 5%

The State Review of Oil and Natural Gas Environmental Regulations Inc. (STRONGER) recommended in their most recent review of DEP’s regulations that DEP should establish numerical criteria for fresh groundwater. Because the definition is not precise in terms of numerical criteria, it is interpreted differently by different operators, making the determination subjective. This is a problem for many reasons, including determining surface casing seat depth, according to STRONGER.

This is also a problem because DEP allows freshwater impoundments to contain fluids that are contaminated, increasing the opportunity for pollution to the environment because freshwater impoundments are not required to meet the stricter requirements of Chapter 289 (relating to residual waste disposal impoundments) or Chapter 105.3. There is no defined process and no prescribed standards for how the Department approves “other sources”. (182, 239)

Response: The Department acknowledges this comment and although the definition of “fresh groundwater” is beyond the scope of the current rulemaking, the Department will consider different water quality classification systems when Subchapter D is revised.

7. Comment: These proposed changes contain various poorly-defined terms, and in some cases no definition at all, in rulemaking that will have a major impact in future operations and perhaps retroactively as well. Without clearly defined regulations, much of the enforcement will be based on interpretation rather than rules. (3094-3121)

Response: The Department acknowledges the comment.

8. Comment: §78a.1 Definitions. PADEP is creating conflict with existing standards and regulations in the newest version of the proposed rulemaking. Inconsistent definitions, coupled with new language, will create tremendous regulatory uncertainty and have negative consequences that will drown the oil and gas industry with unnecessary mitigation measures. (113)

Response: The Department acknowledges the comment.

9. Comment: 78a.1 Definitions should be consistent with FEMA and those found for conventional wells Chapter 78.(161)

Response: The Department acknowledges the comment.

10. Comment: PCSM plan - Post-construction stormwater management plan - The term as defined in § 102.1 (relating to definitions). The §102.1 definition intimates a construction magnitude that is characteristic of unconventional development and far more expansive than conventional site construction. For this reason, it (as well as PCSM) should be deleted from the definitions listing related to conventional operations. (245)

Response: Depending on the type and scope of activity, conventional operations may require post construction storm water management.

11. Comment: Brine: the term brine does not appear in the proposed § 78a.1, nor does it appear to be defined anywhere in the current version of CH 78a or CH 78. Although definitions are implied in numerous sections none is clearly provided. We believe it would be helpful to clearly define this term given its extensive use throughout these regulations. We are also pleased to see the changes in this version of the proposed regulations significantly restricting the use of brine, which we believe will better allow the Commonwealth to meet its intended goal to ensure that particular chemicals and substances used in hydraulic fracture stimulation do not end up in the waters of the Commonwealth. We previously expressed concerns that the use of brine for multiple purposes (e.g. dust suppression, road stabilization, pre-treatment of roads, etc.) and the numerous state and local roads present within and near NPS units such as the Upper Delaware Scenic and Recreational River (UPDE), could potentially impact NPS resources. The proposed changes to CH. 78a appear to alleviate many of those concerns. (200)

Response: The definition of the term is the common English definition.

12. Comment: Leak Protection System: is undefined in both the current and proposed regulations. Given the importance of these regulations in protecting the waters of the Commonwealth, we believe it should be defined. (200)

Response: The term “leak protection system” is not used in either Chapter 78 or 78a and is therefore not defined in either Chapter.

13. Comment: Limit of Disturbance: We recommend this phrase be defined in the definitions section of the regulations, especially as it plays such a prominent role in impacts on public resources such as National Parks. (200)

Response: The Department agrees and has added a definition for Limit of Disturbance to both Chapters 78 and 78a.

14. Comment: Water Protection Depth: We believe this may be a typo or mistake, and should read, “the depth to a point 50 feet above the surface casing seat.” The water protection depth cannot extend to a depth below the surface casing seat where the casing and cement acts as the barrier to provide protection. If regulations require setting of surface casing seat to a depth of 50 feet below the freshwater interval, then the water protection depth would be to that depth or 50 feet “above” the surface casing seat. There is no protection below the surface casing seat unless intermediate casing is run and cemented. However, one may assume there is protection 50 feet above the surface casing seat as there is 50 feet of cement separating the open borehole annular from the freshwater interval after one generally drills/penetrates 50 feet below the freshwater interval to set surface casing (50 feet generally provides the minimal measure of protection through separation). (200)

Response: The term “Water Protection Depth” as it is used in the current regulation is intended monitor for a level that is encroaching upon the surface casing seat when action must be taken.

15. Comment: Well Site: Does this definition include the access roads and gathering lines “necessary for or incidental to the drilling, production or plugging of a well”? We believe the definition should be made more explicit to include these features. (200).

Response: The definition is consistent with the definition in the 2012 Oil and Gas Act and does not include access roads or pipelines.

16. Comment: The definition of “freshwater impoundment” is significantly flawed. Section (iii) of this definition reads: “Designed to hold fluids, including surface water, groundwater, and other Department approved sources.” It is evidently the intention here to assume that already polluted surface water is “freshwater”. This is simply outrageous, and is completely contrary to the common sense meaning of the term “fresh water”. (216)

Response: The Department has modified Chapters 78 and 78a to change “Freshwater Impoundment” to “Well Development Impoundment” to clarify the meaning of the term.

17. Comment: Abandoned Water Well is defined too broadly and should only include those that are properly abandoned under DEP Chapter 7 Well Abandonment Procedure. This is required because such a well 1) eliminates the physical hazard of the well (the hole in the ground), 2) eliminates a pathway for migration of contamination, and 3) prevents hydrologic changes in the aquifer system, such as the changes in hydraulic head and the mixing of water between aquifers. (161)

Response: The definition of “abandoned water well” includes a provision to exclude wells that are not in use but are maintained or equipped in such a manner as to be able to draw groundwater as an alternative, backup or supplemental water source. The definition of “abandoned water well” was included in the rulemaking to provide clarification for implementation of § 3215(a) of the 2012 Oil and Gas Act which describes well location restrictions. Landowners are given consideration through the well permit application process described under § 3211 of the 2012 Oil and Gas Act, which includes notice to the landowner and the ability for the landowner to file an objection under § 3212 of the 2012 Oil and Gas Act.

18. Comment: Abandoned Water Well - This definition is broad, and could be subjectively

interpreted by PADEP. For example, a time frame should be set for when a water well is determined to be abandoned. In 58 Pa. C.S. § 3215(a), the location of wells for purposes of setback requirements is established as of the date the copy of the well plat is mailed (as required by § 3211(b) for well permits). A similar time frame should be established here.

Additionally, at least one other Pennsylvania regulatory program includes the option for a landowner to choose to abandon a water well so that it does not have to be protected. PADEP provides a form to be signed by the landowner, notarized, recorded against the deed and filed with PADEP. A similar option should be included in PADEP's final rulemaking.

The last sentence should either be deleted or modified to require that water wells be both equipped AND properly maintained to be excluded from the term "abandoned water well." (210)

Response: The definition of "abandoned water well" was included in the rulemaking to provide clarification for implementation of § 3215(a) of the 2012 Oil and Gas Act. Accordingly, the timeframes established under § 3215(a) of the 2012 Oil and Gas Act apply. The 2012 Oil and Gas Act allows wells to be located within the prescribed setback if written consent is obtained from the operator. Finally, the Department disagrees that a water well must be both equipped and properly maintained to be excluded from the term "abandoned water well" and has not made the suggested revision.

19. Comment: Abandoned Water Well – while the definition appears sufficient our concerns lie with how this will be interpreted in a guidance document. There are many reasons in rural areas why one party may interpret a well as abandoned and another may not. It is not uncommon to have multiple wells on farms. These wells are of importance when pasturing cattle away from surface water sources as an example. As land-use changes, the need to access what may be considered an "abandoned water well" changes. We strongly recommend that the landowner and tenant farmer (farmers who rent farms/fields) be consulted about land-use when determining when a water well is actually abandoned. Our Region has been historically rural and agricultural. We've lost many farms over the last decades. Many of the few remaining farmers now in addition to their own property rent other properties to grow crops and pasture cattle. These 'tenant' farmers have been taking a pretty big hit during the gas development. Often, they are renting farmland from elderly residents or absentee landowners who are unaware of what these changes to their properties may entail. A trusting stock of rural culture, some landowners are often less inclined to consult with an attorney before signing agreements, a tendency in which the gas industry has taken advantage. 'Tenant' farmers have planted crops only to have them disturbed for pipelines, and then not be compensated for fertilizer, seed, fuel etc. 'Tenant' farmers have had productive fields destroyed by pipeline contractors who failed to restore soil properly, so either the land remains untillable or farm machinery gets stuck unable to till. Acres and acres of previously valuable farmland have become untillable. There is no one to rectify this problem. Until a farmer goes to work the soil, it looks fine. In many cases, drain tile has been removed during pipeline construction and more often than not, it is not replaced. This also contributes further to an increasing amount of untillable land. 'Tenant' farmers have no way to address these issues. The only recourse they have is once the land is no longer fit to farm, they no longer farm it.

Much the same situation will occur when the 'tenant' farmer is excluded from dialogue concerning when a water well is abandoned. We realize this is a difficult situation, and involves property rights for the landowner. However, land-use is also important, and therefore, there needs to be a mechanism to include 'tenant' farmers in scope of when and how a water well is considered abandoned. A perfect example of the reason why is considering farming and land-use changes. A 'tenant' farmer may utilize an area for crops and there may be an old water well in

that area. The next year, he may determine that he wants to pasture livestock there and retrofit that old water well. So, the ‘tenant’ farmer is a relevant stakeholder and their land-use needs to be considered in terms of when a water well is considered “abandoned.”

In rural areas, when the grandparents pass on and the grandchildren are yet to come of age, it is possible that a water well could be disconnected as the home is placed in ‘storage’ until the younger generation is ready to begin their family. There are also boroughs such as Towanda and Laceyville who have struggled during the last decade to provide residents with quality water supplies. Both boroughs have drilled multiple wells deemed unsuitable and requiring expensive or prohibitive water treatment. Depending on situations and the failed ability to find a productive town water well, these “abandoned water wells” may at some future date become viable.

Thus, we recommend that an adequate guidance document be crafted and issued for public comment prior to the effectiveness of this definition. Above all, it should not be the gas industry or the regulator who determines within these guidelines when a water well is in fact “abandoned.” We recommend that determination within the guidelines must be determined at a minimum by the owner/s of the formerly functioning water well and hopefully with input from the ‘tenant’ farmer. (170)

Response: The definition of “abandoned water well” includes a provision to exclude wells that are not in use but are maintained or equipped in such a manner as to be able to draw groundwater as an alternative, backup or supplemental water source. The definition of “abandoned water well” was included in the rulemaking to provide clarification for implementation of § 3215(a) of the 2012 Oil and Gas Act which describes well location restrictions. Landowners are given consideration through the well permit application process described under § 3211 of the 2012 Oil and Gas Act, which includes notice to the landowner and the ability for the landowner to file an objection under § 3212 of the 2012 Oil and Gas Act.

20. Comment: I have concerns regarding the definition of “abandoned water well.” I would caution that it is extremely important that the landowner be involved in determining whether or not a water well has been abandoned. Our township's residents were very affected by the 2011 floods of which were nothing short of disaster here. We lost over 20 miles of roads and several bridges. Some of our residents were months trying to get their homes livable again. During this time, some had water wells affected. They had to pull their electric components and pumps. Some of these water wells were associated with cabins. At this point in time, I can't say whether every property has restored their water wells to working order. Rebuilding after two floods during 2011 has been very difficult for some families. Those with cabins lacking insurance are especially slow and reclaiming their property back to pre-flood conditions. While those water wells may be considered 'abandoned' by the definition, to those families who may intend to place them back in service at some point, they are not abandoned. They are an asset. They particularly are a very important asset adding value to the property should they choose to sell. It may cost anywhere from \$3,000 - \$10,000 or more to drill a water well here. Retrofitting that existing water well is a more viable option. (278)

Response: See response to comment 19.

21. Comment: Abandoned Water well - In 2015, PADEP proposed a new definition for “abandoned water well” to clarify that an abandoned water well is one that is no longer equipped to draw groundwater, including wells with disconnected pumps, piping, or electrical components, and wells that are not used on a regular or prescribed basis. Chapter 78a uses the term “abandoned

water well” once (§ 78a.15(b.2)) to clarify abandoned water wells would not be required to comply with Section 3215(a) of Act 13 of 2012 (Act) and would not be considered a water well.

We are concerned about PADEP’s proposal to categorize an inactive water well as permanently abandoned, when that may not be the case. There is a difference between an inactive or temporarily abandoned water well and a well that is permanently abandoned and will never be used for drinking or agricultural water supply in the future.

For example, a well may be disconnected or not currently used due to economic constraints (e.g., the resident or community may not be able to afford the repair or a home or farm may not be occupied at the present time). In these situations, water wells may be inactive or temporarily abandoned but this may not mean the well would never be repaired or used in the future.

As proposed by PADEP, a well is defined an “abandoned water well” is no longer is afforded the protections of a water well under Section 3215(a) of the Act and Chapter 78. Therefore, it is critical for PADEP to distinguish between a temporarily abandoned or inactive well and a permanently abandoned water well, to ensure any water well that is not currently used, but may be used in the future is protected. This concept is consistent with PADEP’s proposed definition of “inactive” oil and gas wells, where PADEP acknowledges there may be circumstances where a well is temporary inactive, but may be used in the future and is not yet permanently abandoned.

We recommend the defined term be changed to “permanently abandoned water well,” and the definition be changed as follows:

PERMANENTLY ABANDONED WATER WELL – A WATER WELL IS PERMANENTLY ABANDONED IF IT THAT IS NO LONGER EQUIPPED IN SUCH A MANNER AS TO BE ABLE TO DRAW GROUNDWATER, AND IS NOT EXPECTED TO BE USED AS A DRINKING WATER OR AGRICULTURAL WATER SUPPLY IN THE FUTURE. THIS TERM INCLUDES A WATER WELL WHERE THE PUMP, PIPING OR ELECTRICAL COMPONENTS HAVE BEEN PERMANENTLY DISCONNECTED OR REMOVED OR WHEN ITS USE ON A REGULAR OR PRESCRIBED BASIS HAS BEEN PERMANENTLY DISCONTINUED. THE TERM DOES NOT INCLUDE A WATER WELL THAT IS NOT CURRENTLY USED, BUT IS EQUIPPED OR OTHERWISE PROPERLY MAINTAINED IN SUCH A MANNER AS TO BE ABLE TO DRAW GROUNDWATER AS AN ALTERNATIVE, BACKUP OR SUPPLEMENTAL WATER SOURCE. THIS TERM DOES NOT INCLUDE A WELL THAT IS TEMPORARILY ABANDONED, OR A WELL THAT IS EXPECTED TO BE USED AS A DRINKING WATER OR AGRICULTURAL WATER SUPPLY IN THE FUTURE. (211)

Response: The Department disagrees with the proposed revisions. See response to comment 19.

22. Good Evening. Thank you for this opportunity to speak to you concerning the Chapter 78/78a draft final rulemaking. Much previously given public input aimed at preserving the environment shines out in the current draft regulations and I thank you for this, but you also need to persevere and insure that these positive changes make it through to the final approved rulemaking.

My five minutes today are to express my strong concern about, and opposition to, the addition of specific new definition and one associated new rule that have somehow made it into this final draft. The items of concern deeply undercut the strong positive progress forward made elsewhere in the proposed regulations. The definition of concern is that of Abandoned Water Well and the

associated rule is 5 (b.2), which states that “For purposes of compliance with 58 Pa. Section 3215(a) an abandoned water well does not constitute a water well.

I object to both the inclusion of a definition of Abandoned Water Well and the use of the newly defined term in determining gas well site compliance with Section 3215(a). The existence and location of water wells is an important consideration in the siting of new gas wells. The regulations in Section 3215(a) determine critical well location restrictions as shown highlighted in yellow on my testimony paper copies. Inclusion of the new Abandoned Water Well definition constitutes a unilateral, heavy-handed decision on the part of DEP that a large portion of our state's water wells are “abandoned water wells” and not of consequence relative to the placement of new conventional or unconventional oil and gas wells. Not only is the proposed definition fuzzy - for example, what does “when its use on a regular or prescribed basis has been discontinued” mean, and how will it be interpreted? But more importantly the definition presumes that someone other than the property owner is making a determination about the value of current and future use of a property's assets. The process for making this designation of “Abandoned Water Well” is not specified in the proposed final regulations, which is another issue.

All water wells, used or unused, are doorways into our aquifers. Whether an aquifer is currently used or not is of little consequence relative to your agency's charge to preserve the purity of the waters of the Commonwealth. All water wells create paths for the possible migration of methane or chemical pollutants under the less than ideal drilling and transporting realities, and the older the water wells are, the more likely that they might be a vehicle for methane migration to the surface, whether that be in the outdoors or in the basement of someone's home. The drilling industry should put a priority on avoiding abandoned water wells via setback, rather than looking to get a broad brush definitional waiver of setback requirements from the DEP which will result in the industry drilling even closer to these water wells.

By looking at my own properties as typical rural examples of the presence of wells which might be classified as “abandoned” if this definition is adopted, I expect that the number of “abandoned” water wells will far exceed the number of water wells in current use in PA.

In my case, I have 8 water wells - 2 water wells in everyday use and approximately 6 water wells which could be at risk of being classified as abandoned based on what I read in the proposed definition. I have provided the details of these real life scenarios in my handout. To summarize, though, wells that you may consider abandoned may be:

- used as future outside water in a town with municipal water where ordinances allow
- become used as a rural property is subdivided
- become used when a vacant rural property is rehabilitated and inhabited
- use via manual methods (bucket or hand-pump) for recreational buildings
- piecemeal development of a parcel due to limited funds.
- converted from agricultural to residential or vice versa as buildings are added or replaced.
- waiting for the next trailer to move in.
- may have deeded rights to use by parties other than the parcel owner

In most cases, water wells which would be classified as abandoned by the proposed definition would be considered as unused by choice by the property owner, and the water they contain is as precious as any provided by any wells in use or water authority. Certainly these wells should be protected from the risk of siting an unconventional gas well less than 500 feet from them.

Real Life Scenarios:

Over 25 years ago, I purchased a home which was previously vacant for many years which had a totally inoperable water system and three wells. (Would this be 3 abandoned wells?) One vault resides in the basement with a concrete enclosure, a second is in a cinderblock vault just outside the home, and a third well house on the property was previously used as an outdoor water source for agriculture. I retained this home in its vacant state for almost 10 years, waiting for a relative to move to the area. When they finally did, the retrofitting of the well in the vault outside the home was an easy task. A simple replacement of the old plugged galvanized plumbing with plastic, a new water heater, and a new shallow well pump and we were done.

This well delivered high quality water to the home for the next 15 years. (Classification - 1 well no longer abandoned?) The water had good taste and tested perfect in pre-drill testing conducted. Recently, town water became available and although I was not required to hook in based on the ordinance enacted, I requested to be on the system due to the pending construction of a gas station next door. I hooked into the town water system last year. My outdoor vault well is currently disconnected (3 wells again abandoned?), but I have plans to use this system for outside water, which is permitted under the authority's guidelines (Future classification - well no longer abandoned?). While I have not investigated the water source in the concrete covered vault in the basement, this too is an asset I want to preserve. The well house in the yard is in a great location should I subdivide my property in the future, which is likely. (Possibility of 2 wells no longer abandoned).

The ebb and flow of rural life drives the maintenance and use of rural water wells to be intermittent. Other scenarios on my lands are: a currently unused agricultural water well, formerly for livestock, which could be used to serve a new seasonal home or full-time residence. Pre-drill testing found this water source to be excellent. A third scenario is a seasonal cabin with a hand dug, bucket accessed water well in well house that is used occasionally whenever the cabin is used. There is no piping because there is no septic system, but that water is a real asset when the cabin is used and also underwent pre-drill testing, far surpassed drinking water standards. A fourth scenario is a spring which lies on my property but which the neighbor has a deeded right to use for his house and barn. Although I don't think that he is currently using it, doesn't that water deserve to be protected as well?

Lastly, and possibly even more importantly, I would like to point out that adding this definition and ill-advised regulation puts at risk town and municipality-owned water sources which might not be currently used or outfitted for use, but are still viable water sources for small town populations without the funds to prospect for, and drill, new water wells on the turn of a dime.

If drilling were not a risk to water wells, there would be no setbacks. The current system of allowing a property owner or water purveyor to sign off on a consent to locate gas and oil wells at closer distances than are specified in 3215 (a), and the process of allowing an operator to apply for a variance should that sign off not be obtained is sufficient to give operators a measure of control over the siting of wells.

To be sure, the rural areas are littered with legacy water wells. I am sure that their existence is a bane to the gas industry. Their existence is a boon to property owners, they are an asset to future rural development, and are a matter of survival in rural areas which will never be served by public water. Do not preempt our property rights by arbitrarily classifying our unused, hardly used, or reserved for future use water wells as of no consequence relative to the setback distances for the siting of future gas and oil wells. Do not give this industry a back door to sneak in, creep in closer

to our residences and towns. They already have much more latitude than their environmental behavior warrants. Do not sign a death warrant on the future of low cost private water that meets drinking water standards in rural PA. You may need a sip sooner than you think.

References:

§ 3215. Well location restrictions.

- (a) General rule.--Wells may not be drilled within 200 feet, or, in the case of an unconventional gas well, 500 feet, measured horizontally from the vertical well bore to a building or water well, existing when the copy of the plat is mailed as required by section 3211
- (b) (Relating to well permits) without written consent of the owner of the building or water well. Unconventional gas wells may not be drilled within 1,000 feet measured horizontally from the vertical well bore to any existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor without the written consent of the water purveyor. If consent is not obtained and the distance restriction would deprive the owner of the oil and gas rights of the right to produce or share in the oil or gas underlying the surface tract, the well operator shall be granted a variance from the distance restriction upon submission of a plan identifying the additional measures, facilities or practices as prescribed by the department to be employed during well site construction, drilling and operations. The variance shall include additional terms and conditions required by the department to ensure safety and protection of affected persons and property, including insurance, bonding, indemnification and technical requirements. Notwithstanding section 3211 (e), if a variance request has been submitted, the department may extend its permit review period for up to 15 days upon notification to the applicant of the reasons for the extension.

ADVANCED NOTICE OF FINAL RULEMAKING

(Editor's Note: Chapter 78a is a new Chapter in Title 25 of the Pennsylvania Code and will appear as normal text in formal documents prepared by the Department for Environmental Quality Board, Legislative Reference Bureau and Independent Regulatory Review Commission review and approval. To aid the reader in understanding the changes from the December 13, 2013 proposed rulemaking, however, this document has been prepared showing capitalization, strikeouts, bracketing, holding and underlining indicating where changes have been made.)

CHAPTER 78a. UNCONVENTIONAL ~~[Oil AND GAS]~~ WELLS

Subchapter A. GENERAL PROVISIONS

§ 78g.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise, or as otherwise provided in this Chapter:

ABANDONED Water WELL- A WATER WELL THAT IS NO LONGER EQUIPPED IN SUCH A MANNER AS TO BE ABLE TO DRAW GROUNDWATER. THIS TERM INCLUDES A WATER WELL WHERE THE PUMP, PIPING OR ELECTRICAL COMPONENTS HAVE BEEN DISCONNECTED OR REMOVED OR WHEN IT'S USE ON A

REGULAR OR PRESCRIBED BASIS HAS BEEN DISCONTINUED. THE TERM DOES NOT INCLUDE A WATER WELL THAT IS NOT CURRENTLY USED.BUT IS EQUIPPED OR OTHERWISE PROPERLY MAINTAINED IN SUCHA MANNER AS TO BE ABLE TO DRAW GROUNDWATER AS AN ALTERNATIVE BACKUP OR SUPPLEMENTAL WATER SOURCE.

ABACT - ANTIDEGRADATION BEST AVAILABLE COMBINATION OF TECHNOLOGIES - THE TERM AS DEFINED IN § 102.1(RELATING TO DEFINITIONS).

ACCREDITED LABORATORY.- A LABORATORY ACCREDITED BY THE DEPARTMENT UNDER CHAPTER 252 (RELATING TO LABORATORY ACCREDITATION).

Act- [The Oil and Gas Act (58 P.S.§§ 601.101-601.605)] 58 Pa.C.S.§§ 3201-3274 (relating to development[s]).

Act 2- The Land Recycling and Environmental Remediation Standards Act (35 P. S. §§ 6026.101-6026.908).

~~[Anti-icing—Brine applied directly to a paved road prior to a precipitation event.]~~

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ADVANCED NOTICE OF FINAL RULEMAKING

furnished by law or the Department, and the information in subsections (b. 1) – (e) and (h). The person named in the permit shall be the same person named in the bond or other security.

(b.1) IF THE PROPOSED LIMIT OF DISTURBANCE OF THE WELL SITE IS WITHIN 100 FEET MEASURED HORIZONTALLY FROM ANY WATERCOURSE OR BODY OF WATER EXCEPT WETLANDS SMALLER THAN ONE ACRE THAT ARE NOT EXCEPTIONAL VALUE, THE APPLICANT SHALL DEMONSTRATE THAT THE WELL SITE LOCATION \VILL PROTECT THOSE WATERCOURSES OR BODIES OF WATER THE APPLICANT MAY RELY UPON OTHER PLANS DEVELOPED UNDER THIS CHAPTER OR PERMITS OBTAINED FROM THE DEPARTMENT TO MAKE THIS DEMONSTRATION, INCLUDING:

(1) AN EROSION AND SEDIMENT CONTROL PLAN OR PERMIT CONSISTENT WITH CHAPTER 102 (RELATING TO EROSION AND SEDIMENT CONTROL).

(2) A WATER OBSTRUCTION AND ENCROACHMENT PERMIT ISSUED PURSUANT TO CHAPTER 105 (RELATING TO DAM SAFETY AND WATERWAY MANAGEMENT).

(3) APPLICABLE PORTIONS OF THE PPC PLAN PREPARED IN ACCORDANCE WITH § 78a.55f a)-(b).

(4) APPLICABLE PORTIONS OF THE EMERGENCY RESPONSE PLAN PREPARED IN ACCORDANCE WITH § 78a.55 (i), AND

(5) APPLICABLE PORTIONS OF SITE CONTAINMENT PLAN PR EPARED IN ACCORDANCE WITH 58 Pa.C.S.§ 3218.2 (RELATING TO CONTAINMENT FOR UNCONVENTIONAL WELLS).

(b.2) FOR PURPOSES OF COMPLIANCE WITH 58 Pa.C.S. §3215(a) AN ABANDONED WATER WELL DOES NOT CONSTITUTE A WATER WELL.

(c) The applicant shall submit information identifying parent and subsidiary business [entities] CORPORATIONS operating in this Commonwealth with the first application submitted after _____, (Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.) and provide any changes to [its business relationships] THIS INFORMATION with each subsequent application.

(d) ~~The applicant shall...~~ (310)

Response: See response to comment 19.

23. Comment: Act 2 - The Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101 6026.908).

We object to the Department's efforts by policy and/or regulation to compel oil and gas operators to utilize what is a voluntary process for all other entities. Act 2 procedures should not be required for spills at oil and gas well sites, but should continue to be available for operators who choose to use them to obtain relief from liability. (212)

Response: The Department has retained the definition of “Act 2” in the final rulemaking. Act 2 has both voluntary and involuntary aspects. The Land Recycling Program relies, in large measure, on voluntary, remediator-initiated cleanups that have been and will continue to be encouraged by the Department.

Act 2 establishes “cleanup standards” for persons who remediate contaminated soil and groundwater caused by regulated substances released into the environment as defined under various environmental laws. These standards apply when persons either voluntarily perform or are required to perform remediation of soils and groundwater.

Section 106(a) of Act 2 states that, “The environmental remediation standards established under this act shall be used whenever site remediation is voluntarily conducted or is required under” the referenced environmental laws, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

Section 106(b) of Act 2 states; “Nothing in this act is intended to nor shall it be construed to amend, modify, repeal or otherwise alter any provision of any act cited in this section relating to civil and criminal penalties or enforcement actions and remedies available to the department or in any way to amend, modify, repeal or alter the authority of the department to take appropriate civil and criminal action under these statutes.” 35 P.S. § 6026.106(b). Thus, Act 2 contemplates that the Department may require (e.g., by issuance of a DEP Order) responsible persons to meet an Act 2 remediation standard. The Department has issued many such Orders since the adoption of Act 2.

24. Comment: Additional proposed regulation will require oil and gas operators to remediate spills and releases at well sites in accordance with the Act 2 program. In addition to Act 2 provisions, the latest draft regulation has timeframes associated with remediation and reporting, unique to oil and gas operations. Why are the requirements more stringent for the oil and gas industry than they are for other industries? To date, responsible oil and gas operators have dealt with spills and releases in an effective and efficient manner. (251)

Response: The purpose of the timeframes associated with remediation and reporting is to ensure that spills and releases are reported and remediated in a timely fashion.

25. Comment: We continue to object to the Department's efforts by policy and/or regulation to compel oil and gas operators to utilize what is a voluntary process for all other entities. Act 2 procedures should not be required for spills at oil and gas well sites but should continue to be available for operators who choose to use them to obtain relief from liability. (213)

Response: See response to comment 23.

26. Comment: Approximate original conditions – Reclamation of the land affected to the preconstruction contours so that it ~~closely~~ reasonably resembles the general surface configuration of the land prior to the construction activities and within the context of operational necessity...

The word 'closely' leaves far too much interpretational latitude favoring the whim of the uninitiated. The language should favor the experiential context of the producer and their interpretation of the requisite space to operate. (245)

Response: The Department disagrees with the comment. The Department interprets the definition to apply to conditions immediately prior to commencement of oil and gas operations. The restoration requirements in §78.65 allow for landowner input when conducting restoration.

27. Comment: Please delete the phrase “and blends into and complements the drainage pattern of the surrounding terrain.” The preceding language about closely resembling pre-construction contours states the restoration concept well - it might not be possible to restore original conditions and blend into surrounding terrain if pre-construction contours did not blend in (e.g., if the land was previously developed or farmed), so these two phrases may conflict. Deleting this extra phrase creates one clearer standard. (222)

Response: The Department does not agree that the phrase “blends into and complements the drainage pattern of the surrounding terrain” is redundant to “preconstruction contours”. The phrase “blends into and complements the drainage pattern of the surrounding terrain” is intended to provide greater detail on what is expected when conducting site restoration especially when considering preconstruction drainage features. It is feasible for a site to be restored to approximate original contours while simultaneously not giving proper consideration to preconstruction drainage features which could result in a wide variety of issues including inundation of neighboring properties.

28. Comment: The phrase “blends into and complements the drainage pattern of the surrounding terrain” is redundant to the term “preconstruction contours”, and could lead into additional permitting requirements pertaining to watercourses.

In addition, the Oil and Gas Act of 2012 does not define or require well sites, centralized tank farms, or impoundments to be restored to approximate original “conditions.” In fact, the proposed ANFR expanded the use of this term from the proposed rulemaking in December 2013 (“proposed rulemaking”), despite our prior recommendation to delete the definition of “approximate original conditions” and the use of the phrase from the rulemaking package as beyond the scope and legal authority of the Oil and Gas Act of 2012. We reassert our recommendation herein and note that the term “approximate original contours” was used one time in the Oil and Gas Act of 2012, as the Legislature limited its use to only extensions of time for well site restoration. (210)

Response: The Department does not agree that the phrase “blends into and complements the drainage pattern of the surrounding terrain” is redundant to “preconstruction contours”. The phrase “blends into and complements the drainage pattern of the surrounding terrain” is intended to provide greater detail on what is expected when conducting site restoration especially when considering preconstruction drainage features. It is feasible for a site to be restored to approximate original contours while simultaneously not giving proper consideration to preconstruction drainage features which could result in a wide variety of issues including inundation of neighboring properties.

It is unreasonable to interpret the restoration requirements in the 2012 Oil and Gas Act to require restoration of the well site to a different standard depending upon whether or not a restoration extension has been granted. The Department believes that the restoration requirements are appropriate. Regarding restoration of centralized tank farms, the Department has removed §§ 78.57a and 78a.57a (relating to centralized tank storage) from the rulemaking. Regarding restoration of impoundments, the Department believes that the requirement to restore impoundments when they have reached the end of their useful life is appropriate. In addition the restoration requirements in Chapters 78 and 78a generally allow for landowner input when conducting restoration.

29. Comment: § 78a.1. Definitions. - “approximate original conditions” - The definition includes restoration that can support “land uses that existed prior to the applicable oil and gas operations ...” Land use is an issue to be resolved between the lessor and the operator during contract negotiations. If an alternate land use is desired there should be a mechanism available to allow a change in land use to be approved by the Department, such as exists in the PA Coal Mining Program. The exact procedure can be published later in a Technical Guidance Document. (193)

Response: The Department believes that the restoration requirements are appropriate. The restoration requirements in §78.65 allow for landowner input when conducting restoration.

30. Comment: Approximate original condition is fraught with subjectivity and “to the extent practicable” is equally nondescript. This term, as mentioned on pages 82 and 84 relative to post-plugging events, should contain the terminology “to best management practices available” or ABACT (antidegradation best available combination of technologies). (161)

Response: See response to comment 27.

31. Comment: Approximate Original Conditions - Reclamation of the land affected to preconstruction contours so that it closely resembles the general surface configuration of the land prior to construction activities and blends into and complements the drainage pattern of the surrounding terrain, and can support the land uses that existed prior to THE APPLICABLE oil and gas [activities] OPERATIONS to the extent practicable.

We object to any requirement to return land to “approximate original conditions” unless such a commitment has been made in the approved site restoration plans or private agreements\with landowners. No such obligation is created under any relevant statute and is without environmental justification. (212, 213)

Response: Restoration requirements in Chapters 78 and 78a are appropriate and largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department’s interpretation of these requirements as outlined in the “Policy for Erosion and Sediment Control and Storm water Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities”, Document No. 800-2100-008, which was finalized on December 29, 2012.

32. Comment: Body of water — The term as defined in § 105.1 (relating to definitions). The definition of “body of water” as referenced in the cited section requires clarification. Section 105.1 defines this term as “a natural or artificial lake, pond, reservoir, swamp, marsh or wetland,” which could be interpreted as including such things as impoundments. Therefore it is our suggestion that the language be modified to exclude artificial water bodies, such as impoundments, from the definition of a “body of water” for the purposes of Chapter 78a.(199)

Response: The Department disagrees with the comment. The oil and gas industry is regulated by Chapter 105 and impacts water bodies on a regular basis. So the Department believes that the proposed language is appropriate.

33. Comment: As proposed, this definition would classify all site development activities as borrow pits since these activities involve earth disturbance. A borrow pit would add additional permitting and bonding obligations under other applicable laws as referenced in the proposed Section 78a.67. Borrow Pits.

In addition, the definition should refer to the defined term “oil and gas operations”, instead of “oil and gas development.”

Suggested amendatory language:

Borrow pit—An area of earth disturbance activity where rock, stone, gravel, sand, soil or similar material is excavated to be used for the construction of well sites, access roads or facilities that are related to oil and gas operations. This definition does not include earth disturbance at well sites or otherwise permitted by the Department under the Oil and Gas Act. (120, 199)

Response: The definition of the term is readily understood.

34. Comment: BUILDING – AN OCCUPIED STRUCTURE WITH WALLS AND ROOF WITHIN WHICH PERSONS LIVE OR CUSTOMARILY WORK. We seek clarification that the Department does not intend to include temporary structures in this definition of “building.” (199)

Response: The Department declines to include this clarification in this rulemaking. The definition is as provided in Section 3203 of the 2012 Oil and Gas Act (relating to definitions).

35. Comment: Building – we support the definition providing as interpreted it includes barns used for housing and care of livestock. (170)

Response: The Department acknowledges this comment. According to this definition, if a person customarily works in a barn used for housing and care of livestock, it would constitute a building.

36. Comment: Building - In 2015, PADEP proposed a new definition for “building.” PADEP clarified that a building is “an occupied structure with walls and a roof within which persons live or customarily work.” The proposed regulations provide additional protections for “buildings” near unconventional wells.

We recommend the definition of “building” be expanded to include buildings where people live, socialize, educate, recreate, exercise, and work, to ensure all types of buildings used by humans are included in the definition. More specifically, we recommend the following change:

BUILDING – AN OCCUPIED STRUCTURE WITH WALLS AND A ROOF WITHIN WHICH PERSONS LIVE, SOCIALIZE, EDUCATE, RECREATE, EXERCISE, OR CUSTOMARILY WORK. (211)

Response: The Department declines to make the suggested change. The definition is as provided in Section 3203 of the 2012 Oil and Gas Act (relating to definitions).

37. Comment: In 2013, the EQB proposed a new definition for “centralized impoundment” that would allow continued construction of large, centralized open pits for waste storage. The proposed definition acknowledged the escape of waste from the impoundment “may result in air, water, or land pollution or endanger persons or property.” In 2015, PADEP replaced the 2013 definition with a new definition. PADEP now proposes to define a “centralized impoundment” as “a facility authorized by a permit for a centralized impoundment dam for oil and gas operations.”

We remain strongly opposed to the use of centralized impoundments. We applaud PADEP’s decision not to allow new centralized impoundments and to phase out existing centralized impoundments that do not obtain permits (§ 78a.59c), but we recommend that all existing centralized impoundments be phased out within one year.

Eliminating use of centralized surface impoundments prevents: large scale surface disturbance that requires multi-year rehabilitation;² the potential for structural failure and significant pollutant release for centralized impoundments constructed with embankments; the potential for leakage to occur through or around the liner, impacting soil and ground and surface water (a cause of many pollution events in Pennsylvania); hazardous air pollution emissions from evaporation and aeration processes; and, potential exposure of wildlife and domestic animals to the impoundment contents that could be harmful.

PADEP’s proposed change to § 78a.59c provides for the permitting of existing centralized impoundments; therefore we recommend the following change to the definition and a change to § 78a.59c, which we set forth below in our comments on that section.

Centralized impoundment—AN IN-GROUND OIL AND GAS WASTE STORAGE facility SERVICING MULTIPLE WELLS [that is] AUTHORIZED BY A PERMIT FOR A CENTRALIZED IMPOUNDMENT DAM FOR OIL AND GAS OPERATIONS, . (211)

Response: Due to changes disallowing the construction of new centralized impoundments and requiring the closure of existing centralized impoundments, the Department has changed the definition of centralized impoundments in the rulemaking to be *a facility that is*

authorized by a dam permit for a centralized impoundment dam for oil and gas operations. The Department disagrees with the proposed change because it does not meet the intent of the regulation.

38. Comment: We support defining “centralized impoundment” and clarifying that freshwater impoundments are not centralized impoundments. However, the proposed definition does not make clear which type of permit(s) authorize(s) a “centralized impoundment”, i.e., an Oil and Gas Act permit, a Dam Safety and Encroachment Act Permit, or a Solid Waste Management Permit.

The proposed definition’s use of the word “dam” creates additional confusion as to which permit is required. PADEP should clarify the agency’s intent with this definition, specifically whether it intends to exclude centralized impoundments not requiring a dam permit from the requirements of the ANFR. (210)

Response: The Department has revised the definition to clarify the permit referenced.

39. Comment: Centralized impoundment – Should be clarified to hold only freshwater. All other liquids from oil and gas operations should be contained in tanks. (161)

Response: There are a number of existing impoundments that meet the proposed definition of centralized impoundment. Due to changes disallowing the construction of new centralized impoundments and requiring the closure of existing centralized impoundments, the Department has changed the definition of centralized impoundments in the rulemaking to be a facility that is authorized by a dam permit for a centralized impoundment dam for oil and gas operations.

40. Comment: We support this definition of “certified mail”. An alternative term PADEP may wish to consider using is “certified delivery.” (210)

Response: The Department acknowledges the comment. The Department declines to add a new term “certified delivery” as that term is not used in Chapters 78 and 78a.

41. Comment: Certified Mail should be amended to delete “or the attempt to deliver the document to the proper address for the intended recipient.” This must be clarified as well as “verifiable.” As is, this definition has the potential to dismiss citizens from vital information. (161)

Response: The Department disagrees with the comment. The phrase “or attempt to deliver the document to the proper address for the intended recipient” is included in the definition to document when a document fails to be delivered due to no fault of the sender.

42. Comment: Condensate – we recommend that the proposed definition be amended to provide further clarity. Recommended language is “a liquid hydrocarbon phase exhibiting an API- gravity between 45-75 degrees that occurs in association with natural gas.” (193, 195)

Response: The Department disagrees with the comment. The intent of the comment is to include all liquid phase hydrocarbons; stipulating a specific range is restrictive.

43. Comment: Please replace the word “container” with “barrier” since containment systems can rely on liners and other barriers that are not necessarily “containers.” (222)

Response: The Department disagrees with the comment. The intent of the definition is to contain material not a barrier which infers that material is impeded not contained.

44. Comment: At the federal level, these containment systems are also called “secondary containment” since the primary containment is the container itself. Sections of the ANFR refer to “secondary containment” (e.g., §§ 78a.57, 78a.57a, 78a.64, 78.64a, 78.65, 78a.68b), “containment” (e.g., §§ 78a.55, 78a.57, 78a.64a), “temporary containment” (e.g., §78a.56) and “emergency containment” (e.g., § 78a.57) instead of “containment system”. Adding to the confusion is that aboveground storage, which is primary containment, is also referred to as “containment structures” (e.g., § 78a.57).

All provisions relating to containment and containment systems should more clearly indicate whether they refer to primary containment or secondary containment systems. We recommend that PADEP reconsider and clarify the language related to containment systems in the following provisions:

- § 78a.56
- §78a.57(c)(8) and (9)
- § 78a.57a(c)(12) to (15)
- § 78a.58, 64, and 64a

Please also see our comment to § 78a.64a, referencing the six materials that must be in containment systems pursuant to § 3218.2(c) of the Oil and Gas Act of 2012. (210)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

45. Comment: 78a.1 Definition – Containment System – “Synthetic liners, coatings, storage structures or other materials used in conjunction with a primary container that prevent spills to the ground surface or off the well site. “

At the federal level (SPCC 40 CFR 112), these containment systems are called “secondary containment” since the primary containment is the container itself. Sections of Chapter 78 refer to “secondary containment” [78a.57 (c), 78a.57(i)(10,11,16)], “containment” [78a.57 (c)] and “emergency containment” [78a.57(i)(12,13,14,15) in addition to “containment system”. The term should be standardized in the regulation. Also adding to the confusion is that aboveground storage, which is primary containment, is also referred to as “containment” [78a.78(i)(8,9)] and “containment structures” [78a.57 (c)].

Suggested amendatory language:

Primary Containment— A tank, vessel, pipe, truck, rail car, or other equipment designed to keep a material within it, typically for purposes of storage, separation, processing or transfer of gases or liquids. The terms vessel and pipe are taken to include containment of reservoir fluids within the casing and wellhead valving to the surface.

Secondary Containment—An impermeable physical barrier specifically designed to prevent release into the environment of materials that have breached primary containment. Secondary containment systems include synthetic liners, coatings, dykes, curbing around process equipment,

drainage collection systems into segregated oily drain systems, the outer wall of double walled tanks, etc. (115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

46. Comment: Comment: Fumes, Mists and Liquids Discharged from Storage Tanks
- A. There should be no legally allowed leakage or release of vapors, mists or fluids.
 - B. Containers that might accumulate vapors, such as condensate tanks or produced water tanks must have vapor capture mechanisms that prevent the escape of any fumes, especially known toxins such as benzene.
 - C. Air quality monitors that operate continuously must be installed to verify and report to the DEP that harmful gases are not escaping from the site.
 - D. Limits for chemical emissions from tanks must take into account:
 - (1) The density of tanks in an area as aggregate air pollution sources
 - (2) Their proximity to buildings with sensitive populations (e.g., schools, hospitals)

Discharges of vapors and mists during tank checks and leaks during storm water flow are common sources of pollutants. These are occasionally detected by citizens or the DEP, and receive little penalty. Such chronic, small releases add up for the people and animals near the well or industry facility.

The proposed regulations will not prevent flooding, spills, and leak violations that are commonly occurring, but they will motivate operators to plan ahead with a greater margin of safety for liquid and vapor releases. For example, allowing open pits and tanks cordoned off within some general freeboard space, allows a company to receive a lower penalty for a discharge of chemicals if storm water exceeds the freeboard. Even now, violations due to overflow of the required freeboard occur on a regular basis, companies repeatedly are charged with the same violations, and fines are limited or non-existent. (130)

Response: Sections 78.57 and 78a.57 of the final rulemaking requires that no pits or open tanks can be used for storage of liquids produced from a well. Only closed tanks will be permitted to be used for the storage of liquids produced from a well. Air quality issues are addressed under Article III and the outside of the scope of this rulemaking. Well site distance restrictions allowed under the Oil and Gas Act of 2012 are required to be maintained and are subject to review under the Department's permitting process. The final regulations do take the potential for floods, spills and leaks under consideration and language has been added to the appropriate sections accordingly.

47. Comment: Containment systems should be limited to above-ground, closed storage tanks that must include secondary containment and protection from third party activity. A plastic bag (synthetic liner) is not a system. (161)

Response: The Department disagrees with the comment. Synthetic liners can be used in a containment system.

48. Comment: Suggested language: Primary Containment — A tank, vessel, pipe, truck, rail car, or other equipment designed to keep a material within it, typically for purposes of storage, separation, processing or transfer of gases or liquids. (213)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

49. Comment: Suggested language: Secondary Containment—An impermeable physical barrier specifically designed to prevent release into the environment of materials that have breached primary containment. Secondary containment systems may include, but are not limited to, synthetic liners, coatings, dikes, curbing around process equipment, drainage collection systems into segregated oil drain systems, the outer wall of double walled tanks, etc.

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

50. Comment: Conventional well should further be clarified with the prohibition that all wells should remain as per their original intention, should not be grandfathered and subject to any change of use at a future date. (161)

Response: Existing wells may be altered even if the modification would change the well from conventional to unconventional or vice versa. In accordance with Section 3211(a) of the 2012 Oil and Gas Act, an operator that seeks to alter an existing well must obtain a permit to do so.

51. Comment: The definition of the term “Floodplain” should be modified to reference the “term as defined in § 105.1” (*e.g.*, see the proposed definitions of “Watercourse” and “Wetland”). Because impoundments will require permitting under 25 Pa. Code Chapter 105, defining the term differently in Chapters 78a and 78 will only result in confusion. To maintain consistency between DEP’s regulations, Chapters 78a and 78 should simply reference the definition of the term “floodplain” as set forth in Chapter 105. (190)

Response: The proposed definition is consistent with the definition provided in The Oil and Gas Act of 2012.

52. Comment: Intermittent streams are headwaters and should be treated equally as a floodplain area with a 100’ buffer, not reduced to 50’. (182)

Response: The proposed definition is consistent with the definition provided in The Oil and Gas Act of 2012. Statutory changes to the 2012 Oil and Gas Act are beyond the scope of this rulemaking.

53. Comment: “Floodplain” is defined in § 3215(f)(5). This proposed definition is similar to the definition in the Oil and Gas Act of 2012; however, it should exactly reflect the statutory language.

We suggested amendatory language:

Floodplain — The area indicated on maps and flood insurance studies provided by the Federal Emergency Management Agency. In an area where no Federal Emergency Management Agency

maps or studies have defined the boundary of the 100-year frequency floodplain, absent evidence to the contrary, the floodplain shall extend from:

- (i) any perennial stream up to 100 feet horizontally from the top of the bank of the perennial stream; or
- (ii) from any intermittent stream up to 50 feet horizontally from the top of the bank of the intermittent stream. (210)

Response: The Department disagrees and notes that the commenter’s proposed language does not exactly match the statutory language. The proposed definition accurately reflects the meaning of the term as described in the 2012 Oil and Gas Act and has been retained.

54. Comment: The definition of floodplain and floodway are being combined in the proposed Chapter 78a definition. The definition of a floodplain should not be different for the unconventional oil and gas industry; rather, it should be a consistent definition relative to other industries in the Commonwealth.

Cabot Suggested Language: The Department should use the term as defined in §106.1 (relating to definitions). (187, 209)

Response: The definition for floodplain is identical for Chapter 78 as well as Chapter 78a. The proposed definition is consistent with the definition provided in The Oil and Gas Act of 2012. Statutory changes to the 2012 Oil and Gas Act are beyond the scope of this rulemaking.

55. Comment: FLOODPLAIN— THE AREA INUNDATED BY THE 100-YEAR FLOOD AS IDENTIFIED ON MAPS AND FLOOD INSURANCE STUDIES PROVIDED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, OR IN THE ABSENCE OF SUCH MAPS OR STUDIES OR ANY EVIDENCE TO THE CONTRARY, THE AREA WITHIN 100 FEET MEASURED HORIZONTALLY FROM THE TOP OF THE BANK OF A PERENNIAL STREAM OR 50 FEET FROM THE TOP OF THE BANK OF AN INTERMITTENT STREAM. Consistency in terminology is a key principle of good regulation. Inconsistencies make interpretation difficult and create risk, confusion, and undue burdens for both the regulated community and the agency, and this is particularly problematic for unconventional wells given the cost of development and scale of activity. They also increase the risk of unintended and counterproductive results. For this reason, this definition of “floodplain” should be stricken and instead incorporate by reference the definition utilized in Chapter 105. If retained, the Department should clarify what will qualify as “any evidence to the contrary.”(199)

Response: The definition for floodplain is identical for Chapter 78 as well as Chapter 78a. The proposed definition is consistent with the definition provided in The Oil and Gas Act of 2012. Statutory changes to the 2012 Oil and Gas Act are beyond the scope of this rulemaking.

56. Comment: Floodplain – it is recommended that the term “Flood Insurance Studies” be replaced with “Flood Insurance Rate Maps” to better identify the appropriate FEMA reference documents. (195)

Response: The definition for floodplain is identical for Chapter 78 as well as Chapter 78a. The proposed definition is consistent with the definition provided in The Oil and Gas Act of

2012. Statutory changes to the 2012 Oil and Gas Act are beyond the scope of this rulemaking.

57. Comment: Floodplain – measured distances must take into consideration of slope and calculated accordingly. If not, all distances should be increased from 100 to 500 feet of a perennial stream and 250 feet from an intermittent stream. Each of these stream types must also be defined or clarified by reference to other regulations. The term floodplain is far less encompassing than a wetland and should never be used as a substitute for limiting the protection for our waters. (161)

Response: The definition for floodplain is identical for Chapter 78 as well as Chapter 78a. The proposed definition is consistent with the definition provided in The Oil and Gas Act of 2012. Statutory changes to the 2012 Oil and Gas Act are beyond the scope of this rulemaking.

58. Comment: The definition of Floodplain is inconsistent with Chapter 105 and creates confusion with the FEMA definition of floodway, which is the FEMA mapped floodway or 50 feet from top of bank of a stream (regardless of stream class). This language should not differ from the FEMA definition as an ephemeral stream is a subset of an intermittent stream and there may be confusion that ephemeral streams do not need to be considered for permitting, when in fact they must. (113)

Response: The definition for floodplain is identical for Chapter 78 as well as Chapter 78a. The proposed definition is consistent with the definition provided in The Oil and Gas Act of 2012. Statutory changes to the 2012 Oil and Gas Act are beyond the scope of this rulemaking.

59. Comment: The definition of the term “Freeboard” should be modified to reference the “term as defined in § 105.1” (*e.g.*, see the proposed definitions of “Watercourse” and “Wetland”). Because impoundments will require permitting under 25 Pa. Code Chapter 105, defining the term differently in Chapters 78a and 78 will only result in confusion. To maintain consistency between DEP’s regulations, Chapters 78a and 78 should simply reference the definition of the term “freeboard” as set forth in Chapter 105. (190)

Response: The definition accurately describes the term as used in Chapter 78 and Chapter 78a.

60. Comment: Freeboard — The vertical distance between the surface of an impounded or contained fluid and the lowest point or opening on a lined pit edge or open top storage structure. For consistency, we suggest that the phrase “lined impoundment edge” be listed after “lined pit edge” in this definition of freeboard. (199)

Response: The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX and as a result there are no longer freeboard requirements for impoundments in the rulemaking. Therefore the Department has not made the change.

61. Comment: We commend the Department for its proposal to eliminate new centralized waste impoundments. We remain concerned, however, that the continuing failure to define “freshwater” offers a back door for storage of contaminated fluids in open in-ground impoundments. Section 78a.59b(h) proposes to allow storage of mine influenced water in freshwater impoundments. Under PADEP’s own proposed regulations, “mine influenced water” is water that “pollutes, or may create a threat of pollution to waters of the Commonwealth.” Draft 25 Pa. Code § 78a.1. The

term also may include “surface waters that have been impaired by pollutional mine drainage.” Id. Mine influence water therefore is a threat to water quality that should not qualify as freshwater or be stored in a freshwater impoundment. A “freshwater” impoundment should be used to store only uncontaminated “freshwater” that meets the definition proposed in the 2014 Comments.² Mine influenced water should be handled as wastewater, and its storage in freshwater impoundments should be prohibited. (211)

Response: The Department has modified Chapters 78 and 78a to change “Freshwater Impoundment” to “Well Development Impoundment” to clarify the meaning of the term. In regards to storage of mine influenced water in a well development impoundment, the quality of mine influenced water varies greatly throughout the Commonwealth and the term includes mine influenced water that has been treated, which may be very high quality. Before mine influenced water is allowed to be stored in a well development impoundment, the Department must review and approve the storage based on a variety of factors including the quality of the water and the risks of storage of the water.

62. Comment: The definition of “freshwater” impoundments allows fluids that are not fresh uncontaminated water such as “mine influenced water” (including Acid Mine Drainage) and reused frack water. Chapter 105 Dam safety regulations should apply to all centralized impoundments to protect public health and safety and the environment. (182)

Response: See response to comment 61.

63. Comment: Freshwater impoundment – should be limited to fresh water, surface water, and groundwater only and no other fluids. This is misleading to the public. (161)

Response: See response to comment 61.

64. Comment: Freshwater impoundment - New regulations targeting the use of freshwater impoundments by the oil and gas industry are neither necessary nor appropriate. The definition and the related subsections should be stricken. (212)

Response: The scope and type of use of well development impoundments by the oil and gas industry is significantly different than the scope and type of use by other industries in such a manner that the Department has determined that the regulations are appropriate.

65. Comment: Freshwater is not defined in the regulations but should be. Freshwater impoundments should only allow uncontaminated surface or groundwater. Freshwater should also be defined based on numerical criteria, as per STRONGER; see comment above on *freshwater*.

Allowing freshwater impoundments to contain fluids that are contaminated increases the opportunity for pollution to the environment because freshwater impoundments are not required to meet the stricter requirements of Chapter 289 (relating to residual waste disposal impoundments) or Chapter 105.3. Additionally, there is no defined process and no prescribed standards for how the Department approves “other sources” which allows for other contaminated materials to be held in freshwater impoundments.

- (i) “Not regulated under 105.3” should be deleted
- (iii) The inclusion of “other Department-approved sources” should be deleted. (182)

Response: See response to comment 61. Also impoundments that are regulated under § 105.3 are not included in the definition of well development impoundment which means that if an impoundment is constructed or operated in a manner which requires a permit under §105.3, it is not a well development impoundment, by definition.

66. Comment: Subparagraph (iv) of the definition of “Freshwater Impoundment” limits the definition to impoundments that service “multiple well sites.” This seems to preclude a freshwater impoundment for a single well or a single well site. In order to clarify this definition and eliminate what is presumably an unintended limitation, we suggest that subpart (iv) of the definition be modified to reference “servicing *one or more wells.*” (190)

Response: The definition is appropriate for the context of the regulation.

67. Comment: Any new rule for freshwater impoundments specifically targeting oil and gas industry is inappropriate and should be deleted from Chapter 78. (213)

Response: The scope and type of use of freshwater impoundments by the oil and gas industry is significantly different than the scope and type of use by other industries in such a manner that the Department has determined that the regulations are appropriate.

68. Comment: In section 78a.1. The definition of freshwater impoundment (at (iii)) is a facility that is designed to hold fluids, including surface water, groundwater, and 'other Department approved sources', which makes no sense. This needs to be clarified. (295)

Response: See response to comment 61.

69. Comment: Define “freshwater” that is used in oil & gas operations. Water leftover from fracking and contaminated fluids being recycled for fracking (such as from mining or sewage) is often mixed with clean water for additional operations. The lack of a clear definition allows operators to avoid regulations on the use and disposal of polluted substances. (130)

Response: See response to comment 61.

70. Comment: To avoid confusion and conflict we suggest the regulation should use the Federal definition for a gathering pipeline contained in 49 CFR Part 192, which is consistent with how the term is defined in Act 13, Section 3218.5.

Suggested amendatory language:

Gathering Pipeline — A pipeline that transports gas from a current production facility to a transmission line or main. (210)

Response: The Department disagrees, the Federal definition referenced by the commentator includes only natural gas or other gas and Chapter 78 applies to the production of oil, liquid hydrocarbons and natural gas.

71. Comment: The definition of “Gathering Pipeline” is a line that transports gas or oil to an “intrastate or interstate transmission pipeline.” The IRRC's comments recommended that this definition should not conflict with definitions of this term utilized by other federal and state agencies, such as the US Department of Transportation (“USDOT”) and the PA Public Utility Commission (“PUC”). USDOT defines a gathering line as “a pipeline that transports gas from a current production facility to a transmission line or main.” 49 CFR § 192.3. The PUC utilizes the

same definition as USDOT in its regulations at 52 Pa. Code § 59.1. Rather than introducing a new definition for a gathering pipeline, DEP should simply adopt the definition utilized by USDOT and the PUC. Notably, the definition set forth in the ANOFR does not address the situation where a transmission pipeline is not part of the pipeline path and instead the first utility pipeline downstream is a local distribution pipeline (a common situation for conventional wells). (190)

Response: The Department disagrees, the Federal definition referenced by the commentator includes only natural gas or other gas and Chapter 78 applies to the production of oil, liquid hydrocarbons and natural gas.

72. Comment: Gathering Pipeline — A pipeline that transports oil, liquid hydrocarbons or natural gas from individual wells to an intrastate or interstate transmission pipeline Although proposed section 78a.68(h) subjects gathering pipelines to certain federal requirements, this definition does not account for the federal definition of, or jurisdictional guidance on, this term. Therefore, in order to avoid inconsistencies between state and federal definitions, we recommend the proposed definition be stricken and replaced by a reference to the definition in 49 CFR § 192.3 and the jurisdictional guidance for gathering lines in 49 CFR § 192.8. This too is consistent with how the term is defined in Act 13, Section 3218.5 and will promote regulatory consistency. (199)

Response: The Department disagrees, the Federal definition referenced by the commentator includes only natural gas or other gas and Chapter 78 applies to the production of oil, liquid hydrocarbons and natural gas.

73. Comment: The definition of gathering is inconsistent with the long standing recognized rules per API RP 80 as recognized by 49 CFR Part 192. In addition the definition does not follow Act 127 and PA One Call Law. The definition should read “A pipeline used to transport oil, liquid hydrocarbons or natural gas from a production facility to a transmission line “. (367)

Response: The Department disagrees with the proposed change because it lacks adequate specificity for use in the regulation.

74. Comment: Gathering pipeline – A pipeline with a minimum diametric measurement of 8” and a minimum Right of Way width of 50’ that transports oil, liquid hydrocarbons or natural gas from individual wells to an intrastate or interstate transmission pipeline.

The added reference to the specific dimensions is consistent with the 2012 Report to the General Assembly on Pipeline Placement of Natural Gas Gathering Lines. (245)

Response: The Department disagrees with the proposed revisions because it would not meet the intent of the regulation.

75. Comment: “Mine influenced water” - This definition gives DEP the ability to determine that any surface waters impaired by mine drainage are mine influenced water, without any criteria or standards. Given the breadth of the DEP’s list of waters impaired by mine drainage, this definition would include many surface waters throughout the Commonwealth, including sections of the major rivers such as the Allegheny, Monongahela, Youghioghney and West Branch of the Susquehanna, and their tributaries, some of which are widely used for public water supplies. Storage and use of such a vaguely defined and potentially broad universe of waters, which are routinely used for numerous other purposes by industries beyond the oil and gas industry, should not be subject to the special approval requirements specified in the Draft Final Regulations. We commented on this definition at the time of the proposed regulation, largely due to the

requirement in Section 78a.58b requiring special permission to place “mine influenced water” in a freshwater impoundment. However, its significance has been magnified by the amendment to Section 78a.58(a) which would seem to potentially require special permission to mix water from the above-mentioned rivers with other water before using the mixture to hydraulically fracture a well. The definition is overly broad and fails to establish a cogent regulatory standard that informs the industry which waters are subject to these requirements. Alternatively, it authorizes ad hoc and arbitrary determinations by the Department.

The second sentence of the proposed definition should be deleted.

Suggested amendatory language:

Mine influenced water—Water contained in a mine pool, or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to, waters of the Commonwealth. (210)

Response: The language is appropriate to describe all potential sources of mine influenced water.

76. Comment: The definition of “Mine Influenced Water” is too generic and requires scientific criteria to clearly define what constitutes mine influenced water. As noted by the IRRC in its comments, this definition “is not regulatory because it does not establish a binding norm.” *IRRC Comments* at pg 6. (190)

Response: The language is appropriate to describe all potential sources of mine influenced water.

77. Comment: Mine Influenced Water: The proposed definition appears to include all waters impaired by mine drainage. Given this breadth, the definition would include seemingly all surface waters throughout the Commonwealth, including sections of major rivers, such as the Allegheny, Monongahela, Youghiogheny and West Branch of the Susquehanna - some of which are widely used for public water supplies. The definition seems overly broad, does not provide any guidance and lends itself to arbitrary application. Storage and use of such a broad universe of waters should not be subject to the special approval requirements of §78a.59b(h) for storing such water in a freshwater impoundment or of §78a.58(a) for mixing such water with other fluids on the well site. To allow for the beneficial reuse of waters previously impacted by acid mine drainage, we recommend narrowing the definition to state: “Water contained in a mine pool or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to, waters of the Commonwealth.”(191)

Response: The language is appropriate to describe all potential sources of mine influenced water.

78. Comment: § 78.a.1. Definitions. - “mine influenced water” - It is suggested that the second sentence be deleted. The first sentence captures any relevant discharges to surface waters from mining activities. The term “mine influenced water” should not also include the entire surface water body into which those discharges occur, as the second sentence implies. (193)

Response: The definition is appropriate.

79. Comment: Mine influenced water —Water in a mine pool or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to waters of the

Commonwealth. The term may also include surface waters that have been impaired by pollutional mine drainage as determined by the Department. We are concerned that this definition gives the Department the ability to determine that any surface waters impaired by mine drainage are mine influenced water, without any criteria or standards. Given the breadth of the Department's list of waters impaired by mine drainage, this definition would include many surface waters throughout the Commonwealth. For example, this would include sections of major rivers such as the Allegheny, Monongahela, Youghiogheny and West Branch of the Susquehanna, and their tributaries, some of which are widely used for public water supplies. It is inappropriate to subject the storage and use of such a broad universe of waters to these special approval requirements, particularly as they are routinely used by other industries without comparable requirements. Additionally, the significance has been magnified by the amendment to Section 78a.58(a) which would potentially require special permission in order to blend water from the above-mentioned rivers with other water before using the mixture to hydraulically fracture a well. This definition fails to establish a cogent regulatory standard that informs the industry which waters are subject to these requirements, but rather authorizes arbitrary determinations by the Department disparately for one industry. As such, we support the others suggested amendatory language: "Mine influenced water—Water contained in a mine pool, or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to, waters of the Commonwealth." (199)

Response: The language is appropriate to describe all potential sources of mine influenced water.

80. Comment: Mine influenced water should be defined to include acid mine drainage and its regulation by the Clean Streams Act regardless of its beneficial use or reuse alone or in mixtures with other substances. Such water is a hazard to the environment and public health given its highly acidic nature and its contamination by toxic metals such as arsenic and mercury. (161)

Response: The language is appropriate to describe all potential sources of mine influenced water. Chapters 78 and 78a provide protection of public health and safety and the environment from mine influenced water.

81. Comment: The definition of "mine-influenced water" is overly broad as defined in § 78.1. Operators intending to use mine-influenced waters will be obligated to submit for approval and subsequently comply with a mine- influenced water storage plan that includes regular testing, records retention and a demonstration that pollution to air, water or land will occur. While pollution prevention is a worthy policy goal, the proposed definition of "mine-influenced water" ("water in a mine pool or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to waters of the Commonwealth") could be construed to include water from any waterway downstream of a mining activity, as mining activity is or has taken place in many parts of the state. There are also about 5,000 miles of streams in the state impaired due to mining activity. In sum, the definition is overly broad and will only lead to arbitrary and untenable results, The PA Chamber recommends that DEP delete the use and definition of the term "mine-influenced water" removed from this rulemaking and that DEP invite further comment and dialogue with stakeholders and the regulated community regarding the issues and process outlined in the Department's November 2011 "Establishment of a Process for Evaluating the Proposed Use of Mine Influenced Water (MIW) for Natural Gas Extraction" whitepaper. (236)

The quality of mine influenced water varies greatly throughout the Commonwealth and the term includes mine influenced water that has been treated, which may be very high quality.

Before mine influenced water is allowed to be stored in a freshwater impoundment, the Department must review and approve the storage based on a variety of factors including the quality of the water and the risks of storage of the water.

82. Comment: The definition of “Modular Aboveground Storage Structure” is overly broad and otherwise vaguely defined in that it allows for a wide degree of interpretation as to what constitutes a modular aboveground storage structure. For instance, the proposed definition could include mud tanks on a rig. (210)

Response: The Department disagrees that the definition is overly broad and otherwise vaguely defined. The commenter has not provided sufficient information regarding “mud tanks on a rig” for the Department to respond.

83. Comment: Modular Above Ground Storage Structure - The definition is not clear as to what may be identified as a Modular Above Ground Storage Structure. Define “final assembly” and “broken down”. Does this include typical 500-bbl frac tanks? If not, specifically state that frac tanks are not identified as “modular storage structures”. (187, 209)

Response: The Department has revised the definition to replace the term “broken down” with the term “disassembled” and the definition of the term final assembly is the common English definition. The commenter has not provided sufficient information regarding “typical 500 bbl frac tanks” to allow the Department to respond to the specific request.

84. Comment: Modular Above Ground Storage Structure – must include secondary containment and protection from third party activity. (161)

Response: The Department evaluates proposed modular aboveground storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection.

85. Comment: Oil and gas operations - The term includes the following:

(i) ['Well location assessment, seismic] SEISMIC operations, well site preparation, construction, drilling, hydraulic fracturing, completion, production, operation, alteration, plugging and site restoration associated with an oil or gas well.

(ii) Water withdrawals, residual waste processing, water and other fluid management and storage INCLUDING CENTRALIZED TANK STORAGE, used exclusively for the development of oil and gas wells.

Construction, installation, use, maintenance and repair of:

Oil and gas WELL DEVELOPMENT, GATHERING AND TRANSMISSION Pipelines.

Natural gas compressor stations.

Natural gas processing plants or facilities performing equivalent functions.

Construction, installation, use, maintenance and repair of all equipment directly associated with activities in subparagraphs (i) D(iii) to the extent that the equipment is necessarily located at or

immediately adjacent to a well site, impoundment area, oil and gas pipeline, natural gas compressor station or natural gas processing plant.

Earth disturbance associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.

We object to the effort to expand the scope of Chapter 78 Subchapter C to activities and operations other than the operation and plugging of oil and gas wells. This definition should be stricken and the scope of Section 78.2 should be retained. (212)

Response: Chapters 78 and 78a are promulgated under the authority of several environmental laws including The 2012 Oil and Gas Act; Article I, Section 27 of the Pennsylvania Constitution; the Clean Streams Law; the Dam Safety and Encroachments Act; the Solid Waste Management Act; the Pennsylvania Law Recycling and Environmental Remediation Standards Act; the Radiation Protection Act; the Administrative Code of 1929; the act of July 10, 2014 (P.L. 1053, No. 126); and the Unconventional Well Report Act, the act of October 22, 2014 (P.L. 2853, No. 173). It is reasonable and appropriate for the Department to expand the scope of Chapter 78 to address the activities listed in this definition.

86. Comment: The definition of “Oil and Gas Operations” includes the construction, maintenance and repair of transmission pipelines under subparagraph (iii)(A). We question DEP/EQB's authority to include transmission pipelines and related facilities under these regulations as such pipelines/facilities are already regulated under the rules and regulations of the Federal Energy Regulatory Commission and USDOT. (190)

Response: Please see response to comment 85. The Department has statutory authority under Pennsylvania environmental laws to protect public health, safety and the environment during the construction, maintenance, and repair of pipelines that transport natural gas. The provisions in the final rulemaking related to pipelines do not exceed that authority. To the extent federal regulations may also apply to certain natural gas pipelines in Pennsylvania, the requirements of this rulemaking are consistent with and not duplicative of those requirements.

87. Comment: Oil and Gas Operations - Remove residual waste processing from definition as the Bureau of Solid Waste Management is responsible for the regulation of such activities. Further, if a residual waste processing facility only handles Oil and Gas residual waste would it be regulated by Oil and Gas Management, Solid Waste Management, or both? If both, who would be the lead permitting agency?

Is a WMGR123 permitted facility (e.g. Water Treatment/Recycling Facility) considered Oil and Gas Operations or Solid Waste Management Operations? The current understanding is that a WMRG123 permitted facility is permitted and managed by Bureau of Solid Waste Management, please provide further guidance and clarification. (187, 209)

Response: The Department declines to remove residual waste processing from this definition. Sections 78.58 and 78a.58 address onsite processing. Sections 78.58(f) and 78a.58(f) specify that processing residual waste generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells other than as provided in 78.58(a)-(b) and 78a.58(a)-(b) shall comply with the Solid Waste Management Act. Accordingly, residual waste processing does not comply with the requirements in Chapters

78 and 78a; it must comply with the Solid Waste Management Act.

88. Comment: Oil and gas operations – the inclusion of the term “seismic operations” in this definition is inaccurate and not applicable to regulation contained in Chapter 78 or Chapter 78a as the only Department authorization/permit required to undertake seismic operations is related to the use of certain specialized charges that are regulated under the Explosives Acts of 1937 and 1957 and 25 Pa. Code Chapters 210 and 211 via the Department’s Bureau of District Mining Operations. It is recommended that “seismic operations” should be removed from this definition. (195)

Response: The Department has revised the definition to remove the term “seismic operations”.

89. Comment: We object to the proposed definition of oil and gas operations which significantly and inappropriately expands the current scope of Chapter 78. This definition should be deleted the current scope of Chapter 78 should be retained. (213)

Response: Please see response to comment 85.

90. Comment: Oil and Gas Operations - In 2015, PADEP proposed to further modify the “oil and gas operations” definition to list all anticipated operations.

We support the proposed improvements to the definition; however, the expanded list of anticipated operations is incomplete. The definition should include all well stimulation methods (not just hydraulic fracturing), well work overs, well maintenance and repair, and surface facilities required to process liquid hydrocarbons including separators and storage tanks.

More specifically, we recommend the following changes to the proposed definition:

Oil and gas operations—The term includes the following:

(i) [Well location assessment, seismic] SEISMIC operations, well site preparation, construction, drilling, ALL WELL STIMULATION METHODS (INCLUDING hydraulic fracturing), WELL completion, WELL MAINTENANCE AND REPAIR, production, operation, alteration, plugging and site restoration associated with an oil or gas well.

(ii) Water withdrawals, residual waste processing, water and other fluid management and storage INCLUDING CENTRALIZED TANK STORAGE, used exclusively for the development of oil and gas wells.

(iii) Construction, installation, use, maintenance and repair of:

(A) Oil and gas WELL DEVELOPMENT, GATHERING AND TRANSMISSION pipelines.

(B) Natural gas compressor stations.

(C) Natural gas AND OIL processing plants or facilities performing equivalent functions.

(iv) Construction, installation, use, maintenance and repair of all equipment directly associated with activities in subparagraphs (i)-(iii) to the extent that the equipment is necessarily located at or immediately adjacent to an OIL OR GAS well site, impoundment area, oil and gas pipeline, natural gas compressor station, or natural gas processing plant, OR FACILITIES REQUIRED TO PROCESS OIL AND GAS (E.G. SEPARATORS, DEHYDRATORS, TANKS).

(v) Earth disturbance associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities. (211)

Response: The Department considered this comment and declines to make the suggested changes.

91. Comment: Oil and gas operations. Commentator supports the clarification that the term “oil and gas operations” includes activities related to pipelines for all purposes – well development, gathering, and transmission – in the production and transportation of oil and gas.

Commentator supports the revisions throughout the proposed regulations to eliminate the term “oil and gas activities” in favor of consistent use of the defined term “oil and gas operations.” (231, 231a)

Response: The Department acknowledges the comment.

92. Comment: Oil and Gas Operations
iii. Centralized Tank Storage should include more descriptive language so that it includes secondary containment systems and protection from third-party activity. (161)

Response: Please see responses to comments regarding sections 78.57a and 78a.57a. Because the Department has removed the provision related to centralized tanks storage, this term has been removed with this definition.

93. Comment: The terms “Pennsylvania rare”, “tentatively undetermined” and “candidate” are defined elsewhere in the Pennsylvania Code, but it is unclear whether PADEP intended to incorporate those definitions here. (210)

Response: The final rulemaking includes a new definition of “other critical communities” that clarifies that they are species of special concern identified on a PNDI receipt. This definition includes a non-exclusive list of categories of plant and animal species that are considered special concern species by the Department of Conservation and Natural Resources, the Pennsylvania Fish and Boat Commission, the Pennsylvania Game Commission, and the United States Fish and Wildlife Service. The terms the commentator suggests adding to this rulemaking do not include all plants and animal species considered to be species concern species and, therefore, the Department declines to incorporate those definitions.

94. Comment: This term (TAXA OF CONSERVATION CONCERN) does not appear to be defined in any Pennsylvania law, and is so broad that it is difficult for the commentator to comment on the impact of its inclusion in this definition. (210)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) and definition of “other critical communities” are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c)(4) of the 2012 Oil and Gas Act, the Department has a legal obligation

when reviewing a well permit application to consider the impacts to public resources -- including “other critical communities.” The phrase “other critical communities” is defined in the final rulemaking to mean species of special concern identified on a Pennsylvania Natural Diversity Inventory (PNDI) receipt consistent with the Department’s past practices and policies. Under Section 3274 of the 2012 Oil and Gas Act, the Environmental Quality Board has the authority to promulgate regulations necessary to implement the statute. Accordingly, it is reasonable and appropriate for the Department to define “other critical communities” as provided in §§ 78.1 and 78a.1.

The Department’s well permit application materials and its “Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation,” Doc. No. 021-0200-001, establish a process that has been and continues to be in use by well permit applicants to identify and consider species of special concern. The final rulemaking codifies this process and is consistent with the Department’s long-standing use of PNDI to fulfill its responsibility to consider impacts on species of special concern when issuing permits under various environmental statutes.

In response to comments, the final rulemaking amends the definition of “other critical communities” to clarify that this term applies only to those species of special concern that appear on a PNDI receipt. Also in response to comments, the Department removed the provisions in the draft-final (ANFR) rulemaking relating to specific areas within the geographical area occupied by a threatened or endangered species and significant non-species resources. These changes were to ensure that the definition reflects the existing PNDI process.

The process for consideration of public resources in Sections 78.15 and 78a.15 makes appropriate use of information available in the PNDI database from the public resources agencies with the authority, knowledge, and expertise to identify and protect species of special concern. Sections 78.15(f) and 78a.15(f) outlines a reasonable and appropriate process that provides important information to the Department to evaluate potential impacts and to assess the need for additional conditions in the well permit using the criteria in Section 78.15(g) and 78a.15(g).

95. Comment: The term “special concern population” is defined in 17 Pa. Code Chapter 45, but it is unclear whether PADEP intended to incorporate that definition here. In addition, it appears that no plant populations have been classified as special concern populations by DCNR. (210)

Response: Please see response to comment 94. Whether DCNR has classified plant populations as special concern populations is outside the scope of this rulemaking.

96. Comment: I support the definition for “Other Critical Communities” and “Threatened or Endangered Species. In particular, the definition of “Other Critical Communities” is important as politics are overruling science in the listing of Threatened or Endangered Species. (230)

Response: The Department acknowledges the comment.

97. Comment: We support the definition of “Critical Communities” in section 78a-1 because it acknowledges the importance of unique and valued parts of our environment. (220)

Response: The Department acknowledges the comment.

98. Comment: The definition of “other critical communities” to include the Department’s concept of “species of special concern” lacks clarity and is highly ambiguous. The proposed final rule defines “other critical communities” to mean “

- (1) Plant and animal species that are not listed as threatened or endangered by a public resource agency, including:
 - (i) Plant and animal species that are classified as rare, tentatively determined or candidate,
 - (ii) Taxa of conservation concern;
 - (iii) Special concern plant populations;
- (2) The specific areas within the geographical area occupied by a threatened or endangered species designed in accordance with the Endangered Species Act of 1973, 16 U.S.C. §1531 et seq., that exhibit those physical and biological features essential to the conservation of the species and which may require special consideration or protections; and
- (3) Significant non-species resources, including unique geological features, significant natural features or significant natural communities.”

Section 78.1. The actual database of special concern species, upon which permit applications are based, is not public, viewable or printable. Special concern species, other than threatened or endangered species, are added by agencies and scientist volunteers without public notice or comment. How is a conventional well operator to know whether a proposed well site will impact “other critical communities” under these conditions? (201)

Response: Please see response to comment 94.

99. Comment: Other Critical Communities –The criterion for inclusion is far too vague and general broadening the likelihood of arbitrary actuation. We should require a detailed accounting of how the critical community candidates are brought forth and where the public can follow scientific peer review comments. (245)

Response: Please see response to comment 94.

100. Comment: The Department has not provided an adequate statement of need or estimate of cost to the regulated community pursuant to the requirements of Pennsylvania’s Regulatory Review Act. The ANFR is not a substitute for an agency to fulfill any of the formal steps of the Regulatory Review Act or the accompanying requirements imposed on the promulgating agency. Accordingly the Department should not proceed to finalize the definition of “other critical communities”, but should withdraw the definition and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA.

The definition of “other critical communities” now proposed is so vague and general as to potentially encompass every plant and animal species on earth, except those listed as T&E species [“Plant and animal species not listed as threatened or endangered ... including...”]. Moreover the list of examples following the word “including” are equally vague using terms that are undefined in any law or regulation and are apparently open to evolving interpretation by anyone. To the extent the terms are intended to refer to certain species, areas, features, and/or communities on the Pennsylvania Natural Diversity Inventory (PNDI) database, such designations are not done by rulemaking, nor are they clearly defined there either. Accordingly, the Department is improperly seeking to create a binding regulatory requirement in excess of its statutory authority. Since permit applicants would be required to undertake extensive and

expensive procedures, pursuant to Section 78a.15(f)(1)(iv), if a well site is “in a location that will impact other critical communities,” it is essential to know exactly what species, areas, features, and communities are covered and to be able to establish the locations of those species, areas, features, and communities. This definition leads to an absurd result and is clearly not what the General Assembly intended. The proposed definition fails to provide any meaningful details, guidance, or criteria and should be eliminated.

More fundamentally, the Department’s authority to regulate the potential impact on public resources derives from § 3215(c) of Act 13 of 2012 (which does not define the term “other critical communities”). In fact, the term “other critical communities” is used in that subsection and nowhere else in Act 13, nor is it used in any other statute relied upon as authority for these regulations. However, in the *Robinson Township* decision (*Robinson Twp. et al v. Commonwealth*, 83 A.3d 901 (PA 2013)), the Supreme Court enjoined the application of § 3215(c). Accordingly, the Department lacks the authority to regulate with regard to “other critical communities” specifically and lacks the legal authority to implement § 3215(c) in its entirety. Section 78a.15(f) should be stricken.

The expansive, and potentially unlimited, definition of “other critical communities” not only far exceeds any rational interpretation of legislative intent, but is also so ambiguous and subjective as to be arbitrary and capricious. (210)

Response: To the extent that the commentator comments on the Department compliance with the Regulatory Review Act, please see responses to comments 2301 to 2335.

In response to the commentator’s comment on the definition of “other critical communities”, please see response to comment 94.

To the extent the commentator refers to the *Robinson Township* decision, please see response to comment 262.

101. Comment: If *Robinson Township* did not invalidate Section 3215(c) of Act 13, Section 3215(c)(4) refers to “habitats of rare and endangered flora and fauna and other critical communities” with no associated definitions. But even with the lack of a statutory definition of “other critical communities,” DEP is proposing an extremely expansive, and potentially unlimited, number of undefined and/or unlisted species (e.g. tentatively undetermined and candidate species; undefined taxa of conservation concern; undefined special concern plant populations), as well as numerous other undefined geographical areas, geological features, natural features, and natural communities. The lack of regulatory definition or criteria applicable to these many terms embedded in this definition would allow the designation as a “critical community” of any species, area, feature, or community by the Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, water purveyors, municipalities, and school districts, without going through the regulatory review process. This delegation of power to a wide range of public resource agencies cannot be done by DEP regulation, but would require legislative action under the various enabling statutes for those entities. The proposed definition also goes so far as to equate “significant” features or communities to “critical” communities, when in fact the normal usage of those terms implies a separation, with “critical” being a higher level of importance than “significant.” For example, DEP is proposing to equate undefined “significant natural communities” to “critical communities” with absolutely no explanation or rationale that would support such an expansion.

The proposed definition of “Other Critical Communities” is entirely lacking in its ability to satisfy due process requirements. Simply put, the Department has not published a list of the things that are actually included within the definition or informed the public how things get included within the definition. Rather, it has defined the category or term “other critical communities” by reference to other categories of things such as “taxa of conservation concern” and “significant non-species resources.” This provides insufficient public notice and omits necessary information upon which a public comment can be made about any specific species proposed for protection status. Consequently, the manner in which the things to be protected have been presented violates procedural due process guarantees of both the United States and Pennsylvania Constitutions.

On April 22, 2015, we filed a right-to-know request with the Department asking for a list of the things included in the definition(s) or categories of things listed so that it might have the ability to respond and comment on the actual things being proposed for listing. Under the right-to-know law, the Department has 5 days to file its response or to invoke a 30-day delay. The Department invoked its 30-day delay right in a letter dated April 30, 2015 and thereby admitted that it could not produce a list of the things included in the definition within 5 days and, in the case of the instant rulemaking, before the end of the ANFR comment period which expires on May 19, 2015.

If the Department could not produce a list of the things included in the definition in less than 30 days, it would appear that it did not know what things actually were included in the definition when it proposed the regulation. This would indicate that any commission or legislative body reviewing the rulemaking cannot have confidence in what the Department or the EQB is proposing. Moreover, the Department’s inability to produce a list as noted above denied the public adequate public notice and, correspondingly, the ability to provide informed comment on the regulatory proposal.

Thus, the proposed list of “critical communities” to be newly protected through the creation of well permit conditions, pursuant to a new process that would have agencies other than PADEP create such well permit obligations, cannot create certainty or predictability for those who would obtain well permits in Pennsylvania because the definition incorporates unavailable information, as well as lists of species and non-species resources that could change without notice on a daily, weekly or monthly basis.

This proposed definition should be deleted in its entirety, unless and until legislative action provides otherwise. (213)

Response: The Department has considered this comment and disagrees with the Commentator’s characterization of the relevant law and provisions in the final rulemaking.

In response to comments related to the definition of “other critical communities”, please see response to comment 94. Please also see responses to comments on §§ 78.15(f)(1)(iv) and 78a.15(f)(1)(iv).

Given the Department’s obligations and duties to protect public resources, including other critical communities, and public resource agencies’ expertise and knowledge, it is reasonable and appropriate for the Department to use information available in the PNDI database in the Department’s consideration of impacts.

To the extent the commentator refers to the *Robinson Township* decision, please see response to comment 262.

102. Comment: Language that is bold and underlined below is revisions to the OTHER CRITICAL COMMUNITIES definition for consideration:

OTHER CRITICAL COMMUNITIES-THE TERM SHALL MEAN:

PLANT AND ANIMAL SPECIES THAT ARE NOT LISTED AS THREATENED OR ENDANGERED BY A PUBLIC RESOURCE AGENCY, INCLUDING:

- (1) PLANT AND ANIMAL SPECIES THAT ARE CLASSIFIED AS RARE, TENTATIVELY UNDETERMINED OR CANDIDATE, TAXA OF CONSERVATION CONCERN, LOW STATE RANKS (S1=CRITICALLY IMPERILED, S2=IMPERILED, S3=VULNERABLE), SPECIAL CONCERN PLANT POPULATIONS.
- (2) THE SPECIFIC AREAS OR CRITICAL HABITATS WITHIN THE GEOGRAPHICAL AREA OCCUPIED BY A THREATENED OR ENDANGERED SPECIES DESIGNATED IN ACCORDANCE WITH THE ENDANGERED SPECIES ACT OF 1973, 16 U.S.C. §§ 1531 ET SEQ., WILD RESOURCES CONSERVATION ACT, 32 P.S. § 5301; FISH AND BOAT CODE, 30 PA. C.S. § 101 ET SEQ.; AND GAME AND WILDLIFE CODE, 34 PA. C.S. § 101 THAT EXHIBIT THOSE PHYSICAL AND BIOLOGICAL FEATURES ESSENTIAL TO THE CONSERVATION OF THE SPECIES AND WHICH MAY REQUIRE SPECIAL CONSIDERATION OR PROTECTIONS; AND
- (3) SIGNIFICANT NON-SPECIES RESOURCES, INCLUDING UNIQUE GEOLOGICAL FEATURES; SIGNIFICANT NATURAL FEATURES OR SIGNIFICANT NATURAL COMMUNITIES. (265)

Response: Please see response to comment 94.

103. Comment: Species and Public Resources: The Department's approach to regulating the potential impact on public resources and protected species creates confusion and uncertainty and exceeds its legal authority. In maintaining the language from Section 205(c) of the Oil and Gas Act of 1984 ("Act 223") in Act 13, which expressly included the term "other critical communities," it does not seem likely or consistent that the Pennsylvania Legislature intended for this language to be expanded to include ALL "plant and animal species that are not listed as threatened or endangered." We are concerned that this language in the proposed definition of "Other Critical Communities" (§78a.1) does not lead to an objective definition from which to garner a meaning for the limitations of this definition and, therefore, does not allow for the added definition to be used as an effective compliance tool. The regulated community and the DEP permit reviewers are left with substantial questions as to how to manage this term as it relates to permit conditions. The definition should be reworked to limit its scope to a list of species that is readily known, available to the industry and prepared through a rulemaking process; or it should be eliminated. More fundamentally, the Department's authority to regulate the potential impact on public resources derives from Section 3215(c) of Act 13. In fact, the term "other critical communities" is used in that subsection and nowhere else in Act 13. However, in the Robinson Township decision (Robinson Twp. et al v. Commonwealth, 83 A.3d 901 (PA 2013)) the Supreme Court enjoined the application of Section 3215(c). Accordingly, the Department lacks the authority to regulate with regard to "other critical communities" specifically, and lacks the legal authority to implement Section 3215(c) in its entirety. Section 78a.15(f) should be stricken. (191)

Response: Please see response to comment 94.

To the extent the commentator refers to the *Robinson Township* decision, please see response to comment 262.

104. Comment: By inserting a definition of “critical habitat”, PADEP is reading the Oil and Gas Act of 2012 as creating an obligation for the agency to consider the “habitats” of “critical habitats.” The context and language of 58 Pa. C.S. § 3215(c)(4) do not support a definition of “critical communities” that would include either critical habitats or non-species resources, such as those listed in this subsection and in subsection (3). Providing these non-species resources with the level of protection provided to threatened or endangered species without justification is inappropriate. (210)

Response: Please see response to comment 94.

105. Comment: §78a.1. Definitions - “other critical communities” - This definition includes many, not clearly specified, plant and animal species that are not listed (or even proposed) as threatened or endangered by a public resource agency (e.g. undefined rare, tentatively undetermined, and candidate species; undefined taxa of conservation concern; undefined special concern plant populations), as well as numerous other undefined geographical areas, geological features, natural features, and natural communities. The complete lack of regulatory definition or criteria applicable to these many terms embedded in this definition would allow the designation as a “critical community” of any species, area, feature, or community by the Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, water purveyors, municipalities, and school districts, without going through the regulatory review process. It even goes so far as to equate “significant” features or communities to “critical” communities, when in fact the normal usage of those terms would imply a separation, with “critical” being a higher level of importance than “significant.” This delegation of power to a wide range of public resource agencies should not be done by DEP regulation, but should require legislative action under the various enabling statutes for those entities. Consequently, it is recommended that this definition be deleted, unless and until legislative action provides the necessary clarity. (193)

Response: Please see response to comment 94.

106. Comment: Other critical communities. Commentator supports the Department’s efforts to define the term “other critical communities” and to clarify its meaning beyond simply “special concern species,” as in the previous draft of § 78.15. The inclusion of “rare, tentatively undetermined, or candidate” plant and animal species in the definition of “other critical communities” will ensure that public resource agencies receive notice to take adequate measures to protect vulnerable species under §§ 78.15(f) and 78a.15(f). Section 2 of the definition will help to ensure protection of areas that may provide future home to an endangered or threatened species. (231, 231a)

Response: The Department acknowledges the comment.

107. Comment: The first sentence of Section 1 of the definition of “other critical communities” could be read as including within that category all “plant and animal species that are not listed as threatened or endangered.” To avoid that (likely unintended) interpretation, commentator suggests revising the first sentence of section 1 to read: “Plant and animal species that are not listed as threatened or endangered by a public resource agency, but are included in one or more of the following.” (231, 231a)

Response: Please see response to comment 94.

108. Comment: Other Critical Communities The regulation should be limited to the current listing of threatened and endangered species as listed by the appropriate regulatory agency. The term and definition is overly broad and reaches outside the language of the Act and responsibilities of the Department. The term should be removed from the definitions in Chapter 78. The clearly defined language and definitions that currently exist for threatened and endanger species should be referenced (58 Pa Code). (187, 209)

Response: Please see response to comment 94.

109. Comment: § 78.1 Definitions - Other Critical Communities

The Department has proposed a new definition of “other critical communities” that is without legal or scientific foundation. The proposed definition sweeps in vague and limitless “resources” to be reviewed in the well permit application process:

- 1) plant and animal species that are not listed as threatened or endangered by a public resource agency, including:
 - i. plant and animal species that are classified as rare, tentatively undetermined or candidate,
 - ii. taxa of conservation concern, and
 - iii. special concern plant populations.
- 2) the specific areas within the geographical area occupied by a threatened or endangered species designated in accordance with the Endangered Species Act of 1973, 16 U.S.C. § 1531, et seq., that exhibit those physical and biological features essential to the conservation of the species and which may require special consideration or protections; and
- 3) significant non-species resources, including unique geological features, significant natural features or significant natural communities.

This definition-which expressly includes all species that are not listed as threatened or endangered, as well as various non-species resources-would come into play in the well permit application process, where applicants would be required to give notice to Public Resource Agencies “responsible for managing” the habitats of these critical communities. See proposed § 78.15 (f)(1 -4).

As noted above, the Department has no legal authority to develop such rules because the Pennsylvania Supreme Court invalidated Sections 3215 (b) through (e) of Act 13. But the Draft Final Rule not only lacks authority under Act 13, it is also overly broad and unworkable, creating unpredictable and unlimited obligations to protect unknown and unknowable species and non-species resources.

Presumably, one would be informed of the presence of non-listed species and non-species resources by utilizing the Pennsylvania Natural Diversity Index (“PNDI”) database and obtaining a PNDI receipt with a hit for such non-listed species and non-species resources. PNDI, however, does not use the term “critical communities,” but when certain non-listed species come up in the PNDI database, a PNDI receipt indicates that “special concern” species may be impacted by the project. “Special concern” species, however, are not defined in any state or federal statute or regulation, and no agency or entity that populates the PNDI database utilizes a consistent or

public standard or process for the categorization of such species. These decisions are made without public notice, input, rulemaking or peer review.

Thus, the proposed list of “critical communities” to be newly protected through the creation of well permit conditions, pursuant to a new process that would have agencies other than PADEP create such well permit obligations, cannot create certainty or predictability for those who would obtain well permits in Pennsylvania because the definition incorporates lists of species and non-species resources that could change without notice on a daily, weekly or monthly basis.

And while the term “critical communities” is not defined in Act 13 or elsewhere, its meaning should be considered in the context in which it was used-alongside of “rare and endangered” flora and fauna. “Rare” and “endangered” are terms that do have definitions and a process for categorization by the Pennsylvania agencies tasked with the protection of species, such as the Department of Conservation and Natural Resource, the Pennsylvania Game Commission, and the Pennsylvania Fish and Boat Commission. By protecting all non-listed species, and adding such categories as “tentatively undetermined” and “candidate” to its proposed definition, PADEP has departed far from the General Assembly’s use of the word “critical communities” in Act 13. The use of the term “critical communities” indicates that such communities are in dire need of protection, comparable to the status of threatened or endangered species. Threatened and endangered species, however, are only listed after thorough review, public notice and rulemaking procedures, and generally accepted scientific review. PADEP’s definition of “critical communities” would elevate all non-listed species, as well as various non-species resources, to levels of protection comparable to those for threatened or endangered species without any public input or science to justify such protection.

Further, having inserted a definition of “critical habitat” (borrowed from the PNDI Policy) in subpart (2) of its proposed definition of “critical communities,” PADEP would read Act 13 as creating an obligation for PADEP to consider the “habitats” of “critical habitats.” The context and language of Act 13 Section 3215 (c)(4) simply do not support a definition of “critical communities” that would include any non-species resources, such as those listed in subparts (2) and (3) of the new definition in the Draft Final Rules. (212)

Response: Please see response to comment 94.

To the extent the commentator refers to the *Robinson Township* decision, please see response to comment 262.

To the extent that the commentator suggests that this definition and the process outlined in §§ 78.15 and 78a.15 gives public resources agencies the power to impose permit conditions, the Department disagrees with this mischaracterization of the law and the provision in this rulemaking. Please see response to comments on §§ 78.15(f)(1)(iv) and 78a.15(f)(1)(iv). The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

- 110.** Comment: Commentator has significant concern that the definition of “Other Critical Communities” is overly broad and ambiguous and would create significant uncertainty, work, and costs for oil and gas operations in the state of Pennsylvania.

Paragraph (1) of the definition provides that any plant, animal, or groups of plants and/or animals that are currently not listed as threatened or endangered by a public resource agency could be

considered Critical Communities, which means that the definition would encompass most plants and animals including all common species. Although subparagraphs (i), (ii), and (iii) list several examples of plants and animals that would apparently constitute Critical Communities, this list is not exclusive but only illustrative. Further, paragraph (1) is entirely open-ended and provides no guidance on when, how, by what criteria, or by whom additional species will be identified as Critical Communities. It could also extend Federal Endangered Species Act (ESA)-type protections to untold numbers of species that are not ESA listed. The definition then goes on to include in paragraph (2) areas that appear to constitute critical habitat, as the language closely mirrors the definition of critical habitat provided by ESA. However, paragraph (3) of the definition adds the ambiguous concept of “significant non-species resources,” which includes an equally vague reference to “significant natural communities.” This could conceivably encompass areas that exhibit features similar to critical habitat, but may not actually be designated critical habitat, or even be historical range of the species in question, whether or not such species has any sort of protections under the ESA. Again, paragraph (3) fails to explain when, how, by what criteria, or by whom these “non-species resources” determinations will be made.

Defining Other Critical Communities to encompass a nearly limitless, virtually undefined, and highly subjective combination of plants, animals, habitat, and habitat features creates unnecessary and significant uncertainty. Additionally, it will create delays related to jurisdictional, regulatory and permitting pathways as it will substantially expand the number of permit applicants requiring consult with the respective wildlife and natural resource agencies. These agencies are already struggling under limited resources to achieve their conservation goals, whereas this process would add significant additional workload for this non-specific category of “communities” which have not been found to warrant an endangered or threatened species protection.

Specific to the obligatory use of the Pennsylvania Natural Diversity Inventory Environmental Review Tool (PNDI) during the permitting process, the potential for uncertainty and unnecessary costs and confusion is exacerbated by the increased potential for PNDI “hits” related to the broad definition of Other Critical Communities. Determining applicable jurisdictional, regulatory and permitting pathways related to plant and animal species classification (rare, special concern) and “non-species resources” is further confused by a lack of defined process of determination, thus creating additional uncertainty involving avoidance and mitigation measures. Since the definition of Other Critical Communities excludes plant and animal species that are listed as threatened and endangered, uncertainly surrounds what such a species listing would mean if the species was previously defined as Other Critical Communities. Lastly, PA Code Chapter 102 already provides requirements for a PNDI review for the presence of a State or Federal threatened or endangered species on the project site and for “Rare and Significant Ecological Features,” thus these provisions in Chapter 78a are duplicative and unnecessary.

Finally, the Department has not provided an adequate statement of need or estimate of cost to the regulated community pursuant to the requirements of Pennsylvania’s Regulatory Review Act. This Advanced Notice of Final Rulemaking (ANFR) is not a substitute for fulfilling the formal steps of the Regulatory Review Act or the accompanying requirements imposed on the promulgating agency.

Accordingly the Department should not proceed to finalize the definition of “other critical communities”, but should withdraw the definition and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA.

Fundamentally, the Department’s authority to regulate the potential impact on public resources derives from § 3215(c) of Act 13 of 2012 (which does not define the term “other critical communities”). In fact, the term “other critical communities” is used in that subsection and

nowhere else in Act 13, nor is it used in any other statute relied upon as authority for these regulations. However, in the Robinson Township decision (Robinson Twp. et al v. Commonwealth, 83 A.3d 901 (PA 2013)) the Supreme Court enjoined the application of § 3215(c). Accordingly, the Department lacks the authority to regulate with regard to “other critical communities” specifically and lacks the legal authority to implement § 3215(c) in its entirety. Section 78a.15(f) should be stricken.

To avoid unnecessary uncertainty, project delays and increased costs, it is recommended that PNDI identify and map only federal and state threatened and endangered plant and animal species and associated critical habitats, and that the definition of Other Critical Communities be removed from the proposed rules. This will help applicants with identifying jurisdictional, regulatory and permitting pathways, and reduce the potential burden on the Department and other agencies. In addition, a clear PNDI designation will help will project planning regarding avoidance and mitigation measures, thus benefiting threatened and endangered species and the environment generally. (199)

Response: To the extent that the commentator comments on the Department compliance with the Regulatory Review Act, please see responses to comments 2301 to 2335.

In response to the commentator’s comment on the definition of “other critical communities”, please see response to comment 94.

To the extent the commentator refers to the *Robinson Township* decision, please see response to comment 262.

Please also see responses to comments on §§ 78.15(d)-(g) and 78a.15(d)-(g).

- 111.** Comment: Other critical communities—as proposed, the definition reads as overly broad and ambiguous insofar as it appears to include various species that are not listed, proposed, or contemplated to be designated as threatened, endangered, warranting special concern, or any combination thereof. Therefore, we recommend that “other critical communities” shall be defined to mean:

“(1) Plant and animal species that are not listed as threatened or endangered by an agency having jurisdiction over that species, consisting of the following:

- (i) Plant and animal species that are classified, by an agency having jurisdiction over those species, as rare, tentatively undetermined or candidate,
- (ii) Plant and animal species that are classified, by an agency having jurisdiction over those species, as special concern species.

(2) The specific and discrete areas within the range of a threatened or endangered species at the time it is listed, within which are found the physical and biological features essential to the conservation of the species and which require special management considerations or protection; critical communities shall not include the entire range of the threatened or endangered species.

(3) Significant non-species resources, consisting of the following, unique geological features; significant natural features or significant natural communities that are managed and protected by regulation or policy of an agency having jurisdiction over such features.” (195)

Response: The Department considered this comment and has amended the definition of “other critical communities” in §§ 78.1 and 78a.1. Please see response to comment 94.

112. Comment: 78.1 Definitions:

Other Critical Communities -- Species that are not listed by a public resource agency sounds like it would include species outside of a PNDI review. If so, where does an operator go to obtain this information? What is the definition of a “significant non-species resource”, “significant natural feature”, “significant natural community”, and where do operators obtain this information for project planning? (204)

Response: Please see response to comment 94.

113. Comment: The new definition of “critical communities” sets an unrealistic standard with which the oil and gas industry would have to comply. At the best-case scenario, the definition does not provide for consistency with conceivably compatible definitions or databases. However, most disturbing is the overwhelming number of new categories of resources that would be protected without the required public process or corresponding science and fact finding that is mandated by Pennsylvania law. (113)

Response: Please see response to comment 94.

114. Comment: Other Critical Communities are defined by various plant and animal species that are of concern to conservationists. This term should be broadened or another term defined (i.e. areas for special consideration) to include areas of historical, archaeological, or geological significance along with facilities with special or at-risk populations such as school-aged children, the sick, the elderly, pre-school youngsters, and the like. (161)

Response: Please see response to comment 94. To the extent that the commentator suggests additions to this term, please also see responses to comments on §§ 78.15 and 78a.15 related to the Department’s consideration of public resources.

115. Comment: “Several definitions are added to this section. Of particular note, a new definition for 'other critical communities' has been added to address concerns related to consideration of public resources in permitting.” If by, “other critical communities”, the DEP is referring to people, then “the other critical communities” should have a stronger voice if the DEP is going to continue to issue permits to chronic polluters in the gas/oil industry. Recent data shows 66 OPERATORS in Pennsylvania; 7,788 ACTIVE WELLS; 4,006 VIOLATIONS and \$6.1 MILLION in TOTAL FINES PAID to the PADEP. Violations are almost 2:1 in this industry. No other industry in Pennsylvania would be granted such a leeway.

<http://stateimpact.npr.org/pennsylvania/drilling/>

<http://stateimpact.npr.org/pennsylvania/shale-play-about-the-data/>

Information that comes from self-reporting is given to the DEP which State Impact then uses to comprise the data. Data comes from the DEP. (172)

Response: In response to comments, the final rulemaking amends the definition of “other critical communities” to clarify that this term applies only to those species of special concern that appear on a PNDI receipt.

To the extent the commentator raises issues related to enforcement and permitting, the Department has discretion to deny a permit to drill or operate a well in only limited circumstances outlined in Section 3211(e.1) of the 2012 Oil and Gas Act. This would require a legislative change.

116. Comment: 78a.1 We support the modified definitions for “Other Critical Communities” and “Threatened or Endangered Species”. Our watershed has delicate environmental areas. Most of the Mehoopany Creek Watershed is a prime habitat area for the timber rattlesnake. Numerous wetland areas and remote forests are prime locations for critical communities and core habitat areas. We are fortunate to live in such a healthy watershed. The fact these are here, demonstrates the health of our watershed. We are only as healthy as the environment in which we live. These definitions provide protection for these areas. (171)

Response: The Department acknowledges the comment.

117. Comment: Critical Communities – we strongly support the inclusion of a definition for Critical Communities applicable to 78a.15(f)(iv). One critical community found in our Region is the timber rattlesnake. Our Region hosts at least three rattlesnake hunts each June in Bradford, Tioga and Wyoming Counties. Avid sportsmen look forward to their participation in the annual snake hunts which are fundraisers for local fire departments and also support the Region’s tourism industry. Hunters are required to promptly return snakes safely to the location in which they were originally found. This is due to the fact that the habitat of the timber rattlesnake is so critical to its well-being. Year after year, the timber rattlesnake will return to the same den. The timber rattlesnake has a high fidelity to its communal den. Disturb its den and the timber rattlesnake is also disturbed. Female timber rattlesnakes are thought to “achieve sexual maturity between 8 to 12 years of age and has a litter every 3 to 5 years to 5 to 15 young (Brown, 1992 and 1993). By comparison, the male reaches sexual maturity at 6 years of age (Brown, 1995). This is extremely important from a conservation standpoint in that it is not easy for the timber rattlesnake to increase its population rapidly. Furthermore, the average lifespan of the timber rattlesnake in the wild is approximately 20 years; a healthy female may reproduce only three to four times her entire life.” (<http://wildliferesearch.org/the-timber-rattlesnake/>)

Energy development has resulted in the timber rattlesnake’s habitat being under attack. During well pad construction and drilling at both the Wootten Well Pad in Mehoopany Township, Wyoming County and the Roundtop Well Pad in Colley Township, Sullivan County, folks witnessed an amazing amount of snakes quickly moving from the location “flying out of the ground” as it was described by local residents. During 2011, the Pennsylvania Fish and Boat Commission noted that Wyoming County’s Forkston Township and nearby environs was Pennsylvania’s largest contiguous general range of rattlesnake. (discovered during a DEP file review) This mountainous area now hosts three large diameter, high pressure unregulated gathering lines and the Mehoopany Wind Farm, currently the largest wind farm in Pennsylvania, along with the corresponding overhead transmission lines. There are numerous access roads associated with both developments. The 88 turbine wind farm alone was noted to have disturbed 2% of the 14,000 acres of privately held forested lands including over 30 miles of roads.

In one gathering project, (ESX12-131-0013) the applicant notes “it appears impossible to cross the mountain in a practical manner without bisecting potential timber rattlesnake habitats.” Further, one of the gathering line projects (Forkston & Eaton Townships 5.25 mile gathering line) had delineated 33 key sites within the assessment area which were grouped into 7 potential timber rattlesnake critical habitats. Six of the habitats involving 19 of the key sites were directly disturbed by the project. All of the critical habitats delineated by the pipeline operator were along

a 4.5 mile section. It was noted that key potential denning sites would be disturbed by the proposed alignment.

Gathering line operators across the Northern Tier Region and Pennsylvania Wilds have been mitigating destroying timber rattlesnake dens by building new ones. This simply does not work and endangers the very population being affected by the disturbance. According to the DCNR website, the timber rattlesnake is listed as a threatened and endangered species in adjacent states. The PFBC has listed the timber rattlesnake as a candidate species. Our regulators need to be mindful of the disruption energy companies are doing to these habitat areas.

Rattlesnakes are beneficial to public health as it has been noted that by keeping the rodent population down reduces ticks that carry Lyme disease.

Recent surveys in the northeast US found that over 60% of populations are in decline, and, although this species has suffered historically from direct persecution by humans, habitat loss and fragmentation are the main causes of population declines (Brown, 1993).

http://www.bio.sdsu.edu/pub/clark/Site/Publications_files/NH_snake_decline.pdf

Unconventional natural gas construction of roads, pipelines, and well sites in numerous locations across the Northern Tier and Pennsylvania Wilds could destroy timber rattlesnakes' dens and gestation sites. Large numbers of timber rattlesnakes, perhaps even hundreds may be found in a single den. "Adult males may travel up to 3 to 5 miles away from the den before returning in the fall, unlike non-gravid females, which move approximately 1 to 3 miles from the den, and gravid females, which stay close to the den (100-400m). The PFBC considers two types of habitat used by timber rattlesnakes as extremely vital and thus refers to them as "Critical Habitat": over-wintering dens and gestation sites. The loss of either of these habitats will adversely impact the timber rattlesnake. Studies have shown that snakes cannot be successfully relocated and the loss of a den through destruction usually results in the loss of that particular den population, which may be critical to the local population (Reinert and Rupert 1999*). The key to understanding why a den exists in a specific location is the underground microclimate. Although attempts to predict specific den locations by researchers have proven difficult, temperature, humidity, and a water source appear to be critical to den site selection for timber rattlesnakes (H. Reinert, pers. comm..). Efforts to create den habitat have not proven to be successful. (PFBC: Habitat Creation for Timber Rattlesnakes 03-05-10)

Thus, for thousands of years a den may have been in use, to which the timber rattlesnake returns year after year. The PFBC as noted above states that efforts to create den habitat have not proven to be successful, yet pipeline operators have mitigated for destroyed dens by creating new ones within Pennsylvania's largest contiguous general range of rattlesnake (Wyoming County) and other locations throughout the Northern Tier and Pennsylvania Wilds (Clinton & Lycoming Counties). In addition, this dramatic change to the timber rattlesnake's habitat creates fragmentation which will increase human interactions negatively impacting an already vulnerable population.

The 88 turbine wind farm has an associated 30+ miles of roads in this area. Add to that the disturbance for turbine pads and three gathering lines, as noted previously, substantial disturbance to their habitat occurred during 2012. Gathering lines have no environmental impact assessment or comprehensive overview regarding the habitat of the timber rattlesnakes. While both wind farm and pipeline operators employed snake handlers to remove snakes from equipment and work area, still a boastful heavy equipment operator noted on a good day he was able to run over 6 snakes.

Now, it is not likely that many of us are fans of timber rattlesnakes, their bite may be deadly and they are not cute, soft, furry critters. However, the fact of the matter is, we are only as healthy as the environment in which we live. The plateau area that hosted this amazing timber rattlesnake habitat has been dramatically changed. Disturbed snakes are more likely to head down the mountain to where folks live, again, endangering themselves into the rural populated area. We will not know the long-term effects of the timber rattlesnake's changed habitat until years to come. It is very likely we've not experienced the last of the gathering line infrastructure to fragment this area formerly known as Pennsylvania's largest contiguous general range of the timber rattlesnake. Currently, a well operator has two permits (131-20494, 131-20463) to develop gas well pads in this same general area. This well operator is new to the area and at this point not associated with the existing gathering operator. Whether they may be able to connect into this gathering system or create a new one will remain to be seen.

The DCNR website indicates: "The presence of timber rattlesnakes is one of the components that gives a wild flavor to State Forest land. The largest populations of timber rattlesnakes occur in the remote, heavily forested regions of Pennsylvania, and the state Wildlife Action Plan recognizes the state's responsibility in maintaining viable populations of native species." While the Wyoming County habitat is private lands, nevertheless is there a reduced responsibility to protect Pennsylvania's largest contiguous general range of the timber rattlesnake? Presently, it is unclear whether the state has done its due diligence regarding Wyoming County's treasured timber rattlesnake's habitat.

The PFBC referenced report indicates that "Efforts to create den habitat have not proven to be successful." (PFBC: Habitat Creation for Timber Rattlesnakes 03-05-10), yet, both the PFBC and DEP have authorized pipeline operators giving them the freedom to destroy dens and mitigate by building man-made dens. Dens which were proven not to be successful as noted in the PFBC's own report dated 2010, with much of this destruction happening in the years since. Our own agencies have failed to adequately protect the timber rattlesnake's critical habitat during energy development.

Because of the timber rattlesnake, a Pennsylvania candidate species as an example, we strongly support the inclusion of defining critical communities and the Department's ability to address adequate and sufficient mitigations with conditions to permits in areas of known critical communities. We also support authorizing the Department to review such areas in a comprehensive view such as has been demonstrated as necessary above with this one particular species habitat in just one particular locale. We are hopeful that the addition of regulation for critical communities that the practice of building man-made dens, which have not been proven to be successful will come to an end. One timber rattlesnake expert we consulted advised that when a den is destroyed, the mortality rate for the den is 80%. We strongly recommend for the inclusion the "critical communities" definition and their inclusion as a public resource within the permit application §78.1 and §78a.15(f)(iv). (170)

Response: The Department acknowledges the comment.

118. Comment: REGARDING 78a.1 – DEFINITIONS. Commenter supports the definition of "critical communities" as outlined. Act 13 required DEP to consider the impact that drilling operations would have on the public and other "critical communities", but the Act did not offer a definition of the phrase. Commenter supports the definition herein, as it provides a greater measure of certainty for both DEP and the regulated community.

In RDA's focus on preserving the 28,000 acre tract of Loyalsock State Forest known as the Clarence Moore lands, this definition certainly becomes relevant. This largest and last remaining tract of unbroken forest in Lycoming County offers not only the respite and restoration of a wilderness experience for world-weary humans; it is also home to a number of endangered, threatened and CRITICAL communities. Prior to this rulemaking, the pitcher plants, rattlesnakes, spadefoot toads, and iconic boulders affectionately known as the "big rocks of Old Logger's Path" would not have been considered. With the definition in 78a.1, each of these, as well as other critical communities, are afforded the recognition and protection they so deserve. (176)

Response: The Department acknowledges the comment.

119. Comment: I appreciate and support DEP adding schools to the list of public resources that require additional consideration when permitting oil and gas wells and longer setbacks of waste storage from school buildings, parks, and playgrounds. (2848-3056)

Response: Please see response to comments on §§ 78.15(f) and 78a.15(f).

120. Comment: I support your proposal to factor schools into the permitting process of fracking sites. (148)

Response: Please see response to comments on §§ 78.15(f) and 78a.15(f).

121. Comment: We encourage the Department to work with the Pennsylvania Natural Heritage Program agencies of jurisdiction to establish a complete definition for "Other Critical Communities", which we believe is an appropriate addition to the Proposed Rulemaking. (225)

Response: The Department acknowledges the comment.

122. Comment: "Other critical communities": This definition is so broad that it is entirely without meaning or enforceability. This definition removes any potential standard for what qualifies as a "critical community"; anything and everything could be viewed as a critical community. Use of the word "including" in Subsection (1) signals that not only are non-endangered and non-threatened plants "critical communities," but so is anything else. The definition is simply without limits. To provide some certainty to operators, citizens and stewards of protected species, please consider the following changes:

- Delete the text of subsection (1) to refer only to the subsections (i), (ii), and (iii) (i.e., delete "plant and animal species that are not listed as threatened or endangered by a public resource agency.") Note, also, that use of the term "public resource agency" in this section invites more uncertainty as described in our comments below on the definition "public resource agency."
- Revise subsection (2) to refer to habitats identified in the threatened or endangered species' listing. It appears that the Department is attempting to refer to habitats in this section, and the Endangered Species Act is an existing program for the government to identify what qualifies as a habitat in need of protection.
- Delete subsection (3). The terms "significant natural features" and "significant natural communities" are so broad and subjective as to be without meaning. As applied within proposed Section 78a.15, arguably, any individual or informal affiliation of individuals could claim to be an "agency" protecting what they deem to be a "significant natural

community” or “significant natural feature” and this individual or group would be given the right to delay or deny an operator's application. This outcome would inappropriately give anyone governmental power. As an alternative to deleting subsection (3), please consider defining an “agency” as a government agency established under the laws of Pennsylvania. (222)

Response: Please see response to comment 94.

- 123.** Comment: The new definition of “other critical communities” is quite significant and will impact both conventional and unconventional operations. It is too broad and overreaching and would define all non-listed species and non-species resources to levels of protection similar to those for threatened or endangered species without any public input or scientific evidence. These requirements will translate into increased costs to operators and will prevent the optimal development of oil and natural gas resources. (251)

Response: Please see response to comment 94.

- 124.** Comment: If a definition of “other critical communities” is retained, it is recommended that it be limited to locations that have been identified and listed by truly public entities through a process that includes public comment, and that a “public resource agency” be required to follow procedures under the regulatory review process when listing a species or other resource for protection. This would minimize the frequency of permit conditions leading to appeals, and would help to assure that “other critical communities” that truly deserve protection are properly identified and protected in a legal manner. (193)

Response: Please see response to comment 94.

- 125.** Comment: §§ 78.1 and 78a.1. Definitions. Several definitions are added to this section. Of particular note, a new definition for "other critical communities" has been added to address concerns related to consideration of public resources in permitting.

OTHER CRITICAL COMMUNITIES—the term shall mean:

(1) PLANT AND ANIMAL SPECIES THAT ARE NOT LISTED AS THREATENED OR ENDANGERED BY A PUBLIC RESOURCE AGENCY, INCLUDING:

- (i) PLANT AND ANIMAL SPECIES THAT ARE CLASSIFIED AS RARE, TENTATIVELY UNDETERMINED OR CANDIDATE,
- (ii) TAXA OF CONSERVATION CONCERN,
- (iii) SPECIAL CONCERN PLANT POPULATIONS,

(2) THE SPECIFIC AREAS WITHIN THE GEOGRAPHICAL AREA OCCUPIED BY A THREATENED OR ENDANGERED SPECIES DESIGNATED IN ACCORDANCE WITH THE ENDANGERED SPECIES ACT OF 1973, 16 U.S.C. SECTION 1531 ET SEQ., THAT EXHIBIT THOSE PHYSICAL AND BIOLOGICAL FEATURES ESSENTIAL TO THE CONSERVATION OF THE SPECIES AND WHICH MAY REQUIRE SPECIAL CONSIDERATION OR PROTECTIONS: AND

(3) SIGNIFICANT NON-SPECIES RESOURCES, INCLUDING UNIQUE GEOLOGICAL FEATURES; SIGNIFICANT NATURAL FEATURES OR SIGNIFICANT NATURAL COMMUNITIES.

SUBJECT OF CONCERN IS THE EASTERN HELLBENDER SALAMANDER WHICH INCLUDES ARTICLES AND REPORTS FROM REPUTABLE SOURCES. THE

HELLBENDER LIVES IN THE LITTLE MAHONING CREEK AND WATERSHED WHICH IS OF PERSONAL CONCERN AND INTEREST TO GRANT TWP. AND SURROUNDING AREAS OF THE COMMONWEALTH

By Jane J. Lee, National Geographic
PUBLISHED DECEMBER 22, 2013

The U.S. government currently considers the eastern hellbender a species of concern, while the Ozark subspecies was federally listed as endangered in 2011. The International Union for Conservation of Nature's Red List of Threatened Species classifies the hellbender as near threatened, although their total number is unknown.

Salamanders are vulnerable for a few reasons. First, "they are really closely tied to their environment," said Kim Terrell, a conservation biologist with the Smithsonian's National Zoo in Washington, D.C., who studies hellbender immune system. March 29, 2013 by The Allegheny Front

Each summer since 2007, Eric Chapman leads a team out into Little Mahoning Creek in Indiana, Pa. They risk life and limb hoisting rocks the size of kitchen tables, searching for Eastern Hellbender salamanders.

Eric Chapman of the Western Pennsylvania Conservancy. Chapman says there's more to Hellbenders than meets the eye. For one thing, no one knows how long they live—but he's seen speculations of up to 50 years. "To find large adult Hellbenders in a stream tells you that you've had good, stable water quality for a number of years," Chapman adds. That's because Hellbenders can only live in very clean water. And they are facing a number of threats. Chapman explains that they essentially breathe through their skin, so any kind of environmental pollution or changes could mean real trouble. Industry and acid mine drainage could impact where they live and breed. "If a spill happens, that is going to impact the Hellbenders pretty much instantly. They're one of the first species to disappear if there would be a problem in a stream," Chapman says.

NEW AGREEMENT WITH U.S. FISH AND WILDLIFE FOR THE EASTERN HELLBENDER SALAMANDER AND CENTER FOR BIOLOGICAL DIVERSITY:

For Immediate Release, September 24, 2013

Contact: Collette Adkins Giese, (651) 955-3821

New Agreement Will Speed Endangered Species Act Protection for North America's Largest Salamander

Eastern Hellbender Suffering From Water Pollution, Dams

NASHVILLE, Tenn.— The Center for Biological Diversity reached a settlement with the U.S. Fish and Wildlife Service late Monday giving the agency five years to consider whether to protect a giant salamander called the eastern hellbender under the Endangered Species Act. Once found in streams across the eastern United States, this fully aquatic salamander, which can grow more than 2 feet long, is threatened with extinction by water pollution and dams.

"These big salamanders are in big trouble, but the Endangered Species Act can save them," said Center lawyer and biologist Collette Adkins Giese. "Protecting the hellbender and its habitat under the Endangered Species Act will help protect water quality for all of us."

Hellbender populations are in sharp decline across the eastern United States, and it is unknown in how many states the large amphibian still survives. States in its range include New York, Pennsylvania, Maryland, Ohio, Illinois, Indiana, Virginia, West Virginia, Kentucky, Tennessee, the Carolinas, Georgia, Alabama and Mississippi.

In response to a petition from the Center, the Fish and Wildlife Service found in 2011 that eastern hellbenders may warrant protection under the Endangered Species Act. The Center sued when the agency failed to make a final decision within one year, as the Endangered Species Act requires. Under Monday's agreement the eastern hellbender will get a protection decision in fiscal year 2018.

The hellbender is one of 10 species that the Center prioritized for protection this year under a 2011 multi-species settlement agreement with the Service. Monday's agreement gives the eastern hellbender a place in the long line of species awaiting protection decisions.

"Although eastern hellbenders still face a long wait for Endangered Species Act protection, this agreement provides a deadline that ensures they'll get considered for these lifesaving protections before it's too late," said Adkins Giese. "And in the meantime, I'm hopeful that the Fish and Wildlife Service, states, scientists and others will ramp up efforts to study and conserve the hellbender."

Because their permeable skins absorb contaminants from polluted waterways, the primary threat to eastern hellbenders is declining water quality due to human activities such as mining, agriculture and animal operations. In highly polluted waters, hellbenders develop dramatic skin lesions. Channelization and impoundments also threaten the salamanders.

WHY THIS MATTERS TO THE PEOPLE OF GRANT TWP., INDIANA CO. EXCERPT FROM LOCAL NEWSPAPER REGARDING BACKGROUND OF THE CONCERN AND ISSUES INVOLVED: Justin Dennis | The Tribune-Democrat, Johnstown, Pa. **MARION CENTER** — A local aquatic ecosystem that supports a host of creatures and is linked to water supplies for hundreds of its neighbors will soon have its day in court. Residents says the Little Mahoning Creek watershed in Indiana County is threatened by frackwater injection activity in the area, while a public interest law firm seeks to represent the environment itself. As officials in Grant Township, Indiana County, head to court over a wastewater injection ban they enacted in June, legal representatives on both sides of the fight will debate which is more important: the freedoms of an energy corporation that, by law, is entitled to the same civil rights allowed an individual, or the rights of a community to have a healthy, unsullied environment. On June 3, the Grant Township supervisors unanimously approved an ordinance — a "Community Bill of Rights" — that would ensure potentially hazardous frackwater from an injection well proposed three months earlier by Warren-based Pennsylvania General Energy never makes it into the Little Mahoning.

The Mercersburg-based Community Environmental Legal Defense Fund, a public interest law firm, helped supervisors draft the ordinance.

The environmental group intervened in Pennsylvania General Energy Co. v. Grant Township in mid-November on behalf of the watershed itself, opining that the species that live in the watershed, as well as the creek's community caretakers, should have a voice.

"There is risk of soil and water contamination with every injection well and injection wells are very new to Pennsylvania, as its geology wasn't considered fit to house these incredibly toxic substances in a permanent manner," Stacy Long, president of local environmental group East Run Hellbenders, said via electronic message.

The group, which has requested to intervene in the case alongside the watershed, works to protect the ecosystem supported by Little Mahoning Creek, which is considered a "prize" of Indiana County, representatives said.

The creek, categorized by the DEP as a high-quality cold-water fishery, is home to several aquatic species — freshwater mussels, fish and aquatic insects, as well as the eastern hellbender salamander, which relies on clean, well-oxygenated water to survive, Long said.

Data collected by NPR StateImpact Pennsylvania found that PGE is one of the state's top 10 environmental offenders, with 113 reported DEP violations between the company's 149 active injection wells and fines totaling more than \$120,000. Atop that list is Chesapeake Appalachia LLC, with 422 violations across 793 active wells and nearly \$1.5 million in fines.

With no public water resources, every resident in Grant Township relies on a private well or spring for drinking water, Long said. Although environmental oversight exists, it's no guarantee that residents' water supplies won't become contaminated. (248)

Response: The Department acknowledges the comment.

- 126.** Comment: The definition of other critical communities includes many terms or phrases that are not commonly understood terms, such as 'rare, tentatively undetermined or candidate' species; 'taxa of conservation concern'; and 'significant non-species resources' (295)

Response: Please see response to comment 94.

- 127.** Comment: Other Critical Communities. This term should be eliminated from the regulations because it would unambiguously expand the Department's authority to capriciously designate special protection status to the entirety of all Earth systems at any location or within any area or region without geographic limitation. All Earth systems include the lithosphere (geology) hydrosphere (water), atmosphere and biosphere.

The plain and technical meaning of this term is that Critical Communities pertains to the consideration and protection of natural biological populations of special concern which could be impacted by land use changes associated with oil and gas development and operations. The definition as presented, however, provides for:

- the designation of any species, taxa or population as 'critical' and in need of special protection without regard to an actual listing in any special protection status or proposal;
- separate and distinct special protection designation for rocks, entire geologic formations, soil, water, air and entire geographic areas.
- the proposed language of the definition is imprecise, vague, inconsistent with relevant definitions in the scientific community at large, and incorporates ostensible attributes of the natural world which are not real. Specifically, the following terms are included:
- taxa which are rare, of conservation concern, and tentatively undetermined with respect to listing under any protection system. By inclusion of this clause, the Department would have the authority to designate any population at any location as a critical community regardless of its official status;
- the entire geographic area within which a threatened or endangered species occurs. This term is without limitation and could be construed to preclude development of any kind;

- unique geologic features - an undefined, and indeed undefinable, and therefore meaningless term. There is no such thing as a definable geologic feature which could be considered unique;
- significant natural features -where 'natural features' is undefined and there is no caliper by which to gauge what constitutes significance;
- significant natural communities -which is a circular definition in that it defines the term Critical Communities using the term communities. The qualifier 'significant' is undefined in the definition or anywhere in the regulations. This term is also illogical because the only alternative to a natural community is an un-natural one, which would not be within the scope of the definition.

The consequence of including undefined and unreal aspects of the world in the definition is that the geology, geography, water, soil, air, and every actual biological population in virtually every area of the State can be claimed by someone, either within or from outside the Department, to be a Critical Community.

In technical terms, geography, geology and unspecified 'natural features' cannot be defined as communities, whether critical or not. The environmental and/or ecological meaning of the term community is “an interacting population of various kinds of individuals (as species) in a common location” (Merriam Webster).

The Department cannot capriciously define rock, soil and water as being a community for the purpose of designating an area as critical and in need of special protection. What the Department is attempting to incorporate into its concept of community is an ecosystem which is defined as “a community of living organisms (plants, animals and microbes) in conjunction with the nonliving components of their environment,” in which context community is defined as the “assemblage or association of populations of two or more different species occupying the same geographical area and in a particular time” (Cavitt, Weber Univ.)

Non-living aspects of an ecosystem cannot be considered a stand-alone community within the definition as proposed and should be removed from the regulations. (308)

Response: Please see response to comment 94.

- 128.** Comment: The definition of Other Critical Communities is so expansive and far-reaching that the impacts cannot be known. The addition of so many different possibilities present the possibility of very large financial impacts that we cannot assess. (361)

Response: Please see response to comment 94.

- 129.** Comment: The definition of Other Critical Communities implies that PA DEP is requiring protection for non-listed species that are neither threatened or endangered, and that potential universe of such species and non-species resources can expand indefinitely without any notice to or input from the public. The new definition and 'new process changes the PNDI results and adds many new resources that would require mitigation. In essence, the definition does not match PNDI policy. Other industries are not required to provide such protection for non-listed species. (367)

Response: Please see response to comment 94.

130. Comment: Comment: Other critical communities - typo in (2). Word threatened misspelled. (182)

Response: The Department acknowledges the comment. The spelling will be corrected.

131. Comment: § 78.1. Definitions.- other critical communities - This definition includes many not clearly specified plant and animal species that are not listed as threatened or endangered by a public resource agency as well as numerous other undefined geographical areas, geological features, natural features and natural communities. The complete lack of regulatory definition or criteria application to these many terms embedded in this definition would allow the designation of any species by the Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, water purveyors, municipalities, and school districts, without going through the regulatory review process. This delegation of power should not be done by regulation, but should require legislative action under the various enabling statutes for those entities. Consequently, it is recommended that this definition be deleted, unless and until legislative action provides the necessary clarity. (334)

Response: Please see response to comment 94.

132. Comment: The definition of “**Other Critical Communities**” raises significant regulatory concerns. As questioned by the IRRC in its comments, “What is EQB's authority to define “other critical communities” as “species of special concern”? *IRRC Comments* at pg. 7. Agencies, such as DEP, require a statutory basis for the adoption and implementation of such rules and certainty as to how the regulated community is to comply with such rules. The definition set forth in the ANOFR provides no regulatory certainty. What is the scientific basis for this new rule which is simply another layer on top of existing regulations (*e.g., Endangered Species Act*)? Why is this classification needed? What are the definitions of “rare”, “tentatively undetermined”, “candidate”, “taxa of conservation concern”, “special concern plant populations”, “features essential to the conservation of the species”, “special consideration or protections”, “significant non-species resources”, “significant natural features”, and “significant natural communities”? None of these terms are defined in the regulation and as a result it is unclear exactly what scientific standards would qualify a plant or animal to constitute an other critical community. (190)

Response: Please see response to comment 94.

133. Comment: Pit—A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials designed to hold fluids, semi-fluids or solids [~~associated with oil and gas activities, including, but not limited to, fresh water, wastewater, flowback, mine influenced water, drilling mud and drill cuttings, that services a single well site~~]. This definition of “pit” is inconsistent with the definition outlined in Chapter 78 for Conventional Oil and Gas Wells. Under Chapter 78, the definition includes the language that is excluded from this Chapter 78a definition. Consistency in definitions is critical in a regulatory program. A pit serves similar purposes regardless of drilling method or target formation and should be defined in the same manner. To avoid unintended confusion and maintain a level playing field, We suggest that the agency restore the stricken language and define a pit the same for conventional and unconventional operations. Consistent with its comments above on the definition of “body of water,” We further suggest the definition of pit be modified to clarify that a “pit” is not considered a “body of water” for the purposes of Chapter 78a. (199)

Response: The Department disagrees. Chapters 78 and 78a regulate the use of pits differently and therefore it is appropriate for the definitions to vary, based on the context of the regulations.

134. Comment: Pit is defined too broadly. It should include only fresh water and all other fluids and wastes should be maintained in containment vessels. Pits should not hold wastewater, flowback, mine-influenced water, drilling mud and drill cuttings given the potential for contamination. (161)

Response: The Department disagrees with the comment. Section 78.56 allows for pits to be used for temporary storage of the materials described in the commentator’s comment.

135. Comment: [Pre-wetting—Mixing brine with antiskid material prior to roadway application.] Chapter 78 for Conventional Wells includes the definition of “pre-wetting” which has been stricken from Chapter 78a. Consistency in definitions is critical in a regulatory program. The practice of pre-wetting is the same regardless of drilling method and should be defined in the same manner. We suggest that the agency restore the stricken language. (199)

Response: The Department is disagrees with the comment. Pre-wetting is a term related to road spreading of brine. Road spreading of brine from unconventional well operation is prohibited. Therefore the term is not included in the definitions for unconventional operations.

136. Comment: In 2013, the EQB added a new definition for “pit” that would allow the storage and ultimate burial of drilling mud and drill cuttings at the well site. In 2015, PADEP proposed further modifications to the “pit” definition. PADEP also banned most pits, except those used for burial of drill cutting waste from the portion of the well above the surface casing seat (§ 78a.61) or for disposal of residual waste, if authorized by PADEP (§ 78a.62).

We support the new definition and continue to oppose the use of pits for long-term storage and the burial of solid waste and other substances at well sites. Pits can leak and fail, and cause a substantially larger surface impact than temporary tank use. It is inefficient from a logistics and energy use standpoint to construct a reserve pit for the temporary storage of drilling muds and cuttings or other wastes, and then remove this pit later. (211)

Response: The Department acknowledges the comment.

137. Comment: We recommend defining playground in conjunction with 78a.15(f)(1)(vii).
Playground – A property that is either owned or under long-term lease by a county, municipality, school district or community association. The established function of the property is to provide recreational opportunities for children and youth. The playground is open to the public. The use of the playground extends from enjoying traditional playground equipment to established and maintained fields for the purpose of organized children and youth sports activities such as T-ball, little league, softball, football, soccer and other sports. (170)

Response: The Department has added a definition for the term “playground” to §§ 78.1 and 78a.1.

138. Comment: The definition of a pit is less defined by the elimination language related to drilling mud, drill cuttings, etc. and only referencing “fluids, semi-fluids, or solids”. The definition should be changed back to be more specific in the list of materials that are found in a pit to provide clarity about their regulation, particularly considering their continued use at conventional well

sites.

We oppose the use of pits on both unconventional and conventional well sites. The definition should make clear that open pits are PROHIBITED for all natural gas and oil wells. (182)

Response: The rulemaking does not prohibit the use of pits for conventional well sites. The language referenced by the commenter was stricken only from Chapter 78a and not Chapter 78. Chapters 78 and 78a regulate the use of pits differently and therefore it is appropriate for the definitions to vary, based on the context of the regulations.

139. Comment: 78a.57a (f) (8) See the commentator’s proposed definition in § 78a.1 for “playground.” To be consistent with the language used in 58 Pa. C.S. § 3215(c)(1) and § 78a.15(f)(1)(i), the reference to parks should be limited to “publically owned parks.” (210)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c) of the 2012 Oil and Gas Act, the Department has the obligation to consider the impacts of a proposed well on public resources “including, but not limited to” certain enumerated resources when making a determination on a well permit. Accordingly, the Department has the authority to expand the list of public resources to include public resources similar to those listed.

Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking include the public resources listed in 3215(c). Based on comments received, common areas of a school’s property or playground and well head protection areas were added because these resources are similar in nature to the other public resources listed. Playgrounds and school common areas are frequently used by the public for recreation, similar to parks. Additionally, definitions for the terms “common areas of a school’s property” and “playground” have been added.

140. Comment: PPC plan - Commenter is concerned about the unnecessary burden created for small operators who conduct operations at multiple well sites in close proximity where the PPC plan would be the same for all such operations. (323)

Response: It is necessary to ensure that the PPC plan is appropriate to address site specific conditions for each site. There may be instances where the operator finds that a PPC plan prepared for one site is applicable to another site but the plan must be analyzed prior to making such a determination.

141. Comment: We are concerned about the unnecessary burden created for small operators who conduct operations at multiple well sites in close proximity where the PPC plan would be the same for all such operations. (213)

Response: It is necessary to ensure that the PPC plan is appropriate to address site specific conditions for each site. There may be instances where the operator finds that a PPC plan

prepared for one site is applicable to another site but the plan must be analyzed prior to making such a determination.

142. Comment: As noted above in the comment on the definition of “public resource agency”, the definition includes parties that are not public entities (such as some non-public entity water purveyors and playground owners). Notification requirements and standing to file comments are being provided to them without justification. It is recommended that these provisions should only be provided to truly public agencies with defined legal jurisdictions.

Given the significant uncertainties in how public resources are described and how other critical communities are defined, impacts to locations considered to be other critical communities may be unknown to the operator. It seems unreasonable to have the operator identify the public resource, describe its uses and functions to the public resource agency, and develop avoidance or mitigation measures when the public resource agency is the entity that knows about the public resource. This requirement can put the operator in a difficult position. If, for example, the resource agency declares a species to be part of another critical community, that species could be placed in PNDI without the opportunity for peer review or public input. That could trigger a series of unnecessary events that could be costly to the operator in terms of time and money, when in fact the protection may not be necessary or appropriate. And if the DEP conditions the permit based on the operator's description and the public resource agency's comments, the DEP may have to defend an appeal of the permit condition when a third party who might not be a public entity has information necessary to defend the appeal. (193)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Additionally, the Department has a specific statutory obligation to consider the impacts to public resources under Section 3215(c) of the 2012 Oil and Gas Act. The General Assembly recognized the constitutional obligation to protect public resources in Section 3202 of the 2012 Oil and Gas Act, which provides that the purpose of the act is to “[p]rotect the natural resources, environmental rights and values secured by the Constitution of Pennsylvania.” 58 Pa.C.S. § 3203. Under Section 3274 of the 2012 Oil and Gas Act, the Environmental Quality Board has the authority to promulgate regulations necessary to implement that statute.

Other Commonwealth agencies also have constitutional and statutory obligations over certain public natural resources. For example, the Department of Conservation and Natural Resources is required by statute to manage state parks and state forests, as well as to survey and maintain an inventory of ecological resources of the Commonwealth. Similarly, the Pennsylvania Fish and Boat Commission and the Pennsylvania Game Commission have responsibility for managing various fish and wildlife resources within the Commonwealth. Federal agencies also have jurisdiction over certain water resources, as well as federally protected fish and wildlife resources. Further, other public resources agencies have particular knowledge and expertise concerning the public resources they are responsible for managing.

Sections 78.15(f) and 78a.15(f) establish a process for well applicants to notify public resources agencies and provide those public resources agencies the opportunity to submit comments to the Department on functions and uses of the applicable public resources and any mitigation measures recommended to avoid, minimize or otherwise mitigate probable harmful impacts.

By providing public resource agencies the opportunity to comment on a proposed well location and potential impacts to public resources, the final rulemaking ensures that the Department meets its constitutional and statutory obligations to consider public resources when making determinations on well permits. Importantly, these provisions function to provide the Department with information necessary to enable the Department to conduct its evaluation of the potential impacts, to review the information in the context of the criteria outlined in Section 78.15(g) and 78a.15(g), and to determine whether permit conditions are necessary to prevent a probable harmful impact.

143. Comment: Public Resource Agency: The proposed regulations list the “United States Fish and Wildlife Service”, our sister bureau in the Department of the Interior, in the definition of “public resource agency”. We request that the "National Park Service" also be listed in the definition.
(200)

Response: The Department has added the United States National Park Service, United States Army Corps of Engineers, United States Forest Service, Counties and Playground Owners to the definition of Public Resource Agency.

144. Comment: There are significant concerns with including water purveyors, municipalities, and school districts within the list of public resource agencies that would have authorities and responsibilities within § 78.15 to review and condition oil and gas permits. Of particular concern here is the fact that the term “water purveyor” includes not only public utilities or other public entities, but also many private companies or organizations that provide drinking water to a sufficient number of individuals (25 or more individuals for 60 or more days per year) or via 15 service connections. For example, a company/facility with 25 or more employees that supplies its own drinking water would be defined as a “water purveyor” and, as such, a “public resource agency” under the proposed definitions. Classifying those types of private entities as “public resource agencies” with the associated roles and responsibilities outlined in § 78.15 is inappropriate, particularly without any associated Regulatory Impact Analysis of the consequences.

PADEP’s Draft Final Rule would add municipalities, school districts and water purveyors to its list of “public resource agencies,” along with new obligations for well permit applicants to provide notice to such agencies. This contrived definition of such agencies beyond the state and federal agencies that are authorized by statute to protect the public natural resources of the Commonwealth is outside the scope of EQB’s authority. This regulatory language is unnecessary and is contrary to the express purpose of Act 13 to promote the optimal development of oil and gas resources. Like the numerous new proposals throughout the rulemaking for notice to landowners and other entities, this expansion appears to be a deliberate attempt to obstruct rather than optimize development of oil and gas resources. Oil and gas operators have communicated with local municipalities, school districts and community members for decades and will continue to do so in a manner that is consistent with both the law and good community relations. There is no authority or need for EQB to require additional consultation between conventional operators and local communities.

In addition, under Section 3212.1 of Act 13, municipalities are provided with the express opportunity to submit comments describing local conditions and circumstances that should be considered in the issuance of well permits for unconventional oil and gas wells, and PADEP is fully empowered to consider those comments. This proposed action is unauthorized, redundant and unnecessary to add further avenues for comments in section 78.15, sweeping in conventional operations where the legislature has made its policy determination regarding the timing and avenue for the comments of municipalities.

The sheer numbers of new “public resource agencies” reveals the absurdity of this proposed definition. There are 2,562 municipalities in Pennsylvania and 500 school districts. There are also 67 counties in Pennsylvania, but it is not known if the term “municipalities” as used in the new definition is intended to include counties. It is also not known how many water purveyors exist in Pennsylvania, but the term would include all public water authorities and any privately owned companies that provides the drinking water via 15 or more service connections or to 25 or more individuals for 60 or more days per year.

There are 3,287 public schools and 2,238 private schools. It is not known how a playground would be defined, how many playgrounds exist in the Commonwealth or if the proposed definition only includes publically owned playgrounds. Conservatively, it would be safe to estimate that there are at least 3,000 public playgrounds in the Commonwealth. It is not known how many well head protection areas are approved in the Commonwealth or potentially approvable. Adding 10,000 new “public resources” and inviting comments from thousands of newly designated “public resources agencies” can only be intended to stop the development of oil and gas resources in this Commonwealth immediately upon finalization of this rule. (213)

Response: In response the commentator’s comments on the Department’s legal obligations and duties to protect public resources, please see the responses to comment on §§ 78.15 and 78a.15. Specifically, please see responses to comments 142, 262 and 264.

145. Comment: Please insert the word “governmental” so that this definition reads “A governmental entity responsible for managing a public resource including ... “ Without this qualification - and especially because of the use of the word “including” – any individual or any informal affiliation of individuals can claim to be a “public resource agency.” Under the proposed revisions to section 78a.15, public resource agencies are slated to receive tremendous power to delay or prevent the issuance of a well drilling application. This right should be reserved for a defined and identifiable set of true government agencies that represent the citizens of the Commonwealth and/or its common resources. (222)

Response: Under §§ 78.15 and 78a.15, public resources agencies are given notice of a well permit application and given the opportunity to comment within 30 days on the functions and uses of the public resource and any recommendations for the department to consider to avoid, minimize or otherwise mitigate probable harmful impacts to the public resource. This process is reasonable and appropriate as well as necessary to ensure that the Department meets its legal obligations to protect public resources, please see responses to comments 142, 262 and 264.

146. Comment: The definition of “Public Resource Agency” should not include municipalities and school districts as these entities are not resource agencies and DEP/EQB doesn't have the authority to declare them to be resource agencies. Municipalities already receive advance notice of oil and gas activities under existing regulations so there is no need to create new additional notification requirements under these proposed regulations. Regarding school districts, what is

the justification for declaring them resource agencies? A school district only exercises control of the real property on which its facilities in the district are situated. It does not exercise any control over the rest of the property within the boundary of its district. That being the case, why should a school district receive special notice/consideration under DEP's regulations regarding oil and gas activity that is miles away from any real property directly owned by and controlled by the school district? Also, by adding municipalities and school districts to the definition of "public resource agency", DEP/EQB is creating unnecessary burdens on these entities to respond to matters that are clearly outside their areas of expertise. For example, §§ 78a.15(d) and 78.15(d) require an applicant to demonstrate "to the satisfaction of the applicable public resource agency" that potential impacts identified in a PNDI receipt will be avoided or minimized/mitigated. Presumably municipalities and school districts will be public resource agencies for purposes of this rule. Given their lack of expertise and resources, municipalities and school districts will be unable to properly evaluate this information and provide a timely clearance letter as required.

No public benefit will be derived from including municipalities and school districts in this process. (190)

Response: Schools and municipalities may be the entities responsible for a public resource listed in §§ 78.15(f)(1) or 78a.15(f)(1), such as a common area of a school's property or a park. In response to the comment relating to the Department's authority to add public resources to the list in Section 3215(c) of the 2012 Oil and Gas Act, please see response to comment 264.

In response the commentator's comments on the Department's legal obligations and duties to protect public resources, please see the responses to comment on §§ 78.15 and 78a.15. Specifically, please see responses to comments 142, 262 and 264.

In response to the commentator's comments relating to §§ 78.15(d) and 78a.15(d), municipalities are not the applicable public resource agencies for threatened and endangered species. This definition specifies that a public resource agency is the entity responsible for managing a public resource. For threatened and endangered species, the applicable public resource agency would be the Pennsylvania Department of Conservation and Natural Resources, the Pennsylvania Fish and Boat Commission, the Pennsylvania Game Commission or the United States Fish and Wildlife Service.

147. Comment: The specific role of a public resource agency is not defined, and the definition places no limit on the entities that could be public resource agencies. The definition should be limited to agencies with actual legal authority to regulate public resources. There are significant concerns with including water purveyors, municipalities, and school districts within the list of public resource agencies that would have authorities and responsibilities within 78a.15 to review and condition oil and gas permits.

Of particular note is the fact that the term "water purveyor" includes not only public utilities or other public entities, but also many private companies or organizations that provide drinking water to a sufficient number of individuals (25 or more individuals for 60 or more days per year) or via 15 service connections. For example, a company/facility with 25 or more employees that supplies its own drinking water would be defined as a "water purveyor" and as such, a "public resource agency" under the proposed definitions. Classifying those types of private entities as "public resource agencies" with the associated roles and responsibilities outlined in 78a.15 is inappropriate, particularly without any associated Regulatory Impact Analysis of the consequences. (199, 210)

Response: Please see response to comment 142.

The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c)(4) of the 2012 Oil and Gas Act, the Department has a legal obligation when reviewing a well permit application for an unconventional well to consider the impacts to public resources including “sources used for public drinking water supplies” Section 3215(a) provides that public drinking water supplies include water wells, surface water intakes, reservoirs or other water supply extraction points used by a water purveyor. Section 3213 of the 2012 defines “water purveyor” as the owner of operator of a public water system as defined in the Pennsylvania Safe Drinking Water Act or any person subject to the Water Rights Law. Accordingly, the Department has a statutory obligation to consider the impacts of a proposed well of public drinking water supplies used by water purveyors as that term is defined in the 2012 Oil and Gas Act.

The language and requirements outlined in §§ 78.15 and 78a.15 the Department mirrors these statutory obligations. Any change to these provisions should be to the 2012 Oil and Gas Act.

Because this is not a statutory requirement when reviewing a conventional well permit the Department has amended the definition of “public resource agency” in 78.1 and deleted the reference to water purveyors.

Please also see responses to comments on §§ 78.15(f) and 78a.15(f).

- 148.** Comment: §78a.1. Definitions. - “public resource agency” -This definition includes water purveyors, which can include public utilities, community water associations, individuals and other entities that are not considered to be public. This, coupled with the use of the term in §78a.15 (d) and (f), will be discussed under the comments on §78a.15.

In addition, it is important to note that DEP has not been delegated by the legislature any authority to create or empower any governmental agency known as a public resource agency.(193)

Response: Please see responses to comments 582 and 147.

Please also see responses to comments on §§ 78.15(f) and 78a.15(f).

- 149.** Comment: Public Resource Agency - PADEP's Draft Final Rule would add municipalities, school districts and water purveyors to its list of “public resource agencies,” along with new obligations for well permit applicants to provide notice to such agencies. This contrived definition of such agencies beyond the state and federal agencies that are authorized by statute to protect the public natural resources of the Commonwealth is outside the scope of EQB's authority, is unnecessary,

and is contrary to the express purpose of Act 13 to promote the optimal development of oil and gas resources. Like the numerous new proposals throughout the rulemaking for notice to landowners and other entities, this expansion appears to be a deliberate attempt to obstruct, rather than optimize, development of oil and gas resources. Oil and gas operators have communicated with local municipalities, school districts and community members for decades and will continue to do so in a manner that is consistent with both the law and good community relations. There is no authority or need for EQB to require additional consultation between conventional operators and local communities.

In addition, under Section 3212.1 of Act 13, municipalities are provided with the express opportunity to submit comments describing local conditions and circumstances that should be considered in the issuance of well permits for unconventional oil and gas wells, and PADEP is fully empowered to consider those comments. It is unauthorized, redundant and unnecessary to add further avenues for comments in section 78.15, sweeping in conventional operations where the legislature has made its policy determination regarding the timing and avenue for the comments of municipalities. (212)

Response: Please see responses to comments 582, and 147.

Please also see responses to comments on §§ 78.15(f) and 78a.15(f).

- 150.** Comment: It appears that several standards being proposed by DEP are not authorized under law, including new limitations regarding 'public resources', as this provision was struck down by the Supreme Court. (309)

Response: Please see response to comment 262.

- 151.** § 78.1. Definitions. - public resource agency - This definition includes water purveyors, which can include public utilities, community water associations, individuals and other entities that are not considered to be public. This, coupled with the use of the term in §78. 15 (d) and (f), will be discussed under the comments on §5. (334)

Response: Please see responses to comments 142 and 147.

- 152.** Comment: Public Resource Agency – While we support this definition, we caution that it may be too exclusionary. It is not uncommon in the rural areas for a landowner to execute a 99 year, \$1 lease with an athletic association for a youth ball field complex. Also, a community group may manage a multi muni park that has common areas for ball field, playground and picnic areas. These common areas, even more so, may be near well pads and need to be considered as public resources as well. These types of facilities may be more common in the rural areas than those located on publicly owned lands due to the nature of rural landowner’s historically desiring to maintain ownership of their property (pay taxes) and donate the land-use as a measure of goodwill to their community. Thus, we recommend that such facilities are also considered as public resource agencies.

We recommend that counties be included in the definition of “public resource agency.” For example, Bradford County one of the most heavily drilled counties in Pennsylvania has several county parks within the heart of the drilling, specifically – Larnard-Hornbrook County Park, Mt. Pisgah County Park (adjoins Mt. Pisgah State Park) and Sunfish Pond County Park.

We recommend that hospitals be included in the definition of “public resource agency.” For example, the blowout at the (Wyoming County, Washington Township) Yarasavage well pad was all too real when it was realized that the Tyler Memorial Hospital (Wyoming County, Tunkhannock Township) was within a mile radius of the site including a public water supply. While many of our region’s hospitals are located within boroughs and not likely to be near a well pad, that is not the case for the Endless Mountains Health Systems Hospital located near the outskirts of Montrose (Susquehanna County) and within a mile of a couple well pads. Guthrie Troy Community Hospital (Bradford County) is a little over a mile away from the nearest well pad. While at a mile away, the Tyler Hospital was monitored during a blowout, we are concerned that well pads may be proposed/located nearer to hospitals lacking consultation with hospital officials. Currently, there are several well pads in the area including one that is within half a mile from the Tyler Hospital. Within a zoned community, there may be opportunities to address concerns. However, the Tyler Memorial Hospital for example, is located within a non-zoned community. Therefore, it seems relevant that hospitals may have needs that may need to be accommodated. Including hospitals as a public resource for notification purposes is reasonable. We recommend that the notification zone for a hospital be 600’. (170).

Response: The definition of “public resource agencies” has been amended and includes counties.

To the extent that the commentator suggests that hospitals be included in the definition of “public resource agency,” please note that the definition provides that a public resource agency is any entity responsible for managing a public resource identified in §§ 78.15(d) or (f)(1) or 78a.15(d) or (f)(1). The listed public resource agency is a non-exclusive list. If a hospital is the entity responsible for managing a public resource identified in §§ 78.15(d) or (f)(1) or 78a.15(d) or (f)(1), it would be considered a “public resource agency.”

To the extent that the commentator suggests adding hospitals to the list of public resources in §§ 78.15(f)(1) and 78a.15(f)(1), the Department declines to make that suggested change.

The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Hospitals, day care centers, nursing homes or other similar facilities have not been added to the list of public resources included in §§ 78.15(f)(1) and 78a.15(f)(1). These types of facilities are not similar in nature as the other listed resources (that is, parks, forest, game lands, wildlife areas, species of special concern, scenic rivers, natural landmarks, historical or archeological sites, and public drinking water supplies).

To the extent the commentator suggests that additional protections are needed for these facilities, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

To the extent that the Commentator suggests that additional requirements are needed for emergency response, other sections of the regulatory framework for well development activities address obligations related to emergencies, including § 78a.55(i), which contains comprehensive emergency response requirements for unconventional well sites.

153. Comment: Definition of public resource

• Schools should be added to the list of public resources that require additional consideration when permitting oil and gas wells and longer setbacks of waste storage from school buildings, parks, and playgrounds. The proposed 200ft set back is an arbitrary number and does not give enough health and safety protection to children which are a vulnerable population. A very recent study has shown that people living or working near active natural gas wells may be exposed to certain pollutants at higher levels than the Environmental Protection Agency considers safe for lifetime exposure. Air pollution from fracking operations may pose an under-recognized health hazard to people living near them, the researchers concluded. At a mile away the hazardous air pollutants were decreased by only 30%.

<http://www.sciencedaily.com/releases/2015/05/150513093611.htm> DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property. (250)

Response: Please see responses to comments 274 and 277.

154. Comment: For purposes of clarification, the term “fluctuating upper” should be removed from (i) and the word “shallow” should be added after the word “high” in (ii), so that it reads “seasonal high shallow groundwater table”.

Commentator’s suggested amendatory language:

78a.1. Definitions. Regional groundwater table.

(i) The water level surface of an unconfined or confined aquifer where the hydrostatic pressure is equal to the ambient atmospheric pressure.

(ii) The term does not include the perched water table or the seasonal high shallow groundwater table. (210)

Response: The Department disagrees with the comment regarding removal of “fluctuating upper” in part (i). The term “fluctuating upper” needs to remain because the highest elevation of the Regional Groundwater Table is a dynamic elevation influenced by a number of factors including frequency and amount of precipitation, soil types, cover and drawdown of water, etc. The definition is correct as stated.

The Department disagrees with the commentator regarding addition of the word “shallow” in part ii of the definition. Addition of the word “shallow” does not provide any clarification to the definition and introduces an undefined term where a previously defined term existed.

155. Comment: Regional Groundwater Table

1.) The textbook definition of “unconfined” is where the upper ground water surface is equal to ambient atmospheric pressure. A “confined” aquifer is an aquifer where the water is under pressurized conditions such that the water level rises above the top of the confining unit.

Confined aquifers are not subject to ambient atmospheric pressures and should be removed from the definition of regional groundwater table.

- 2.) By definition, the seasonal high groundwater level is part of the regional groundwater table during the wet portion of the year. Seasonal high groundwater levels are critical in the downward migration of ground water into the deeper portions of the aquifer during the spring season due to the additional head pressure that occurs during this time period. To equate seasonal high groundwater levels to perched ground water is technically incorrect based on mainstream hydrogeological textbooks. Delete “the seasonal high water table”.

As discussed below, draining of seasonal high ground water is damaging to the overall rates of recharge to the deeper rock aquifers and should not be allowed. (182, 239)

Response: The provisions related to this definition have been revised and the suggested change does not have significance with regard to environmental protection standards.

156. Comment: This definition is cross-referenced to the definition in Act 2 that was developed to assist those conducting cleanup operations at brownfield sites throughout the Commonwealth, sites that were used for a wide variety of industrial activities. The definition, which includes substances “covered by” six other named statutes, is stated broadly for the purposes of Act 2 but is overly broad and fails to provide the necessary guidance for reporting obligations that would be imposed under the proposed Section 78a.66(b). The term “regulated substances” is utilized extensively throughout the proposed rule, which does not appear to be warranted and may lead to unintended consequences for both the Department and the regulated community. At a minimum, the definition must be further clarified by reference to some known list of substances, such as those found in 25 Pa. Code Chapter 250. In addition, the term “regulated substances” should be replaced or removed entirely where the intent of the rule is better served by a different term. See Sections 78a.55 (Control and disposal planning), 78a.56 (Temporary storage), 78a.61 (Disposal of drill cuttings), and 78a.64a (Containment systems and practices at unconventional well sites) for specific recommendations below.

The term “regulated substance” was not designed to be used in the context of affirmative regulatory obligations. We recommend that revisions be made to address the PADEP’s particular intent of the regulatory section in which the term has been proposed. See the subsections below for additional comments and suggestions that explain our recommendations for terms that will serve the purpose of the regulation and provide better guidance to the regulated community.

Commentator’s suggested amendatory language:

Regulated substance—Any substance defined as a regulated substance in section 103 of Act 2 (35 P.S. §6020.103) and listed in 25 Pa. Code Chapter 250. (210)

Response: The Department disagrees with the comment. The intent of this rulemaking is to be broad to ensure that as operations evolve over time various sections of the regulations will not need to be revised to address changes in the substances being used on the well sites. There are many substances that are considered “regulated substances” for which adequate toxicological data does not exist and therefore do not appear in the tables of remediation standards contained in 25 Pa. Code Chapter 250.

157. Comment: Regulated substance—Any substance defined as a regulated substance in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Act (Act 2) (35 P.S. §

6020.103). This definition in Act 2 was developed to assist those conducting cleanup operations at brownfield sites throughout the Commonwealth. The definition, which includes substances “covered by” six other named statutes, is overly broad for purposes of Chapter 78a and fails to provide the necessary guidance for the reporting obligations under proposed Section § 78a.66(b). At a minimum, the definition should be further clarified by reference to some known list of substances, such as those found in Chapter 250. Suggested amendatory language: “Regulated substance—Any substance defined as a regulated substance in section 103 of Act 2 (35 P.S. §6020.103) and listed in 25 Pa. Code Chapter 250.”(199)

Response: See response to comment 156.

- 158.** Comment: “Regulated Substance” and “Residual Waste”. The Department should make it expressly clear in the Proposed Rulemaking that these definitions include brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluid, and plugging and drilling fluids as provided in §78a.56. The definition of “Residual Waste” in 25 Pa. Code §287.1 is much more limited and should be improved. (225)

Response: The Department disagrees with the comment. The definitions of “regulated substance” and “residual waste” are sufficiently broad to ensure protection of public health and safety and the environment.

- 159.** Comment: Regulated substance must be changed to pollutional substance given that all wastes from the oil and gas industry must be treated the same as any other waste from another industry. If a waste is hazardous, it must be treated as such, regardless of its source. (161)

Response: The definition and use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution. Use of this term is appropriate to ensure that all substances which may cause pollution are managed and handled in a manner that protects public health and safety and the environment.

- 160.** Comment: Reportable release of brine should be reinserted into the document given its composition and potential for degrading soil and water. (161)

Response: The term is not used in the rulemaking and therefore, is not included in the definitions. Sections 78.66 and 78a.66 Reporting and remediating spill and releases includes the requirements associated with the release of brine.

- 161.** Comment: Regulated Substance - Any substance defined as a regulated substance in section 103 of Act 2 (35 P.S. § 6026.103).

The term “regulated substances” as defined by Act 2 includes thousands of substances, some of which are naturally occurring and generally benign and most of which have no threshold concentration regulation. The use of this term in this regulation would create an unreasonable and attainable standard in several sections of Chapter 78, including effectively prohibiting the disposal of drill cuttings under Section 78.61. (212)

Response: See response to comment 159.

- 162.** Comment: The definition of “regulated substance” is massively indirect, opaque, and completely devoid of guidance to workaday personnel likely to be found on an operating unconventional well pad.

Here is the definition of “regulated substance” from 35 P.S. §6026.103:

“The term shall include hazardous substances and contaminants regulated under the act of October 18, 1988 (P.L. 756, No. 108), known as the Hazardous Sites Cleanup Act, and substances covered by the act of June 22, 1937 (P.L. 1987, No. 394), known as The Clean Streams Law, the act of January 8, 1960 (1959 P.L. 2119, No. 787), known as the Air Pollution Control Act, the act of July 7, 1980 (P.L. 380, No. 97), known as the Solid Waste Management Act, the act of July 13, 1988 (P.L. 525, No. 93), referred to as the Infectious and Chemotherapeutic Waste Law, and the act of July 6, 1989 (P.L. 169, No. 32), known as the Storage Tank and Spill Prevention Act.”

Oh. More indirection. Is or is not a mix of flowback and produced water (in undetermined proportions) a “regulated substance”? How is any rational reasonable person to know how to get the answer to that question, based on the current wording of draft 25 PA Code §78a.1?

Chapter 78a should retain common sense terminology such as “brine” with clear regulations that embody a presumption that substances likely to occur on unconventional well pads, such as flowback and produced water, are regulated unless they can be demonstrated by test procedures open to the public that they fail to meet the criterion “any substance defined as a regulated substance in section 103 of ACT 2 (35 P.S. §6026.103)”. (216)

Response: See response to comment 159.

- 163.** Comment: The criteria for determining what is a reportable release of “regulated substance” do not clarify whether release amounts may be calculated adjusted for dilution.

Suppose the operator of an unconventional natural gas well spills 300 gallons of “brine”. The operator assesses that “most” of the brine is “fresh” water. In fact, the operator assesses that the concentration of everything that is not “fresh” water is only one part per hundred. So, what is the quantity of “regulated substance” spilled? Is it 300 gallons? 3 gallons? Something else? The draft regulations leave this completely ambiguous. (216)

Response: The commenter has not provided sufficient detail of the proposed scenario to allow an accurate response.

- 164.** Comment: The term “regulated substances” as defined by Act 2 is too broad, including materials that are naturally present in the environment, as well as those with no threshold concentration for regulation, or that present no threat of pollution or harm to public health, safety, welfare or the environment. This proposed definition would create an unreasonable and unattainable standard under several sections of Chapter 78, including effectively prohibiting the disposal top hole water under Section 78.60 or drill cuttings under Section 78.61. The use of this term throughout the rule creates absurd results. (213)

Response: See response to comment 159. The rulemaking does not prohibit disposal of top hole water under § 78.60 or drill cuttings under § 78.61.

- 165.** Comment: Residual waste - The term as defined in § 287.1(relating to definitions). The § 287.1 definition makes no specific reference to oil and gas operations. Under what classification would oil and gas operations fall for the sake of applicability and enforcement? (245)

Response: Oil and gas operations are considered industrial operations.

166. Comment: Residual Waste is a term worthy of elimination. The waste from natural gas operations should be categorized according to the same criteria and deserving of the same treatment as wastes of any other industry. The Commonwealth can and should provide restrictions greater than that of the federal government in compliance with Article I, Section 27 of the Pennsylvania Constitution. (161)

Response: The Department disagrees with the comment. Residual Waste is a term that is associated with many industries in the Commonwealth. To date the Commonwealth has not determined that greater restrictions on oil and gas operations relative to other industries is warranted. This rulemaking is consistent with the constitution and applicable statutes and does provide reasonable and appropriate protections for public health and safety and the environment.

167. Comment: The new proposed standards lack clarity and are ambiguous. The new proposed standards do not clarify the definition of “seasonal high groundwater table.” Section 78.1. As explained there has historically been disagreement between conventional well operators and the Department about the actual distance between the bottom of the pit and the seasonal high groundwater table, particularly when there is an accumulation of precipitation inside the pit before the liner is installed. Instead of clarifying this definition as recommended the new proposed regulations require the employment of a soil scientist or other similarly trained person to make this determination when residual waste from the site is disposed in the pit. Section 78.62(a)(9). This is the most expensive option for determining the proper distance, and is inferior to simply clarifying the definition. (201)

Response: The Department disagrees with the comment. The definition for seasonal high groundwater table is appropriate. The commenter did not provide any specific suggestions for revisions to improve the definition. The Department does not believe that any reasonable revision to the definition would provide clarity under the circumstances described in the comment where a pit is excavated and left with no liner for some period of time without an appropriate determination being made as to the depth to the seasonal high groundwater table. Under this circumstance, it becomes more difficult to make an accurate determination of the depth to seasonal high groundwater. The final rule requires the soil scientist or other similarly qualified person will properly document whether the existence of the water in the pit is due to precipitation or interface with the seasonal high groundwater table and will help avoid the issue described by the commenter.

168. Comment: The definition of seasonal high groundwater table should not include any reference to slowly permeable layers within the soil profile. Seasonal high groundwater table is the increased water level and saturation zone in the upper part of the regional groundwater table and is not dependent on slowly permeable layers. Defining the seasonal high groundwater table in this manner is inappropriate as this definition can allow for draining of this zone for impoundments. Low permeable zones belong only in the definition of perched groundwater. The seasonal high groundwater is critical in increasing ground water recharge into deeper portions of the regional water table aquifer by increasing, in a significant amount, the vertical head pressure in the primary recharge period of the year. Draining seasonal high recharge has detrimental impacts on the annual recharge to the water table aquifer and must be discouraged. (182, 239)

Response: The definition for seasonal high groundwater table is appropriate and is more protective than the commentator’s proposed revision. The presence of soil mottling as an indicator of the seasonal high groundwater table may occur due to slowly permeable layers. Draining this zone for impoundments would not remove the presence of soil mottling within

a timeframe that would make it worthwhile for those intending to lower the seasonal high water table for the construction of impoundments.

169. Comment: Seasonal high groundwater table—The saturated condition in the soil profile during certain periods of the year. The condition can be caused by a slowly permeable layer within the soil profile and is commonly indicated by the presence of soil mottling. It should be clear that perched water is not included in the definition of a “seasonal high groundwater table.” Perched water is typically situated atop some sort of restrictive layer and separated from the water table. It sits above the water table in the unsaturated zone, as opposed to the saturated zone, and thus should not be included in the definition of seasonal high groundwater table. We suggest adding language identical to the clarification in the definition for “Regional groundwater table,” which is included below. ii) The term does not include the perched water table or the seasonal high groundwater table. (199)

Response: The definition for seasonal high groundwater table is appropriate. The primary indicator of the seasonal high water table is soil mottling, regardless if it is primarily due to a perched water table or other causes of the soil to remain saturated to the point of mottling..

170. Comment: Small Business – Defined in accordance with the size standards described by the United States Small Business Administration's Small Business Regulations under 13 C.F.R. Ch1. Part 121 or its successor regulation.

We recommend the addition of a defined term to all for exemptions that would be appropriate for small businesses to comply with the 2012 amendments to the Regulatory Review Act and DEP's obligation to consider exemptions for small businesses. (212)

Response: The Department gave all appropriate considerations for small businesses when developing the final rule and has not called out any special exemptions for small businesses in a manner that requires the addition of the proposed definition to the regulation.

171. Comment: We strongly support and recommend the addition of a defined term to allow for small business exemptions where such relief will have minimal or no environmental impact. In accordance with the 2012 amendments to the Regulatory Review Act, the Department is required to provide such exemptions to reduce the impact of the proposed regulation on small businesses. (213)

Response: See response to comment 170

172. Comment: Stormwater—Runoff from precipitation, snowmelt, surface runoff and drainage. We have concerns that this definition is overly broad and could encompass more than is intended or appropriate for oil and gas operations. For example, this definition may be interpreted to capture “runoff from drainage,” unrelated to a precipitation event, which would then trigger a myriad of regulatory applications and legal uncertainties. As previously noted, consistency in definitions is critical to avoid regulatory confusion and conflict and unintended consequences. As such, we recommend the Department incorporate the existing definition of “storm water” in Pennsylvania’s Storm Water Management Act P.L. 864, No. 167, which reads as follows: “Storm water.” Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt. (199)

Response: The Department disagrees with the comment. The definition for stormwater is consistent with the definition in Chapter 102. The definition proposed by the commentator does not adequately address all potential pollution pathways from surface runoff.

173. Comment: Temporary Pipelines should be reinserted into the document as they pose a threat to air, water, and land. They are not regulated, subject to leaks, generally unmarked, and a matter of third-party activity. They can transport flowback and wastewaters that are toxic to other sites for reuse and/or storage. (161)

Response: References to “temporary pipelines” were changed to “well development pipelines” to clarify the intent of the regulation.

174. Comment: Threatened or Endangered Species:
Closely related to the improper definition of “Other Critical Communities” is the newly proposed definition of Threatened or Endangered (T&E) Species. It represents another action beyond the Department’s legal authority. The legislature has not granted any authority to DEP to designate T&E species. Rather the three statutes cited in the proposed definition grant that authority to the Department of Conservation and Natural Resources, the Fish and Boat Commission and the Game Commission. None of those Pennsylvania enabling statutes, nor the federal act, provides authority to regulate species that are merely proposed for listing as though they are actually listed. Species may be proposed for years without action and ultimately may not be listed. DEP has no authority to add species to the list before the agencies that actually have the authority to do so act. The last portion of the definition dealing with proposed species should be eliminated. (210)

Response: There is no provision in this rulemaking that seeks to independently designate threatened and endangered species. This is definition is consistent with existing practice and policy.

The Department has an obligation and duty to protect resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3211(e.1) of the 2012 Oil and Gas Act, the Department has the authority to deny a well permit if issuance of the permit would result in a violation of applicable law, including the Endangered Species Act of 1973, The Wild Resource Conservation Act, The Fish and Boat Code and the Game and Wildlife Code. Accordingly, the Department must assess when permit issuance will result in impacts to threatened and endangered species violating those laws.

Under Section 3274 of the 2012 Oil and Gas Act, the Environmental Quality Board has the authority to promulgate regulations necessary to implement the statute.

In § 78.15(d) and § 78a.15(d), permit applicants must demonstrate that the proposed well, well site and access road does not impact threatened and endangered species. In accordance with “Policy for Pennsylvania Natural Diversity Inventory (PNDI) During Permit Review and Evaluation,” Document No. 021-0200-001 (PNDI Policy), the Department ensures that permit applicants use the Pennsylvania Natural Heritage Program’s (PNHP) Pennsylvania Natural Diversity Inventory (PNDI) to protect threatened and endangered species. The PNDI coordination process as outlined in the PNDI policy is how both the Department and

well permit applicant meet the applicable legal obligations. For these reasons, this definition is both reasonable and appropriate to implement statutory requirements.

The Department has amended this definition to remove reference to proposed species. These species are protected by the definition of “other critical communities.”

- 175.** Comment: The last sentence of the definition of “Threatened or Endangered Species” should be deleted. The definition provides a list of statutes that define this term and that are being adopted for purposes of these regulations. However, the final sentence is an unreasonable expansion of the definition to include species that are merely “proposed for listing” under the *Endangered Species Act*. This effectively treats species that are not threatened or endangered under the *Endangered Species Act* as if they are actually threatened or endangered. What is DEP/EQB's statutory authority and justification for adopting a broader definition than that established under federal law? To provide regulatory certainty and clarity, the last sentence of the definition should be deleted and DEP should adopt the definition as set forth in the statutes cited. (190)

Response: The Department has amended this definition to remove reference to proposed species. These species are protected by the definition of “other critical communities.”

- 176.** Comment: Commentator’s suggested amendatory language:

Threatened or Endangered Species – Those animal and plant species identified as a threatened or endangered species as determined under the endangered species act of 1973, 16 U.S.C.A. § 1531 et seq.; Wild Resources Conservation Act, 32 P.S. § 5301; Fish and Boat Code, 30 Pa.C.S. § 101 et seq.; and Game and Wildlife Code, 34 Pa.C.S. § 101 et seq. (210)

Response: Please see response to comment 175.

- 177.** Comment: The definition proposed in the Draft Final Rule is entirely unnecessary and inconsistent with those terms as they are already defined by the applicable statutes. The Department has no authority or jurisdiction to create different definitions or additional protection for any species and should not confuse and complicate a well-established legal framework for the protection of threatened or endangered species, as defined under state and federal law. Any definition included here must be identical to existing definitions under relevant law, none of which includes species simply “proposed” for listing as endangered and threatened. This manufactured definition is well beyond the Department’s legal authority and would purport to create obligations that do not exist under any applicable law. (213)

Response: Please see response to comment 175.

- 178.** Comment: While Range recognizes its obligation to protect threatened or endangered species, the Department's approach creates great uncertainty and exceeds its legal authority. The definition of Threatened or Endangered Species seeks to include species proposed for listing under the Endangered Species Act. These species should not be included in this definition. Species can be listed as proposed for a period of years and then a decision could be made not to list them at all. Proposed species have no legal protection under the ESA or the relevant Pennsylvania statutes. The legislature has not granted any authority to DEP to designate T&E species. Rather that authority is granted to DCNR, the Fish and Boat Commission and the Game Commission. None of those Pennsylvania enabling statutes, nor the federal act, provides authority to regulate species that are merely proposed for listing. The last sentence of the definition which refers to proposed species should be eliminated.(191)

Response: Please see response to comment 175.

- 179.** Comment: §78a.1. Definitions. - “threatened or endangered species” -The definition includes species identified as threatened or endangered under the Fish and Boat Code and the Game and Wildlife Code. Under current practice the Pennsylvania Fish and Boat Commission and the Pennsylvania Game Commission, which develop regulations outside the regulatory review process requirements, could identify species to be included on the list without subjecting the designation to public review and comment.

In addition, the definition includes animal and plant species proposed for listing as endangered and threatened, pursuant to the Endangered Species Act. Since these species have not been listed but are only proposed, the legal protections of the Endangered Species Act should not be extended to them, nor should they be defined as “threatened or endangered species” by PADEP regulation. Consequently, it is recommended that reference to the Wild Resources Conservation Act, the Fish and Boat Code and the Game and Wildlife Code be deleted from this definition, and that only animal and plant species actually listed under the Endangered Species Act (not proposed for listing) be included in the definition. (193)

Response: Please see responses to comments 174 and 175.

- 180.** Comment: In regards to the definition proposed in the Draft Final Rule for threatened and endangered species, I believe this is entirely unnecessary and inconsistent with those terms as they are already defined by the applicable statutes. The Department has no authority or jurisdiction to create different definitions or additional protection for any species and should not confuse and complicate a well-established legal framework for the protection of threatened or endangered species, as defined under state and federal law. Any definition included here must be identical to existing definitions under relevant law, none of which includes species simply “proposed” for listing as endangered and threatened. (169)

Response: Please see response to comment 175.

- 181.** § 78.1. Definitions. - threatened or endangered species - The definition includes species identified as threatened or endangered under the Fish and Boat Code and the Game and Wildlife Code. Under current practice the Pennsylvania Fish and Boat Commission and the Pennsylvania Game Commission, which develop regulations outside the regulatory review process requirements, could identify species to be included on the list without subjecting the designation to public review and comment.

In addition, the definition includes animal and plant species proposed for listing as endangered and threatened, pursuant to the Endangered Species Act. Since these species have not been listed but are only proposed, the legal protections of the Endangered Species Act should not be extended to them, nor should they be defined as “threatened or endangered species” by PA DEP regulation ... Consequently, it is recommended that reference to the Wild Resources Conservation Act, the Fish and Boat Code and the Game and Wildlife Code be deleted from this definition and that only animal and plant species actually listed under the Endangered Species Act be included in the definition.(334)

Response: Please see responses to comments 174 and 175.

- 182.** Comment: Threatened or Endangered Species - The definition proposed in the Draft Final Rule is

entirely unnecessary and inconsistent with those terms as they are already defined by the applicable statutes. The Department has no authority or jurisdiction to create different definitions or additional protection for any species and should not confuse and complicate a well-established legal framework for the protection of threatened or endangered species, as defined under state and federal law. Any definition included here must be identical to existing definitions under relevant law, none of which includes species simply “proposed” for listing as endangered and threatened. This manufactured definition is well beyond the Department's legal authority and would purport to create obligations that do not exist under any applicable law. (212)

Response: Please see responses to comments 174 and 175.

- 183.** Comment: The proposed definition of watercourse is too broadly defined and does not make sense in the context that it is used by the Department in the proposed ANFR. Channels and diversion ditches around a farmer’s field or farm road would be considered to be a watercourse per this proposed definition. The proposed definition should be deleted.(210)

Response: The Department disagrees that the definition should be deleted. The Department believes that features meeting the definition of “watercourse” should receive the protections prescribed in the rulemaking.

- 184.** Comment: It is appropriate that the definition of watercourse is consistent with Chapter 105.1 to provide consistent and effective regulation of waterways. This definition supports the inclusion of intermittent streams and headwaters, as advised by Luna Leopold, to ensure that all streamflow occurrences are protected. (182)

Response: The Department acknowledges the comment.

- 185.** Comment: WATERCOURSE—THE TERM AS DEFINED IN § 105.1. While the commenter supports consistency in terminology among regulatory programs, we are concerned that the in this context the definition is overly broad and would create unintended consequences of substantial burden on the industry. For example, under this definition, channels and diversion ditches around a farmer’s field or farm road would be considered to be a “watercourse” and subject industry to a myriad of protection requirements. This application would be inappropriate and unduly burdensome. As such, the proposed definition should be deleted.(199)

Response: See response to comment 183.

- 186.** Comment: The definition should be clarified that the plan applies to water sources “within this Commonwealth”, as drafted by the Legislature in 58 P.S. § 3211(m)(1).

Commentator’s suggested amendatory language:

WMP—Water Management Plan—A plan associated with drilling or completing a well in an unconventional formation that demonstrates that the withdrawal and use of water sources within this Commonwealth protects those sources, as required under law, and protects public health, safety and welfare. (210)

Response: The Department has revised the definition of WMP to include the suggested language.

187. Comment: **Water Management Plan** - A Water management Plan should apply to both conventional and unconventional formations due to the use of substantial amounts of water and production of waste by both classes of wells. (182)

Response: Development of water management plans for conventional operations is not required for conventional operations. The Department does not believe that the scope of water use by the conventional oil and gas industry warrants a requirement to develop WMPs.

188. Comment: Water sources for drilling should be limited to potable water that is certified to be bacteria free and uncontaminated by pollutants to prevent contamination of the water table and shallow freshwater aquifers during drilling of conductor casings, surface casings, and intermediate casings.

(C) "Mine pools and discharges" and (D) "Any other waters that are used for drilling or completing a well in an unconventional formation" should be removed from the definition. The definition of water source should assure that only freshwater is included and that additives used in drilling and mine pools and discharges not fall into definition of "water source" to ensure the application of the correct water quality standards, withdrawal and management requirements. (182, 239)

Response: The proposed definition is consistent with the definition in the 2012 Oil and Gas Act.

189. Comment: Water source-(i) Any of the following (A) Waters of the Commonwealth.(B) A source of water supply used by a water purveyor.(C) Mine pools and discharges.(D) Any other waters that are used for drilling or completing a well in an unconventional formation. (ii)The term does not include flowback or production waters or other fluids(A) Which are used for drilling or completing a well in an unconventional formation.(B) Which do not discharge into waters of the Commonwealth.

Noble is concerned that elements of this definition contradict one another. Specifically, the definition states in (i) that any waters used for drilling or completing a well are considered a water source, but then under (ii) it excludes flowback or produced water from that definition. The industry has been consistently encouraged by the public and the state to do whatever practicable to minimize competition for water and reduce waste. As such, the use of flowback or produced water for completing a well has become a common practice and is legitimately considered a "water source." The Department should eliminate the contradiction and strike (ii) from this definition.(199)

Response: The definition is consistent with the definition in the 2012 Oil and Gas Act. Water source does not include chemicals and other natural substances added to water. The term does not include flowback or production waters or other fluids which are used for drilling or completing of a well or do not discharge to waters of the Commonwealth.

190. Comment: Water source should not include mine pools and dischargers or any other waters that are used for drilling or completing a well in an unconventional formation. This is too inclusive and misleading to the public. (161)

Response: The definition is consistent with the definition in the 2012 Oil and Gas Act.

191. Comment: Water source

(D) Why does this definition include “waters that are used for drilling and completing in an unconventional formation”? (204)

Response: The term is defined consistent with the definition provided by the 2012 Oil and Gas Act.

192. Comment: WELL DEVELOPMENT pipelines—Pipelines used for oil and gas operations that: (i) Transport materials used for the drilling or hydraulic fracture stimulation, or both, of a well and the residual waste generated as a result of the activities. (ii) Lose functionality after the well site it serviced has been restored under § 78a.65 (related to site restoration).

This definition should clarify whether both conditions (i) and (ii) must be met for a pipeline to constitute a “well development pipeline” or whether only one condition must be met for this purpose.” Additionally, the removal of the reference to temporary lines makes it unclear whether the Department intends to capture buried water lines within this definition. Like other operators in the region, the commenter has invested millions of dollars to develop extensive water infrastructure in order to maximize water reuse, minimize truck traffic, and reduce impacts to nearby communities. The use of buried infrastructure provides increased resilience against the risk of leakage due to weather (freezing and thawing) or vandalism and decreased truck traffic reduces noise, air emissions, and impacts on the surrounding community. To prohibit or restrict this practice could potentially increase negative impacts on communities and the environment. Commenter therefore requests that the Department limit this definition to only those lines that meet both conditions listed as (i) and (ii) and specifically exclude buried pipelines that transport water from the well site. We support suggested amendatory language: Well Development pipelines—Pipeline that is part of oil and gas operations and that: (1) transport materials used for the drilling or hydraulic fracture stimulation, or both, of a well and the residual waste generated as a result of those activities; and (2) lose its functionality after the well site it serviced has been restored under § 78a.65 (related to restoration). The term does not include those portions of pipelines that are located within the boundaries of unconventional well sites subject to the containment system requirements of § 78a.64a.” (199)

Response: Both qualifications must be met for a pipeline to be considered a Well Development Pipeline. Buried well development pipelines are addressed under § 78.68b. Well Development pipelines that are carrying fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources, should not be buried except for those exceptions listed in this section. Buried pipelines cannot be easily inspected for leaks or damage but aboveground pipelines can be visually inspected daily when in use and if leaks or defects are observed, repairs or other effective corrective measures can be taken expeditiously. With operator due diligence, aboveground pipelines are an effective and efficient means for transporting fluids associated with well development. Furthermore, since well development pipelines are temporary, the Department does not believe existing buried well development pipelines (infrastructure) currently utilized to move fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources need to be grandfathered into this rule.

The Department acknowledges the comment regarding the applicability of the definition to pipelines that exist within the boundary of the well site. The definition is intended to address only off-site pipelines. The Department believes that this is clear based on the context of the use of the term within the final rule and has not made the suggested change.

193. Comment: The definition of Well Development Pipelines needs further clarification. Are these pipelines on or off the well pad (or both)? What constitutes a pipeline (HDPE transfer line, connection hoses, tank manifolds, pressured lines on the well pad during drilling and completions, etc.)? (187, 209)

Response: See response to comment 192 regarding applicability of this definition within the well site boundary.

194. Comment: One definition for pipelines that will carry drilling fluids, hydraulic fracturing fluids, and residual waste generated as a result of the activities will cause confusion and lack of specificity when using the term. These activities vary in the materials, method of use, and construction practices employed and should each have their own definition with specific regulatory requirements. (182)

Response: The Department disagrees that it is necessary to provide separate regulatory requirements for pipelines carrying drilling fluids, hydraulic fracturing fluids and residual waste generated as a result of the activities. A single set of standards can provide protection to public health and safety and the environment.

195. Comment: Well Development Pipelines – the proposed nomenclature is confusing and misleading. It recommended that the original nomenclature “Temporary Pipelines” be used and further clarified as to whether or not this definition is inclusive or exclusive of fresh water temporary pipelines. (195)

Response: Because these pipelines can be in use for up to twelve months, or potentially longer with approval of the Department (§ 78a.68b(j)), the Department did not believe that the term “temporary” adequately captured the nature of the pipelines. Such pipelines are typically used to move wastewaters from well sites or to them for recycling in new hydraulic fracturing operations, making the term “well development” a more appropriately descriptive term.

196. Comment: Inclusion of the phrase “pipelines used for oil and gas operations” in this definition is confusing, as “oil and gas pipelines, well development, gathering and transmission” is proposed to be included in the definition of “oil and gas operations”. The definition of “oil and gas operations” also includes “water and other fluid management and storage...used exclusively for the development of oil and gas wells.” We recommend that the introductory clause be clarified to read as follows: “Pipelines that are part of oil and gas operations and that meet the following: ...”

Also, those portions of well development pipelines that are located within the boundaries of unconventional well sites subject to the containment system requirements of § 78a.64a should be excluded from this definition.

Commentator’s suggested amendatory language:

Well Development pipelines—Pipeline that is part of oil and gas operations and that:

(1) transport materials used for the drilling or hydraulic fracture stimulation, or both, of a well and the residual waste generated as a result of those activities; and

(2) lose its functionality after the well site it serviced has been restored under § 78a.65 (related to restoration).

The term does not include those portions of pipelines that are located within the boundaries of unconventional well sites subject to the containment system requirements of § 78a.64a. (210)

Response: The Department disagrees that the interaction between the definitions of “well development pipelines” and “oil and gas operations” is confusing and has not made the proposed change to the introductory clause. See response to comment 192 regarding applicability of this definition within the well site boundary.

197. Comment: Well Development Pipelines - This definition should be revised to specifically exclude pipelines that solely transport freshwater. Many of the requirements of section 78a.68b, relating to well development pipelines are unnecessary as applied to freshwater pipelines. This defined term is only used in Section 78a.68b (“well development pipelines for oil and gas operations”), which contains requirements for, among other things, daily inspections at subsection (h), emptying and depressurizing pipelines at subsection (j), and mapping of pipelines at subsection (m). These requirements are excessive for pipelines transporting freshwater. While more stringent requirements might be appropriate for pipelines transporting residual waste such as flowback and production water, freshwater lines do not present the types of risks that this section is written to mitigate. We suggest modifying this definition to read: “Pipelines used for oil and gas operations, except pipelines transporting freshwater, that...” (222)

Response: Uncontrolled release of pressurized fluids will cause environmental harm regardless of the chemical characteristics

198. Comment: Well Development Pipelines - Did the Department intend to include an “and” or “or” between subsections (i) and (ii) in this definition? Does a pipeline that loses functionality after the well has been serviced, even if the well is not used for drilling or hydraulic fracture stimulation, qualify as a “well development pipeline”? (222)

Response: See response to comment 192 regarding applicability of the definition.

199. Comment: Nonporous Material - Typically drill cuttings are not considered to be a “nonporous material.” Drill cuttings can be very permeable depending on the materials encountered during drilling, specifically sandstones and conglomerates. Drill Cuttings should be removed from the definition of “nonporous material.” (182, 239)

Response: The definition referenced is used with regard to well plugging. Changes to the well plugging standards are beyond the scope of this rulemaking but are planned for the next revision of Subchapter D.

200. Comment: Permanently cemented - permanently cemented should include not only the surface casing or coal protective casing, but also the intermediate casing and the production casing. Grouting of the well is discussed in detail below. (182, 239)

Response: Substantive changes to Subchapter D were promulgated on February 5, 2011 and are not part of the current rulemaking. However, modifications will be considered during the next revision of Subchapter D.

201. Comment: Wellhead Protection Area and Wellhead Protection Plan are not defined terms and need to be added to definitions. (367)

Response: The term “Wellhead Protection Area” was added to Sections 78.1 and 78a.1.

202. Comment: Water protection depth: The definition of water protection depth is unclear. How can the protection depth be greater than the surface casing seat? The water protection depth should be less than or equal to the surface casing seat. (182, 239)

Response: For matters related to the water protection depth, please see response to comment 14.

203. Comment: The definition of “Well Site” should be updated to expressly narrow it to the surface area required for oil and gas development. This would clarify that a horizontal well bore does not expand the well site beyond what is intended by the regulations. We recommend modifying the definition of well site to read as follows: “the area occupied *at the surface* by the equipment or facilities necessary for or incidental to the drilling, production or plugging of a well.” (190)

Response: Use of the term “area” implies that the definition is relative to the surface.

204. Comment: Well site — The area occupied by the equipment or facilities necessary for or incidental to the drilling, production or plugging of a well or multiple wells. (210)

Response: The Department disagrees that the proposed change is necessary.

205. Comment: Wetland - We support that the definition of wetland is consistent with Chapter 105.1 to provide consistent and effective regulation of wetlands. (182)

Response: The Department acknowledges the comment.

206. Comment: The word “playground” should be defined for purposes of this act. The proposed ANFR references playgrounds in several sections, e.g. § 78a.15 (Application requirements) and § 78a.57a (Centralized Tank Storage). (210)

Response: See response to comment 137.

§ 78a.14 Transfer of well ownership or change of address.

207. Comment: POINT 3: EMERGENCY PLANNING IS INSUFFICIENT TO PROTECT THOSE LIVING, WORKING, OR GOING TO SCHOOL NEAR UNGD SITES.

The emergency/accident planning by natural gas companies and the State is inadequate to protect Pennsylvania residents.

§ 78a.14. Transfer of well ownership or change of address.

(a) Within 30 days after the sale, assignment, transfer, conveyance or exchange of a well, the new owner or operator shall notify the Department, in writing, of the transfer of ownership. (pg. 14)

For the sake of transparency to the public and emergency responders (and to be reflected in posted signage and contact info), this time period allocated for written notification be greatly reduced. 24 hour contact information must be available to Emergency Responders at all times, as well as site specific emergency plans that might have changed due to change in ownership or

address. The 30 day lag in notification could potentially adversely affect emergency response and public access to information. (186)

Response: Section 78a.14 addresses permit transfer responsibilities for oil and gas well operators. Emergency response planning is addressed under § 78a.55. Further, the Department has considered this comment and declines to make the suggested change to this rulemaking because the permitted operator remains responsible for the operator of the well until the transfer is approved by the Department pursuant to § 78a.13.

208. Comment: Commentator is concerned about the Department’s new position, following the adoption of Act 13, which interprets some provisions of the Act to require well permits to be posted prior to construction of well sites or access roads. We do not believe that this interpretation is required or necessary under the language of Act 13. The timing of permit applications and issuance is further complicated and delayed by the Department’s proposed revisions to Section 78a.15, discussed in more detail below. Revisions to Section 78a.11 should clarify an operator’s permit and approval obligations to construct a well site.

Commentator’s suggested amendatory language:

(c) Well permits, once obtained, must be posted at the drilling site during site preparation, drilling, operating or altering the well. Well sites, including access roads, may be constructed prior to issuance of a well permit, in accordance with any necessary permits or approvals required and obtained under the Clean Streams Law. (210)

Response: Section 3211(a) of the 2012 Oil and Gas Act requires a copy of the well permit to be kept at the well site during preparation and construction of the well site or access road during drilling or alteration of the well. In addition, § 3211(g) of the 2012 Oil and Gas Act requires the well permit number, operator’s name, address and telephone number to be conspicuously posted at the drilling site during site preparation, including the construction of access roads, construction of the well site and during drilling, operating or alteration of the well. It is clear that an operator must obtain the well permit prior to construction of the well site or access road in order to be able to comply with these requirements. The regulatory language proposed by the commenter is inconsistent with these requirements and the revisions have not been made.

§§ 78.15 and 78a.15 Application requirements

209. Comment: Section 78a.15 has been specific to “well permits” in the current regulations and in the previously proposed version, but there are several sections in the ANFR § 78a.15, including (b.1), (d), (f), and (h), which now introduce aspects of erosion and sediment control permitting. These results in some confusion as to which permit certain paragraphs apply to or refer to. The commentator recommends that well permit application requirements be kept separate from E&S/ESCGP-2 permit “application” (NOI) requirements. (210)

Response: The Department disagrees that these provisions lack clarity. Sections 78.15 and 78a.15 pertain to well permit application requirements and each provision refers to the applicant – the well permit applicant – and the information that must be provided as part of the well permit application. To the extent that those provisions relate to erosion and sediment control, these provisions are necessary components of the well permitting process to meet applicable requirements.

210. Comment: As currently proposed, the language contained in this section appears to establish provisions and standards that exceed those set-forth in other regulation applicable to a vast number of other industries. The purpose of a permit application is to ensure that a proposed project meets (at a minimum) the regulatory requirements established to avoid permanently impacting environmental resources as well as addresses and mitigates those impacts that may not be able to be avoided. To that end, the following language is being submitted as a possible alternative to what is currently being proposed:

(a) An application for a well permit shall be submitted electronically to the Department on forms provided through its website and contains the information required by the Department to evaluate the application.

(b) The permit application will not be considered complete until the applicant submits a complete and accurate plat, an approvable bond or other means of complying with section 1606-E of the Fiscal Code (72 P.S. § 1606E), the fee in compliance with § 78a.19 (relating to permit application fee schedule), proof of the notifications required under section 3211(b.1) of the act (relating to well permits), necessary requests for variance or waivers or other documents required to be furnished by law or the Department, and the information in subsections (b.1)–(e) and (h). The person named in the permit shall be the same person named in the bond or other security.

(b.1) If the proposed limit of disturbance of the well site is within 100 feet measured horizontally from any watercourse or body of water except wetlands smaller than one acre that are not exceptional value, the applicant shall demonstrate the employment of best management practices at the well site intended to provide protection for those watercourses or bodies of water. The applicant may rely upon other plans developed under this chapter or permits obtained from the Department to make this demonstration, including:

(1) An erosion and sediment control plan or permit consistent with 25 PA Code Chapter 102 (relating to Erosion and Sediment Control),

(2) A water obstruction and encroachment permit issued pursuant to 25 PA Code Chapter 105 (relating to Dam Safety and Waterway Management),

(3) Applicable portions of the PPC Plan prepared in accordance with § 78a.55(a)-(b),

(4) Applicable portions of the Emergency Response Plan prepared in accordance with § 78a.55(i), and

(5) Applicable portions of Site Containment Plan prepared in accordance with 58 PA.C.S. §3218.2 (relating to containment for unconventional wells).

(b.2) For the purposes of compliance with 58 Pa.C.S. § 3215(a) abandoned water well does not constitute a water well.

(c) The applicant shall submit information identifying parent and subsidiary business corporations operating in this Commonwealth with the first application submitted after the effective date of this rulemaking and provide any changes to this information with each subsequent application.

(d) The applicant shall demonstrate that the proposed well, well site or access road will not impact threatened or endangered species by submitting a PNDI receipt to the Department. If any potential impact is identified in the PNDI receipt to a threatened or endangered species, the

applicant shall demonstrate how the impact will be avoided or minimized and mitigated in accordance with State and Federal laws pertaining to the protection of threatened or endangered species to the satisfaction of the applicable jurisdictional agency. The applicant shall provide written documentation to the Department supporting this demonstration, including any avoidance/mitigation plan, clearance letter, determination or other correspondence resolving the potential species impact with the applicable jurisdictional agency.

(e) If an applicant seeks to locate a well on a well site where the applicant has obtained a permit under §102.5 (relating to permit requirements) and complied with §102.6(a)(2) (relating to permit applications and fees), the applicant is deemed to comply with subsection (b.1). The applicant is deemed to comply with subsection (d) if the permit was obtained within two years from the receipt of the application submitted under this section or if the applicant supplies an updated PNDI clearance letter with the application.

(f) An applicant proposing to construct a well site at a location that may impact a public resource as provided in paragraph (1) shall notify the applicable public resource agency, if any, in accordance with paragraph (2). The applicant shall also provide the information in paragraph (3) to the Department in the well permit application.

(1) This subsection applies if the proposed limit of disturbance of the well site is located:

- (i) In or within 200 feet of a publicly owned park, forest, game land or wildlife area,
- (ii) In or within the designated corridor of a State or National scenic river,
- (iii) Within 200 feet of a designated National natural landmark,
- (iv) Within the specific and discrete area designated as other critical communities by a PNDI receipt,
- (v) Within 200 feet of a designated historical or archeological site listed on the Federal or State list of historic places
- (vi) Within 1,000 feet of a groundwater well, surface water intake, reservoir or other water supply extraction point used by a water purveyor,
- (vii) Within 200 feet of a designated common area on a school's property,
- (viii) Within 200 feet of a designated playground, or
- (ix) Within an area designated as a Wellhead Protection Area as part of a Department- approved Wellhead Protection Plan.

(2) The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1). The applicant shall forward by certified mail a copy of the plat identifying the proposed limit of disturbance of the well site and information in paragraph (3) to the public resource agency at least 21 days prior to submitting its well permit application to the Department. The applicant shall submit proof of notification with the well permit application. From the date of notification, the public resource agency shall have 21 days to provide written comments to the Department and the applicant on the functions, uses and values of the public resource and the measures, if any, that the public resource agency recommends the Department consider to avoid or minimize probable harmful impacts to the public resource where the well, well site or access road is located. The applicant may provide a response to the Department to the comments. If comments are not received by the end of 21 days from the public resource agency, the requirement for public resource comment is considered to be complete and satisfied.

(3) The applicant shall include the following information in the well permit application on forms provided by the Department:

- (i) An identification of the public resource,
- (ii) A description of the functions, uses and values of the public resource, and

(iii) A description of the measures proposed to be taken to avoid or mitigate impacts, if any.

(4) The information required in paragraph (3) shall be limited to the discrete area of the public resource that will be affected by the well, well site or access road.

(g) If the proposed well, well site or access road poses a probable harmful impact to a public resource as demonstrated by the associated public resource agency comments, the Department may include conditions in the well permit to avoid or mitigate those impacts to the public resource's current functions, uses and values. The Department will consider the impact of any potential permit condition on the applicant's ability to exercise its property rights with regard to the development of oil and gas resources and the degree to which any potential condition may impact or impede the optimal development of the oil and gas resources. The issuance of a permit containing conditions imposed by the Department under this subsection is an action that is appealable to the Environmental Hearing Board. The Department has the burden of proving that the conditions were necessary to protect against probable harmful impact of the public resource.

(h) An applicant proposing to drill a well that involves 1 to 5 acres of earth disturbance over the life of the project and is located in a watershed that has a designated or existing use of high quality or exceptional value pursuant to 25 PA Code Chapter 93 (relating to water quality standards) shall submit an erosion and sediment control plan consistent with 25 PA Code Chapter 102 (relating to erosion and sediment control) with the well permit application for review and approval." (195)

Response: The Department has considered this comment and declines to make the suggested amendments to this rulemaking.

To the extent that the commentator seeks clarity regarding other critical communities, the Department amended this definition in §§ 78.1 and 78a.1 in the final rulemaking.

To the extent that the commentator suggests 21 days for public resource agencies to comment on a well permit application, please see the responses to comments on §§ 78.15(f)(2) and 78a.15(f)(2).

The extent that the commentator suggests language addressing the situation when comments are not received by the public resource agency, the Department disagrees that this language is needed and appropriate in this rulemaking.

- 211.** Comment: A full and in-depth process of public participation in the permitting process for oil and gas surface infrastructure. The shale gas industry should not receive the special treatment that it currently does. As with other extractive industries, within the State there should be a full public notice, comment, and public hearing period. All concerned people, not just those within 1,000 feet of the proposed site, have the right to express their opinions on the health and welfare of their community. (381)

Response: The Department declines to make this recommended amendment to this rulemaking. The 2012 Oil and Gas Act outlines a notice, objection and conference process in Sections 3211(b)(2), 3212, and 3251.

- 212.** Transparency and access to information. DEP needs to make sure all electronic filings and reports from operators are posted to the public the same day they are completed. And DEP needs to release all data from any studies it does of radioactivity in drilling waste (fluid and solid), water

and air tests, and so forth. The raw data needs to be available to outside reviewers with expertise to analyze it.

DEP proposes to require oil and gas operators to file permit applications and required reports electronically. This change would improve data, efficiency, and enforcement and should be supported. That's good

DEP should also make sure that all electronic filings and reports made by operators are also available to the public on DEP's website on the same day they are deemed complete by DEP. Easy and timely access to information by the public is necessary to ensure agency transparency and operator accountability. (354)

Response: The Department acknowledges the comment. The Department currently has more than a dozen interactive reports on our website that provide information such as: permits issued; operator well inventories; inspection, violation, and enforcement information; spud information; and target, oldest, and producing formations associated with each well. Users are able to run these reports based upon specific parameters such as: region, county, municipality, operator, date range, etc. Additionally, the Department has an Oil and Gas Mapping application on our website that allows users to geographically locate oil and wells using various map layers and aerial photography. The mapping application allows users to search for wells based upon numerous parameters. The mapping application also provides the additional functionality of displaying electronic copies of actual documents such as: well permits/applications, inspection reports, and operator's responses to violations. Generally, this data is available within 24 hours of submission or review by Department staff, or the reporting deadline. The Department will continue to expand both the amount of oil and gas well information available on our website, and the ability to readily locate, retrieve, and export that information.

213. Comment: Auction off the drilling permits: Drilling permits are issued for a nominal fee based on depth. The free market system should determine the actual commercial value of a permit by an annual auction for a limited number of wells; that number to be determined by how many can be monitored by continuous onsite monitoring by qualified PADEP personnel, three shifts a day, 365 days per year. (17)

Response: As this rulemaking does not address permit fees, this comment is outside the scope of this rulemaking.

214. Comment: 78a.15(a) Electronic Permit Application Submission - PADEP proposes well permit applications be submitted electronically to PADEP via the website, on forms provided by the Department. We support electronic submittal of applications to improve processing efficiency. However, we recommend additional revisions to § 78.15(a) to improve transparency to the public and to require that the applicant provide a secure electronic signature on the application, certifying under penalty of perjury that the application contents are true and correct. The Commentator suggests the following language be added to this section: (a) An application for a well permit shall be submitted **[on forms furnished by the] electronically to the Department ON FORMS PROVIDED through its website. THE PERMIT APPLICATION SHALL BE MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE ON THE SAME DAY THAT THE DEPARTMENT HAS DETERMINED THE APPLICATION IS COMPLETE. THE ELECTRONIC APPLICATION MUST AND** contain the information required by the Department to evaluate the application **AND MUST INCLUDE A SECURE**

ELECTRONIC SIGNATURE CERTIFYING UNDER PENALTY OF PERJURY THAT THE APPLICATION CONTENTS ARE TRUE AND CORRECT. (211)

Response: The Department disagrees with this comment. Electronic certifications regarding the truthfulness and accuracy of the information submitted are incorporated into each electronic application. In regard to making electronic permit applications publicly available on our website the same day the application is determined to be complete, the Department's objective with respect to oil and gas operations is to make all electronic submissions available on our website as soon as possible after submission.

215. Comment: DEP proposes to require oil and gas operators to file permit applications and required reports electronically. DEP should also make sure that all electronic filings and reports made by operators are also available to the public on DEP's website on the same day they are deemed complete by DEP. (250)

Response: The Department's objective with respect to oil and gas operations is to make all electronic submissions available on our website as soon as possible after submission.

216. Comment: If DEP is going to require that all applications be submitted electronically, payment mechanisms other than using a credit card need to be incorporated in order for the system to be logistically feasible. Upon applying for a permit, we would like for the DEP's web-based system to produce an invoice format that could be printed by the applicant at the time of submittal. The format would need to include some identifier information, so it would be helpful if the online permitting software would contain some free-form fields that the applicant could populate with needed information (approval identifier, charge coding, etc.) Upon completing the web-forms and submitting the permitting package, the system would literally generate an invoice that the applicant would print at their desktop. The invoice would then be submitted into the internal Accounts Payable process where PADEP could receive payment by check or by EFT (presuming that they are set up for those types of payments.) (232)

Response: The Department is currently exploring additional payment options as an enhancement to the existing electronic well permitting application.

217. Comment: Transparency and access to information – let the sun shine on gas and oil driller records! DEP proposes to require oil and gas operators to file permit applications and required reports electronically. This change would improve data, efficiency, and enforcement and should be supported. (84, 111, 299)

Response: The Department acknowledges the comment.

218. Comment: All Oil & gas Operators must be required to file permit applications and all reports electronically and made available to the public on the DEP's website on the same day that they are deemed complete by DEP. This is essential to insure operator accountability agency transparency and public trust. (155)

Response: The Department agrees and has required, in this rulemaking, that all submissions be submitted electronically. The Department's objective with respect to oil and gas operations is to make all electronic submissions available on our website as soon as possible after submission.

219. Comment: We applaud the electronic applications to help to actually be able to track and address

the individual wells involved. (78.15) This is a good step toward facilitating a process of accountability. (220)

Response: The Department acknowledges the comment.

220. Comment: Transparency and Access to Information. The DEP proposes to require oil and gas operators to file permit applications and required reports electronically. This change would improve data collection, efficiency, and enforcement, which is laudable. DEP should also make sure that all electronic filings and reports submitted by operators are also available to the public on DEP's website on the same day they are deemed complete by DEP. Easy and timely access to information by the public is necessary to ensure agency transparency and operator accountability. (377)

Response: The Department's objective with respect to oil and gas operations is to make all electronic submissions available on our website as soon as possible after submission.

221. Comment: The commentator suggests that the regulations require notification to residents when drilling is done nearby and give residents a chance to comment. (106)

Response: Section 3211(b.1) of the 2012 Oil and Gas Act requires a well permit applicant to provide the listed parties, including the municipality, surface landowners and any water supplies users within 3,000 feet of an unconventional well and 1,000 feet of a conventional well, notification of the well permit application. Section 3212 provides the requirements related to permit objections. Additionally, Section 3251 provides opportunities for conference to discuss permitting issues. To the extent that the commentator suggests other notifications, those changes should be made to the 2012 Oil and Gas Act.

222. Comment: I support the effort of DEP to require electronic submission of documents. However, more must be done to make those documents available to the public:

All electronically submitted documents should be available to the public on the Internet.

DEP has made a start in this process, by hosting some permit documents on its Oil & Gas Mapping web site.

Access to the documents needs to be broadened, however. Specifically, links to on-line documents should become available via eFACTS.

The application for an unconventional well must contain links to all other relevant associated documents, which should also be available on-line. Among the related well application documents are:

- Well pad PPC Plan
- Water Management Plan
- Noise Mitigation Plan
- Form U applications (216)

Response: All electronic documents that the Department currently receives with respect to oil and gas operations are currently available via the Oil and Gas Mapping application. Additionally, electronic copies of some paper document submissions are available via the Oil and Gas Mapping application after scanning and upload by Department staff. Additional

electronic documentation will become available as additional electronic reporting functionality is developed.

223. Comment: Oil and gas operators should be required to electronically file permit applications and all required reports and those documents should be made available to the public on DEP's website. This should be posted the same day they are deemed complete by DEP. Easy and timely access to information by the public is necessary to ensure agency transparency and operator accountability. (130, 382)

Response: The Department's objective with respect to oil and gas operations is to make all electronic submissions available on our website as soon as possible after submission.

224. Comment: Current regulations allow wells to be within 100' of a stream and 200' of a house. Eight wells were drilled on the property next to mine. One about 200' from my house and one about 100' from the South Branch of the Tionesta Creek. I think these wells and the related activity reduce my property values and harm the local environment due to increased dust and runoff from the access roads, the noise of the wells running/pumping, the odor from the holding tanks and the activity of large trucks and machinery. I decided to start on a personal note so you may be able to relate to a "what if this happened to me" scenario. Please increase the distance wells have to be from waterways and houses. A thousand feet seems more than reasonable to me. (135)

Response: To the extent that the commentator recommends increasing the setback from buildings to wells, the provisions in §§ 78.15 and 78a.15 are not setbacks. In Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Any change to these provisions should be a legislative amendment to the 2012 Oil and Gas Act. For this reason, the Department declines to make the suggested change to this rulemaking.

To the extent that the commentator recommends increasing the distance between wells and bodies of water, the Department also declines to make this change. In § 78.15(b.1) and § 78a.15(b.1), if the well site is within 100 feet of certain bodies of water, the well permit applicant must demonstrate that the well site location will protect those waters. These provisions are similar to other requirements in Title 25 of the Pennsylvania Code and are consistent with the riparian buffer requirements in 25 Pa. Code Chapter 102.

As documented in the 2010 Chapter 102 rulemaking "Erosion and Sediment Control and Stormwater Management", 40 Pa.B. 4861, there is substantial scientific support for a 100 foot buffer from streams. One such study is Streamside Forest Buffer Width Needed To Protect Stream Water Quality, Habitat and Organisms: A Literature Review, Bernard W. Sweeney and J. Denis Newbold, Journal of the American Water Resources Association, June 2014, which cites over 251 scientific articles and papers as sources for the paper which states that "overall, buffers ≥ 30 m wide [approximately 100 feet] are needed to protect the physical, chemical, and biological integrity of small streams." For these reasons, the Department determined that 100 feet was a reasonable and appropriate area for additional review to ensure protection of waters of the Commonwealth.

225. Comment: Commentator recommends that the word "and" between subsections (b.1)(4) and (b.1)(5) be replaced with the word "or." our understanding of the phrase "may rely upon" is that

the demonstration would not necessarily require reliance on all of the listed documents, although it may require reliance on one or more documents.

It is not clear whether PADEP intended the term “exceptional value” wetlands to incorporate the existing definition of “exceptional value wetlands” in § 105.17. (210)

Response: The Department removed the word “and” between subsections (b.1)(4) and (b.1)(5). Applicants proposing to locate a well site within 100 feet of the waters provided in this section must demonstrate that the well site location will protect those waters. This provision provides that this demonstration may be made by including the information outlined in (b.1)(1)-(5) in the well permit application. All of the information in (b.1)(1)-(5) may not be applicable to the well site in every circumstance. Accordingly, the applicant may make the proper demonstration by including all the available and applicable information outlined in (b.1)(1)-(5).

The Department has amended § 78.15(b.1) for clarity purposes. This section now specifies that the demonstration as described above is needed when the well site location is 100 feet from any watercourse, any high quality or exceptional value body of water or any wetland one acre or greater in size. Body of water is a defined term in §§ 78.1 and 78a.1 that contains a cross-reference to Chapter 105. That definition includes wetlands. Accordingly, this section applies to exceptional value wetlands and the Department’s intent is that exceptional value wetlands are those wetlands as outlined in § 105.17(1).

226. Comment: Protect our streams, wetlands, rivers by measuring the distance from the edge of the well pad or compressor station, increasing the distance to 500 feet. Multiple real-time monitors must be installed to detect changes in water quality. (325)

Response: Please see response to comment 224.

227. Comment: §78a.15(b.1) We support these additional protections from the Pennsylvania Clean Streams Law to further protect our water resources. In many areas of our Region, it is practically common place for a small stream, pond or wetland to be immediately adjacent to well pads. These resources become critical areas in the event of a spill or unexpected blow-out. These areas need to have adequate and sufficient protection. (170)

Response: The Department acknowledges the comment.

228. Comment: The use of the Clean Streams Law authority 15 (b.1) to protect waterways and wetlands within 100' of the edge of the well pad is appreciated. (165)

Response: The Department acknowledges the comment.

229. Comment: There should be a minimum of 750 foot buffer from all water ways: perennial streams and intermittent streams. (129)

Response: In § 78.15(b.1) and § 78a.15(b.1), if the well site is within 100 feet of certain bodies of water, the well permit applicant must demonstrate that the well site location will protect those waters. A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

230. Comment: 78.15-78a.15 proposes regulations for drilling well pads within 100 feet of streams or

wetlands. The distance of 100 feet is patently inadequate to provide protection of streams and wetlands from the activities associated with high-volume hydraulic fracturing. This part of the proposed regulations update is a farce. (118)

Response: A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

- 231.** Comment: 78.15-78a.15 proposes regulations for drilling well pads within 100 feet of streams or wetlands. The distance of 100 feet is absurdly inadequate to provide protection of streams and wetlands from the activities associated with high-volume hydraulic fracturing.(119)

Response: A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

- 232.** Comment: 78a.15(b.1) If the proposed limit of disturbance of a well site (such as well pad) is within 100’ of a watercourse or water body (except wetlands smaller than 1 acre that are not EV) the applicant must demonstrate that they will be protected. This proof of protection should be required for a much larger area because of potential adverse impacts beyond 100 feet.

Additionally, small wetlands that are not Exceptional Value (EV) should be included. Surface impacts that DEP expects to be controlled by the regulations they list include erosion and sedimentation, waterway encroachment, land and soil, and pollution prevention and emergency response.

Areas beyond 100 feet show myriad impacts from land cover changes that accompany gas well construction, varying depending on the type of land cover. New York Department of Environmental Conservation found that a forested area that is fragmented by a well site can be impacted at least 100-300 meters in from the developed edge.

The Nature Conservancy concluded that an average of 9 acres of habitat was removed for each well pad in Pennsylvania and that the total for direct and indirect impacts is 30 acres on average per well pad, showing a much greater area of impact than the few acres cleared for the well pad and related construction areas that we assume DEP calls the “limit of disturbance” (there is no definition provide for limit of disturbance). (182)

Response: A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

- 233.** Comment: Commentator generally supports the added requirement in §§ 78.15(b.1) and 78a.15(b.1) that applicants demonstrate protection of water courses or water bodies located within 100 feet of oil and gas operations. We believe, however, that the requirement should be expanded and strengthened. We suggest expanding the area requiring a demonstration of protection from 100 feet to 150 feet. Riparian buffers are one of the most effective means of protecting waterbodies. Industrial activity, such as oil and gas operations, within close proximity to a waterbody will undermine the buffer’s effectiveness and create the possibility of degradation of the waterbody. The Chapter 102 regulations recognize a 150 buffer for protection of special protection streams. *See* 25 Pa. Code § 102.14. Considering the nature of the activities permitted under Chapters 78/78a, it seems appropriate to require a water protection demonstration for any oil and gas operations that occur within 150 feet of a water body. (231, 231a)

Response: A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

234. Comment: § 78a.15(b.1) Commentator seeks clarification of what will constitute a satisfactory demonstration by the applicant that the requisite watercourse protection will be provided. It should be sufficient if the applicant identifies appropriate erosion and sediment controls as addressed in the current version of the Erosion and Sedimentation Control Manual, which is adopted in Chapter 102 permitting. (199)

Response: The Department disagrees that additional clarity is needed in this section. When a well is proposed to be located within 100 feet of the water resources listed in this section, the Department is particularly concerned about accelerated sedimentation and erosion, temporary storage and containment. The well permit applicant has the obligation to demonstrate the proposed well location will be protective. The well permit applicant may do that through the information listed in §78.15(b.1)(1)-(3) or § 78.15(b.1)(1)-(5), whichever is applicable, or by some other demonstration.

235. Comment: 78a.15(b.1) Disturbance Near Water - PADEP proposes a new regulation (§ 78a.15 (b.1)) to clarify the requirements for well site disturbance near water.

We support additional protections near water courses and water bodies including wetlands. However, we recommend this requirement be expanded beyond just the well site, and include all Oil and Gas Operations (as defined in § 78a.1). Consistent with the 2014 Comments, we also recommend substantially larger impact evaluation distances. We propose § 78a.15(b.1) be revised as follows:

(b.1) IF THE PROPOSED LIMIT OF DISTURBANCE OF THE WELL-SITE OIL AND GAS OPERATION IS WITHIN ~~100~~ 4,000 FEET MEASURED HORIZONTALLY FROM ANY WATERCOURSE OR BODY OF WATER EXCEPT WETLANDS SMALLER THAN ONE ACRE THAT ARE NOT EXCEPTIONAL VALUE, THE APPLICANT SHALL DEMONSTRATE THAT THE WELL-SITE OIL AND GAS OPERATION LOCATION WILL PROTECT THOSE WATERCOURSES OR BODIES OF WATER. THE APPLICANT MAY RELY UPON OTHER PLANS DEVELOPED UNDER THIS CHAPTER OR PERMITS OBTAINED FROM THE DEPARTMENT TO MAKE THIS DEMONSTRATION, INCLUDING: [no revisions recommended for (1)-(4)] (211)

Response: The Department disagrees that the recommended changes are necessary or appropriate. First, this section only applies to well permit application requirements. Second, a 100 foot buffer has been demonstrated to protect waters of the Commonwealth.

236. Comment: §78a.15(b.1). Although it may be the implied intent, we believe the Proposed Rulemaking should expressly state that the Department has the authority to condition or deny a permit application if an operator has failed to demonstrate to the Department's satisfaction that the well site will not adversely affect the aquatic resources listed in this section. (225)

Response: The Department disagrees that the suggested provision is needed. Section 3211(e.1) of the 2012 Oil and Gas Act provides that the Department may deny a well permit if the permit application is incomplete or the issuance of the well permit would result in a violation of the 2012 Oil and Gas Act or other applicable law. Additionally, Section 3211(e) of the 2012 Oil and Gas Act provide the Department the authority to impose permit

conditions when necessary to assure compliance with the 2012 Oil and Gas Act and other laws administered by the Department. Accordingly, if a well permit applicant failed to demonstrate that the well site location will be protective in accordance with § 78.15(b.1) or § 78a.15(b.1), the Department would have the authority to deny the well permit or impose applicable permit conditions. Because these provisions exist in the statute itself, it is not necessary to include them in this rulemaking.

237. Comment: We are encouraged by the Department’s wording in: § 78.15(b.1), and § 78a.15(b.1), requiring that the applicant demonstrate that surface water bodies within 100 ft of the well will be protected. (163)

Response: The Department acknowledges the comment.

238. Comment: REGARDING 78a.15 APPLICATION REQUIREMENTS - In section (b.1), the commentator strongly supports the inclusion of the term “watercourse” in the proposed rulemaking language. In the topography of the PA Marcellus, there are hundreds of small watercourses that usually carry surface water following heavy rain and spring thaws. Nonetheless, underground water may continue to flow in these intermittent/ephemeral watercourses year round. Therefore their presence, value, and risk of contamination must be considered during the application and permitting process. (176)

Response: The Department acknowledges the comment.

239. Comment: (b.1) Increase the 100-foot buffer to 500 feet minimum with consideration of steep slopes that are more conducive to potential contamination. This is essential to keep pollutants from groundwater and aquifers. (161)

Response: A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

240. Comment: §§ 78.15 and 78a.15. Application requirements
“Subsection (b)(1) requires a demonstration of protection of wetlands and streams where the edge of the pad is within 100 feet of streams and wetlands. Under subsection (f), the Department will consider impacts to public resources as part of the permitting process. Additional areas to consider include public drinking water wellhead protection areas, playgrounds and schools considered public resources for which the Department may impose permit conditions. The draft final rulemaking extends the review time frame for jurisdiction agencies (such as the Fish and Boat Commission, the Department of Conservation and Natural Resources, the Game Commission and the Pennsylvania Historic and Museum Commission) from 15 days to 30 days.”

The entirety of the township in which I live, Grant Township, Indiana, Pennsylvania, is a watershed-specifically, the Little Mahoning Watershed. An injection well is permitted by the EPA (revoked by the DEP as of March 2015) for the area. How is it that permits like this are allowed, when such a large, high quality watershed, which supplies good water to many hundreds of households, would be put unnecessarily at risk for the sole benefit of a corporation? (172)

Response: A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

Chapters 78 and 78a contain many provisions, including the requirements related to erosion and sediment control, surface water discharges, waste management, onsite processing,

protection of water supplies, water management planning, secondary containment, well construction, and site restoration that ensure protection of waters of the Commonwealth.

Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

241. Comment: 78a.15 (b.1) – authorizes Clean Streams Law authority to protect streams and wetlands when the well pad edge is within 100’ of the water resource. As a watershed association and conservation group of which many are leased landowners, we support all additional measures to protect our streams. (171)

Response: The Department acknowledges the comment.

242. Comment: 78.15(b.1) the commentator recommends one of the requirements to demonstrate that the well site location will protect those waterbodies close to the well site is to require baseline water quality monitoring of all surface waters within 1,000 feet of the well site to ensure protection of our water resources. Additionally, the other areas where drill cuttings or production fluid from the well site are stored, should also be required to have baseline water quality monitoring of the surface waters within 1,000 feet of the storage site. (265)

Response: The Department disagrees that the commentator’s recommendation is necessary or appropriate. A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224 regarding inclusion of the 100 foot buffer.

243. Comment: 78.15.b.1 and 78a.15.b.1 should require that the applicant demonstrate that surface water bodies within Source Water Protection Zones, as defined by a DEP-approved Source Water Protection Plan, will be protected. (163, 249)

Response: The Department considered this comment and declines to make this change to §§ 78.15(b.1) and 78a.(b.1). The Department has added well head protection areas to the list of public resources that trigger additional consideration as part of the well permit review process in §§ 78.15(f) and 78a.15(f). Please see the responses to comments relating to those provisions.

244. Comment: Protect streams and wetlands by measuring the distance from the edge of the well pad or facility and increasing the distance to 300 feet. An adequate number of real-time monitors must be installed in the wetlands or streams to detect changes in the water quality. (85, 179)

Response: See response to comment 224 regarding inclusion of the 100 foot buffer. To the extent that commentator suggests requiring real-time monitor, the Department has considered that comment and declines to make that change to this rulemaking.

245. Comment: We support the inclusion of the term “watercourse” (78a.15(b)(1) as a recognition of the multiple water sources that can be affected and need to be protected. (220)

Response: The Department acknowledges the comment.

246. Comment: 78a.15(b.2) Abandoned Water Wells - PADEP proposes a new regulation (§

78a.15(b.2)) to clarify that abandoned water wells do not have to meet Section 3215(a) of the Act for water wells.

As explained above in our comments on the abandoned water well definition ((§ 78a.1), we recommend the regulations differentiate between permanently abandoned water wells and those temporarily abandoned or currently inactive. We propose § 78a.15(b.2) be revised as follows:

(b.2) FOR PURPOSES OF COMPLIANCE WITH SECTION 3215(a) OF THE ACT, AN PERMANENTLY ABANDONED WATER WELL DOES NOT CONSTITUTE A WATER WELL. (211)

Response: The Department has considered this comment and declines to make the suggested amendment to this rulemaking. The Department added a definition of “abandoned water well” in §§ 78.1 and 78a.1 that clarifies the applicability of this term.

247. Comment: (b.2) An abandoned water well, as defined in this document, should constitute a water well because of its potential for aquifer contamination. If redefined as suggested, it may be appropriate. (161)

Response: The Department considered this comment and declines to make the suggested amendment to this rulemaking. Section 3215(a) provides the setbacks for drinking water wells from proposed wells. Accordingly, the purpose of these provisions is to protect sources of drinking water. The amendments to this rulemaking clarify that an abandoned water well does not constitute a water well for purposes of these setbacks because it is no longer being used or capable of being used to provide a water supply. To the extent that the commentator suggests that additional protections are needed to protect waters of the Commonwealth, protection of these waters is achieved through other provisions in Chapters 78 and 78a, as well as implementation of other water permitting programs administered by the Department through other environmental laws and regulations. Specifically, §§ 78.15(b.1) and 78a.15(b.1) require additional consideration during the well permit application review process for any watercourse or any high quality or exceptional value body of water or any wetland one acre or greater in size. Importantly, Chapters 78 and 78a contain many provisions, including the requirements related to erosion and sediment control, surface water discharges, waste management, onsite processing, protection of water supplies, water management planning, secondary containment, well construction, and site restoration that ensure protection of waters of the Commonwealth.

248. Comment: (3)(b.2) An abandoned water well should be given consideration as a water well given that it is a potential source of contamination to aquifers. Its use may also change dependent on the fluctuations of the water table. (161)

Response: Please see response to 247.

249. Comment: 78a.15(d) – The first two sentences of this subsection are internally inconsistent. As drafted, the first sentence requires that the proposed activities “will not impact” threatened or endangered species. However, the second sentence recognizes that potential impacts may be identified.

The phrase “to the satisfaction of the applicable public resource agency” is open-ended, vague and should be deleted. It is not possible for an operator to know when it is in compliance with this standard. (210)

Response: The Department has amended §§ 78.15(d) and 78a.15(d) in the final rulemaking to require well permit applicants to include a detailed analysis of the impact of the well, well site and access road on threatened and endangered species. This analysis must include a PNDI receipt and, if there is conflict, written documentation demonstrating that the impact will be avoided, mitigated or minimized along with any clearance letters, determinations or correspondence with the applicable public resource agency. This process is necessary to ensure compliance with applicable law.

250. Comment: §78a.15(b.2) We support the provision for abandoned water wells providing a technical guidance document is crafted to assist when and who determines that the water well is in fact abandoned and does not constitute a water well. (170)

Response: The Department acknowledges the comment.

251. Comment: The permit applicant, not the Department of Environmental Protection (DEP), should be responsible for determining whether proposed oil and gas operations would affect threatened or endangered species, through the use of an independent, professional analyst with a report provided to the DEP and the public. (Section 78.15(d)) (130)

Response: The Department has amended §§ 78.15(d) and 78a.15(d) in the final rulemaking to require well permit applicants to include a detailed analysis of the impact of the well, well site and access road on threatened and endangered species. This analysis must include a PNDI receipt and, if there is conflict, written documentation demonstrating that the impact will be avoided, mitigated or minimized along with any clearance letters, determinations or correspondence with the applicable public resource agency. This process is necessary to ensure compliance with applicable law. Additionally, the Department has an obligation to ensure that permit issuance will not violate the laws that protect threatened and endangered species.

252. Comment: The commentator recommends that the requirements for a “complete” permit applications be further clarified, so that the applicant’s obligation to provide information pursuant to § 78a.15(d) is clear.

In addition, Section 1606-E of the Fiscal Code applies only to conventional wells and should not be referenced in Chapter 78a. (210)

Response: The Department’s amendments in the final rulemaking in §§78.15(d) and 78a.15(d) provide clarity relating to the information that a well permit applicant must provide as part of its well permit application.

In response to the commentator’s comment about applicable boning requirements, the Department agrees with the comment. Reference to Section 1606-E will be removed from Chapter 78a.

253. Comment: 78a.15(d). The assessment for species should include Species of Special Concern and Rare and Significant Ecological features in Pennsylvania in addition to Threatened And Endangered Species, all of which are found in Pennsylvania Natural Heritage Program (PNHP) inventories and can be searched using the Natural Diversity Inventory (PNDI) database and tool.

These are all valued and protected animal and plant species that applicants should have to search for in order to provide protection required under this program.

A PNDI search may not yield current or comprehensive results if it out of date and incomplete; a field survey with a comprehensive investigation and assessment by a professional for the applicant should be required. Areas assessed should include gas and oil gathering and distribution lines along with well site and access roads. Any area disturbed – such as borrow pits for stone or storage or construction staging areas – should also be included.

Additionally a PNDI search should include the areas around the limits of disturbance of a well site where species could potentially be adversely impacted. For instance, threatened or endangered species that are dependent on a forest habitat could be affected directly or indirectly within a 30 acre area around a well site. The impacts include lights, noise, and odors “which could travel considerable distances and disrupt an animal’s reproductive or foraging behaviors”. (182)

Response: Threatened and endangered species as well as species of special concern are protected by this final rulemaking. § 78.15(d) and § 78a.15(d) address threatened and endangered species while § 78.15(f) and § 78a.15(f) address other critical communities as that term is defined in § 78.1 and § 78a.1. The Department’s well permit application requirements and its “Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation,” Doc. No. 021-0200-001 establish a process that has been and continues to be in use by well permit applicants to identify and consider species of special concern. The final rulemaking codifies this process and is consistent with the Department’s long-standing use of PNDI to fulfill its responsibility to consider impacts on threatened and endangered species and species of special concern when issuing permits under various environmental statutes. As provided in the PNDI policy, the PNDI system only contains those known occurrences of threatened and endangered species and species of special concern – therefore, the absence of a record in the PNDI does not mean that there are not threatened or endangered species or species of special concern on any particular site. Well operators have a continuing obligation to ensure compliance with all applicable laws.

254. Comment: We support the Department’s revision of §§ 78.15(d) and 78a.15(d) to require of the use of Pennsylvania Natural Diversity Index Project Environmental Review Receipt (“PNDI”) and a demonstration that the proposed oil and gas operations will avoid or minimize and mitigate any potential harm to threatened or endangered species. It is appropriate to rely on the established, well understood PNDI process to achieve the aims of Chapters 78 and 78a. (231, 231a).

Response: The Department acknowledges the comment.

255. Comment: Section 78.15(d) The PNHP consultations in this section only identifies “well site or access road” and does not include the entire area of disturbance or impact. An actual well site could be easily identified on the PNHP investigation as being limited literally to one (1) acre of ground; however the actual land impact area required to clear, grub, place topsoil, grade, install erosion controls, construct temporary storage facilities, on-site borrow pits, freshwater impoundments, etc. is actually far larger an impact than the “well site or access road” reference in this section. To properly clarify, it is recommended to address and have the applicant submit a PNHP investigation for ALL proposed permitted/impacted property, land clearance/disturbance, and/or total parcel of ground directly related to the construction and operation of the proposed

well site, access road, and all related support facilities. (9)

Response: The Department has considered this comment and declines to make this suggested amendment to this rulemaking. To get a PNDI Receipt the applicant must enter the project area, the system then draws a buffer around the project site to screen for threatened and endangered species.

- 256.** Comment: Recommend that the Department perform Concurrent review of any permits and PNDI clearances. Recommend that the Department determine first whether there are adequate agency resources to handle the increased number of inquiries that will be made by industry for PNDI clearances. (232)

Response: The Department applies the “Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation,” Docket No. 021-0200-001 (PNDI Policy), to applicable permits and authorization related to threatened and endangered species and special concern species. In accordance with the PNDI policy, there are two options available to permit applicants for handling PNDI coordination in conjunction with DEP’s permit review process involving either threatened and endangered species or special concern species – sequential review or concurrent review. For more information, refer to page 7 of the PNDI Policy. In terms of PNDI receipts, well permit applicants are currently required to include a PNDI receipt in well permit applications. This rulemaking places no additional requirements related to PNDI receipts on well permit applicants.

- 257.** Comment: In §78a.15(d), the Department proposes that operators consult PNDI regarding the presence of a federal or state threatened or endangered species where a well site or access road is proposed. It then states that the operator must “make a demonstration as to how an impact will be avoided or minimized and mitigated to the satisfaction of the applicable Public Resource Agency.” This language fails to establish any cogent regulatory standard, apparently leaving the decision to the whim of another agency. We therefore, propose that the DEP expressly limit this determination to be made by one agency, the DEP, and define clearly what type of impacts trigger this requirement and what would constitute a sufficient demonstration of avoidance, minimization, or mitigation. Such clarification will help to assure uniform consultation between the DEP and operators throughout the various DEP Regions.(191)

Response: The Department has amended §§ 78.15(d) and 78a.15(d) in the final rulemaking to require well permit applicants to include a detailed analysis of the impact of the well, well site and access road on threatened and endangered species. This analysis must include a PNDI receipt and, if there is conflict, written documentation demonstrating that the impact will be avoided, mitigated, or minimized along with any clearance letters, determinations, or correspondence with the applicable public resource agency. This process is necessary to ensure compliance with applicable law. The Department disagrees that a clarification is necessary. The standard is compliance with state and federal law. Because certain Public Resource Agencies (U.S. Fish & Wildlife Service and the Pennsylvania Department of Conservation and Natural Resources, Fish and Boat Commission and Game Commission) implement the state and federal law relating the threatened and endangered species it is reasonable and appropriate for those agencies to determine whether the applicant has satisfied applicable law to ensure protection of threatened and endangered species.

- 258.** Comment: 78a.15(d) – proof of PNHP Consultation - In 2015, PADEP completely revised §78a.15(d). The proposed regulation would require the operator to demonstrate that the proposed

well, well site, or access road will not adversely impact threatened or endangered species. The proposed regulation requires that mitigation be worked out with the appropriate state or federal agency.

We support a process to ensure threatened or endangered species are not adversely impacted; however, this requirement should also address all species of special concern that are part of the Pennsylvania Natural Diversity Inventory (PNDI) process not only threatened or endangered (T&E) species.

The examination conducted for purposes of the consultation should include impacts from the full footprint of development, including all areas required for waste handling, processing, pipeline construction, storage, and other activities encompassed in the new proposed definition for “Oil and Gas Operations.” The newly defined term “Oil and Gas Operations” should be used to make the full scope of the activities within the development footprint clear.

The regulation should require that all mitigation measures be included as conditions in the final permit. If there are no acceptable means to eliminate, avoid or mitigate the impact, the application should be denied.

In summary, we propose the following revisions:

~~[The applicant shall provide proof of consultation with the Pennsylvania Natural Heritage Program (PNHP) regarding the presence of a State or Federal threatened or endangered species where the proposed well site or access road is located. If the Department determines, based on PNHP data or other sources, that the proposed well site or access road may adversely impact the species or critical habitat, the applicant shall consult with the Department to avoid or prevent the impact. If the impact cannot be avoided or prevented, the applicant shall demonstrate how the impacts will be minimized in accordance with State and Federal laws pertaining to the protection of threatened or endangered flora and fauna and their habitat.]~~ THE APPLICANT SHALL DEMONSTRATE THAT THE PROPOSED WELL, WELL SITE OR ACCESS ROAD OIL AND GAS OPERATION WILL NOT IMPACT THREATENED OR ENDANGERED SPECIES OR SPECIES OF SPECIAL CONCERN BY SUBMITTING A PNDI RECEIPT TO THE DEPARTMENT. IF ANY POTENTIAL IMPACT IS IDENTIFIED IN THE PNDI RECEIPT TO THREATENED OR ENDANGERED SPECIES OR SPECIES OF SPECIAL CONCERN, THE APPLICANT SHALL DEMONSTRATE HOW THE IMPACT WILL BE ELIMINATED, AVOIDED OR MINIMIZED AND MITIGATED IN ACCORDANCE WITH STATE AND FEDERAL LAWS PERTAINING TO THE PROTECTION OF THREATENED OR ENDANGERED SPECIES OR SPECIES OF SPECIAL CONCERN TO THE SATISFACTION OF THE APPLICABLE PUBLIC RESOURCE AGENCY. THE APPLICANT SHALL PROVIDE WRITTEN DOCUMENTATION TO THE DEPARTMENT SUPPORTING THIS DEMONSTRATION, INCLUDING ANY AVOIDANCE /MITIGATION PLAN, CLEARANCE LETTER, DETERMINATION OR OTHER CORRESPONDENCE RESOLVING THE POTENTIAL SPECIES IMPACT WITH THE APPLICABLE PUBLIC RESOURCE AGENCY. THE DEPARTMENT SHALL DENY THE PERMIT IF NO ACCEPTABLE MEANS IS AVAILABLE TO ELIMINATE, AVOID, OR MITIGATE THE IMPACT. IF AVOIDANCE OR MITIGATION METHODS PROPOSED BY THE APPLICANT ARE ACCEPTABLE TO THE DEPARTMENT AND APPLICABLE PUBLIC RESOURCE AGENCY, THOSE REQUIREMENTS SHALL BE INCLUDED AS CONDITIONS OF PERMIT APPROVAL. (211)

Response: The Department has considered this comment and declines to make the suggested amendment to this rulemaking. To the extent that the commentator suggests protections for threatened and endangered species and species of special concern, please see response to comment 253.

To the extent that the commentator suggests extending these provisions to all oil and gas operations, this is neither reasonable nor appropriate because Sections 78.15 and 78a.15 establish the well permit application process and are limited to activities associated with well construction and development. The requirements of these sections are designed to address the impacts within the limit of disturbance of the well site. Other activities associated with the oil and gas operations are regulated through various other provisions in Chapters 78 and 78a, or other laws implemented by the Department.

259. Comment: §78a.15(d) We continue to support the PNDI policy and agency efforts to identify and protect species. It is not uncommon for well pads and gathering lines to just skirt core habitat areas. While we don't particularly endorse being right on the edge of a core habitat area, it is better than a pad or gathering line set right in the middle of a core habitat location so critical to maintaining the healthy environment in which we live. (170)

Response: The Department acknowledges the comment.

260. Comment: The provisions outlined in this section are already regulated under 25 PA Code, Chapters 102 and 105. Adding these requirements into Chapter 78a is duplicative and unnecessary. Additionally, should a PNDI receipt indicate potential impact to a threatened or endangered species, the respective wildlife agency approval letter should suffice in lieu of submitting a minimization, avoidance, or mitigation plan to this Department. This Department does not have the qualified expertise nor the statutory authority to judge the merits of such a plan. For the purpose of this section, a verification of an approved plan from the appropriate wildlife or natural resource agency is all that is warranted. As such, the commentator recommends modifications to this subsection in order to eliminate redundancy and clarify the obligation of applicants:

“(d) The applicant shall utilize the Pennsylvania Natural Diversity Inventory (PNDI) to identify the presence or absence of a State or Federal threatened or endangered species where the proposed well site or access road is located and shall provide proof of notification, consultation and, if found warranted, a mitigation plan with the applicable resource agency regarding the screening for the presence of such species and their critical habitat in the well permit application. An applicant's submission of proof of notification, consultation and where appropriate a mitigation plan concludes the information required to be submitted to the Department pursuant to subsection (b).”(199)

Response: Chapter 102 and 105 may not apply. To the extent that 102 is duplicative – the Department added §§ 78.15(e) and 78a.15(e) to address those circumstances. The Department disagrees that the suggested language is necessary and appropriate. This section specifies that a demonstration may be made by submitting a clearance letter from the applicable public resource agency.

261. Comment: **78a.15(e) – Exemption** - In 2015, PADEP proposed to exempt applicants from the new requirement to demonstrate water protection (§ 78a.15(b.1)) and to ensure threatened and endangered species are protected (§ 78a.15(d)) if the applicant has obtained an Erosion and

Sediment Control Permit Application under 25 Pa. Code § 102.5 and complies with 25 Pa. Code § 102.6(a)(2).

We do not support the proposed exemption under § 78a.15(e), because, existing regulations at Pa. Code § 102.6(a)(2) do not incorporate the changes we have recommended to the proposed regulatory language in § 78a.15(b)(1) and § 78a.15(d).

Permits issued under Chapter 102 are issued as General Permits under an Erosion and Sediment Control General Permit (ESCGP), specifically permit number ESCGP-2 (and formerly ESCGP-1). Many permit applications are not subject to detailed technical review. As a result, many projects that are operating under a ESCGP-1 or ESCGP -2 permit are operating in violation of permit requirements for erosion and sediment control and stormwater management. Since permits issued under § 102 are currently failing to meet the requirements of Chapter 102 for erosion and sediment control and stormwater management, it would be inappropriate to assume that adequate consultation has occurred for purposes of a well permit simply because general permit coverage under Chapter 102 has been obtained. General permit coverage under ESCGP-2 provides no assurance that permit requirements have been met.

We recommend that PADEP the applicant be required demonstrate that existing uses and designations of water quality will be protected. Any measures proposed to ensure that protection should be included as conditions in the final permit, and if protection cannot be sufficiently guaranteed, the permit should be denied. This lack of effective stormwater and erosion and sediment controls will be prolonged by this two year grandfathering.

We recommend that § 78a.15(e) be deleted in its entirety. (182, 211)

Response: The department disagrees with the commentator's recommendation and characterization of the Chapter 102 permit review process.

262. Comment: In the Robinson Township decision (Robinson Twp. et al v. Commonwealth, 83 A.3d 901 (PA 2013)) the Supreme Court enjoined the application of section 3215(c). The Commentator asserts that the Department lacks the authority to implement 3215(c) in its entirety. The Commentator contends that Section 78.15(f) should be stricken. (210)

Response: The public resource impact screening process in Sections 78.15(f)-(g) and 78a.15(f)-(g) is needed because the Department has an obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Moreover, the Department shares responsibility for the protection of natural resources with other Commonwealth agencies and municipalities that also have trustee duties under Article I, Section 27 of the Pennsylvania Constitution, as well as federal agencies. To meet these constitutional and statutory obligations, Sections 78.15 and 78a.15 establish a process for the Department to identify, consider and protect public resources from the potential impacts of a proposed well and to coordinate with applicable public resource agencies.

Public resource consideration has been a required component of the well permit application process since the Oil and Gas Act was first enacted in 1984. The provisions in this final-form rulemaking are needed to provide a clear process for identifying potentially impacted public resources, notifying applicable public resource agencies, soliciting any recommended mitigation measures and supplying the Department with sufficient information to determine

whether permit conditions are necessary to avoid a potentially harmful impact to public resources.

If the limit of disturbance associated with a proposed oil or gas well site is located within a certain distance of a listed public resource as provided in Sections 78.15(f)(1) and 78a.15(f)(1), the well permit operator must provide additional information in the well permit application and notify applicable public resource agencies thirty days prior to submitting the well permit application. Under Sections 78.15(f)(2) and 78a.15(f)(2), the public resource agencies have thirty days to provide written comments to the Department and the applicant on the functions and uses of the public resource and any recommended mitigation measures. The applicant is then afforded an opportunity to provide a response to those comments. The Department then evaluates the potential impacts and assesses the need for conditions in the well permit using the criteria in Sections 78.15(g) and 78a.15(g). Section 78.15(g) and 78a.15(g) are added to this rulemaking to provide needed clarity regarding implementation of these obligations and to comply with Section 3215(e) of the 2012 Oil and Gas Act, which specifically directs the Environmental Quality Board to develop such criteria by regulation.

The right of the people of Pennsylvania to clean air, pure water, and the preservation of the natural, scenic, historic and esthetic values of the environment as expressly provided by Article I, Section 27 of the Pennsylvania Constitution are fundamental to the quality of life of the people of Pennsylvania. Additionally, public natural resources held in trust by the Commonwealth for the benefit of the people are a major economic contributor to Pennsylvania through tourism, outdoor fish and game sports, and recreation. The public resource impact screening provisions in this rulemaking provide needed clarity and clear standards for the Department to carry out its trustee obligations in administering the 2012 Oil and Gas Act program and will ensure the continued availability and benefits of these public resources throughout the Commonwealth.

Despite the Department's duties and obligations as described above, industry commentators argued that the Department does not have the statutory authority to promulgate regulations regarding public resources under Sections 78.15(f)-(g) and 78a.15(f)-(g) because the Pennsylvania Supreme Court enjoined Sections 3215(c) and (e) in *Robinson Twp. v. Commonwealth*, 83 A.3d 901 (Pa. 2013) (*Robinson Twp.*). The Department asserts that Sections 3215(c) and (e) were not enjoined or otherwise invalidated by *Robinson Twp.* and that neither the plurality nor the concurring opinions in *Robinson Twp.* read in their totality overturn the public resource protection requirements as part of the well permitting process. Additionally, as of the date of the finalization of this document, this issue is being litigated in Commonwealth Court. *See Pennsylvania Independent Oil & Gas Association v. Commonwealth* (321 M.D. 2015). The Department's Answer reflecting its interpretation of *Robinson Twp.* will be filed before Commonwealth Court by January 30, 2016."

The Pennsylvania Supreme Court's decision in *Robinson Twp.* invalidated Sections 3215(b)(4), 3215(d), 3303 and 3304 of the 2012 Oil and Gas Act as unconstitutional. As for Sections 3215(c) and 3215(e), the Court held: "Sections 3215(c) and (e) . . . are not severable to the extent that these provisions implement or enforce those Sections of [the 2012 Oil and Gas Act] which we have found invalid and in this respect, their application or enforcement is also enjoined." *Id.* at 1000 (emphasis added).

Sections 3215(b), 3215(d), 3303 and 3304 of the 2012 Oil and Gas Act address protection of surface water quality; comment and appeal rights of municipalities and storage operators; preemption of local ordinances; and uniformity of local ordinances, respectively. Section

3215(c) is a separate, independent, free-standing provision that does not implement or enforce these invalidated provisions. Rather, Section 3215(c) requires the Department to consider the impacts of a proposed well on “public resources” including, but not limited to, publicly owned parks, forests, game lands and wildlife areas; national and state scenic rivers; national natural landmarks; habitats of threatened and endangered species and other critical communities; historical and archeological sites; and sources used for public drinking supplies.

Section 3215(e) of the 2012 Oil and Gas Act operates in tandem with Section 3215(c). Under Section 3215(e), the Environmental Quality Board is directed to develop regulations to establish criteria for the Department to consider when conditioning well permits based on impacts to public resources identified under Section 3215(c).

The Department believes that Sections 3215(c) and 3215(e) do not implement or enforce Sections 3215(b), 3215(d), 3303 or 3304 of the 2012 Oil and Gas Act and, therefore, remain valid and enforceable.

For these reasons, in addition to the authority discussed above, the Department retains a specific statutory obligation to protect public resources under Sections 3215(c) and (e) of the 2012 Oil and Gas Act.

However, even if those paragraphs were invalidated as some commentators assert the provision under the prior law enacted in 1984 mandating protection of public resources would then remain in effect. *See* 58 P.S. § 601.205(c). Thus, the Environmental Quality Board has authority under either the 2012 revisions to the law or the prior provision enacted in 1984 to promulgate regulations for the consideration of impacts to protect public resources when issuing an oil or gas well permit.

Additionally, other provisions of the 2012 Oil and Gas Act also support the requirements in Sections 78.15 and 78a.15 of this final-form rulemaking. The General Assembly recognized the constitutional obligation to protect public resources in Section 3202 of the 2012 Oil and Gas Act, which provides that the purpose of the act is to “[p]rotect the natural resources, environmental rights and values secured by the Constitution of Pennsylvania.” 58 Pa.C.S. § 3203. Under Section 3274 of the 2012 Oil and Gas Act, the Environmental Quality Board has the authority to promulgate regulations necessary to implement the statute. The public resource protection provisions in Sections 78.15 and 78a.15 provide a reasonable and appropriate process for the Department to implement the constitutional and statutory requirements discussed above.

Further, the General Assembly has enacted several other statutes that provide the Department with the broad power and duty to protect public natural resources consistent with the mandates of Article I, Section 27 of the Pennsylvania Constitution, including the Clean Streams Law, the Solid Waste Management Act, the Dam Safety and Encroachment Act, the Pennsylvania Land Recycling and Environmental Remediation Standards Act and the Administrative Code of 1929. These statutes also provide authority for this rulemaking.

Additionally, the General Assembly has enacted statutes that provide authority for other Commonwealth agencies to protect public natural resources, and the Department must coordinate with those agencies to fulfill its constitutional and statutory duties to protect public natural resources. The public resource protection provisions included in the Chapter 78 and Chapter 78a rulemaking facilitate the Department’s compliance with this obligation.

Finally, the public screening requirements provided in this rulemaking establish a standardized and transparent process for the Department to identify, consider and to protect public resources from the impacts of a proposed well and to coordinate with other public resource agencies with constitutional and statutory duties to conserve and maintain these resources, in a manner that demonstrates compliance with Article I, Section 27 under the most recent court decisions interpreting the 1973 *Payne v. Kassab*, 312 A.2d 86 (Pa. Cmwlth. 1973) three-part test.

- 263.** Comment: The authority for the EQB or department to engage in rulemaking on the subject of conditioning well permits based on their association with identified public resources has been enjoined by the Supreme Court and may not go forward.

Sections 3215(b) through (e) of Act 13 have been invalidated on constitutional grounds. Accordingly, they may not serve as the basis for developing regulations purporting to address or effect the prescriptions of those statutory sections in the context of oil and gas development. See *Robinson Township v. Commonwealth of Pennsylvania*, 83 A3d 901 (Pa. Dec. 19, 2013).

With respect to Sections 3215(b)(4) and (d) the Robinson Court found them to be unconstitutional. The Court then found them to not be severable from otherwise valid provisions on the grounds that the otherwise valid provisions were then rendered incomplete because in the absence of the invalid provisions, the provisions that might otherwise have been valid were incapable of being executed in accordance with the intent of the legislature. In the opinion in *Robinson*, the Court held with respect to Sections 3215(c) and (e) as follows:

Moreover, insofar as Sections 3215 (c) and (e) are part of the Section 3215 (b) decisional process, these provisions as well are incomplete and incapable of execution in accordance with legislative intent. Application of Section 3215 (c) and (e) is, therefore, also enjoined.

Robinson, 83 A3d 901 at 999. In the concurring opinion Justice Baer stated:

Given that I would strike Section 3215 (b)(4) and (d), I further agree with the lead opinion that the entirety of subsection (b), as well as subsections (c) and (e) would be “incapable of execution” and must be enjoined.

Robinson, 83 A3d 901 at 1009. Accordingly, the newly proposed regulations, which rely in whole or in part upon the authority of the enjoined statutory Sections - namely: 3215(b), (c), (d), and (e), are also invalid and enjoined.

The adoption and implementation of the proposed regulations like the enjoined statutory provisions upon which they rely - cannot now be effected as the legislature intended as they too are missing a key component or components. Accordingly, they must be removed from the ANFR regulatory proposal or otherwise disapproved. (252)

Response: Please see response to comment 262. The Department disagrees with the Commentator interpretation of *Robinson Twp. v. Commonwealth*, 83 A.3d 901 (Pa. 2013).

The Department has an obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management

Act and other statutes. Moreover, the Department shares responsibility for the protection of natural resources with other Commonwealth agencies and municipalities that also have trustee duties under Article I, Section 27 of the Pennsylvania Constitution, as well as federal agencies. To meet these constitutional and statutory obligations, Sections 78.15 and 78a.15 establish a process for the Department to identify, consider and protect public resources from the potential impacts of a proposed well and to coordinate with applicable public resource agencies.

- 264. Comment: § 78a.15(f) - What is the definition of a Public Resource? What constitutes an impact? Are existing location exempt or would this include existing well sites? (187)**

Response: Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking includes a list of public resources that trigger the public resource impact screening process. The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c) of the 2012 Oil and Gas Act, the Department has the obligation to consider the impacts of a proposed well on public resources “including, but not limited to” certain enumerated resources when making a determination on a well permit. Accordingly, the Department has the authority to expand the list of public resources to include public resources similar to those listed.

Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking include the public resources listed in 3215(c). Based on comments received, common areas of a school’s property or playground and wellhead protection areas were added because these resources are similar in nature to those included in Section 3215(c). Playgrounds and school common areas are frequently used by the public for recreation, similar to parks. Wellhead protection areas are associated with sources used for public drinking supplies, another listed resource. In further response to comments, wellhead protection areas have been clarified by including a cross reference to 25 Pa. Code §109.713 and limiting the areas to those classified as zones 1 and 2. Additionally, definitions for the terms “common areas of a school’s property” and “playground” have been added.

Notwithstanding the enumeration of specific public resources in the regulations, the Department will consider the potential impacts to other public resources identified during the permitting process.

To the extent the commentator questions what constitutes an impact, §§ 78.15(f)(2)-(3) outline the process for coordinating with public resource agencies and the information that a well permit applicant must include in the well permit application to address potential impacts. The purpose of these sections is to identify the public resources that may be impacted by well drilling and to outline a process to ensure the Department has sufficient information to evaluate whether permit conditions are necessary to prevent a probable harmful impact to the functions and uses of those public resources using the criteria in §§ 78.15(g) and 78a.15(g). Accordingly, within the context of these provisions an impact is a probable harmful impact when the proposed activity could affect the functions and uses of

the public resource.

Section 78.15(f) and 78a.15(f) specify that this public resource consideration is required as part of each well permit application. For that reason, this public resource consideration applies prospectively to all future well permit applications.

- 265.** Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to prevent the harm sought to be avoided. (201)

Response: To the extent that the commentator suggests that the regulatory analysis form was deficient, please see responses to comments 2301 through 2335.

- 266.** Comment: Section 78.15 Application Requirements: The commentator is very heartened to see that the natural gas industry will be required to consult with the Pennsylvania Natural Heritage Program as well as be required to notify about the impacts to public lands, natural landmarks, historic properties and schools. While it is not as encompassing or as protective as it should be, it is a start and these regulations need to be approved quickly to afford some type of Endangered Species and public land protection. (168)

Response: The Department acknowledges the comment. Please note that under the existing well permit permitting program the Department considers impacts to public resources and well permit applicants must demonstrate no impacts to threatened or endangered species.

- 267.** Comment: The DEP failed to properly balance the cost of permit conditions to protect public resources against the benefits of these provisions. In an attempt to demonstrate how the benefits of the new consultation and mitigation provisions outweigh the costs, the DEP simply compared the cost of consulting a database and a field site visit to the “permanent loss of a public resource.” (RAF 18) Such a comparison is very misleading. That analysis assumes every impact results in a total loss of a public resource or endangered species, which is a facially unreasonable assumption, and assumes there are no costs beyond the search of a database and field visit. Yet when estimating the costs of the public resource provisions, the DEP fails to include even these costs and assumes that consultation costs are zero. (RAF 19) Experience with current consultation requirement indicates that there will be considerable expense in industry personnel time, expert consultants needed for surveys, and project delays in receiving resource agency responses – all well beyond a simple field visit. In its April 14, 2014 comments, the Independent Regulatory Review Commission “strongly encourage[d] EQB to consult with both conventional and unconventional operators and their associations so that all parties can gain an understanding of what will be required, when it will be required, and what it will cost to comply with the rulemaking.” Neither EQB nor PADEP consulted with Commentator to discuss the costs associated with the proposed rulemaking or this ANFR.

The commenter believes the costs associated with the proposed amendments to ANFR Section 78a.15 will be orders of magnitude higher than the PADEP estimate for the proposed rulemaking provided to IRRC, even without considering mitigation. DEP plainly acknowledges that it has included no estimate of mitigation costs, which precludes full analysis of the provision by PADEP, the Independent Regulatory Review Commission, and interested stakeholders. Even under the existing, less expansive, requirements individual operators have experienced mitigation costs in the hundreds of thousands of dollars. The Department’s amendments to Section 78a.15 in its proposed rulemaking would result in a significant increase in mitigation costs for operators,

and the changes proposed in the ANFR to Section 78a.15 will result in even more mitigation costs. (210)

Response: The Department conducted a comprehensive analysis of the final rule and it is presented in the regulatory analysis form prepared for the final form rulemaking. Please see the Department's responses to the questions in the regulatory analysis form for the final form rulemaking.

- 268.** Comment: §78a.15(f)(1) proposes distances for limits of disturbance of the well site from specified public resources. This is inconsistent with §3215(c) of Act 13 that lists distances for wells, and not well sites. It is recommended that this section be changed to be consistent with the statute. (193)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

The distances to certain public resources identified in Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking are consistent with those used by the Department to consider public resources in well application forms since the oil and gas permitting program was established under the 1984 Oil and Gas Act. The Department has found these distances to be effective for purposes of identifying and considering potential impacts to public resources. However, given the increased size of well sites constructed when enhanced development techniques such as hydraulic fracturing are used, Sections 78.15(f)(1) and 78a.15(f)(2) require these distances to be measured from the limit of disturbance of the well site rather than from the well itself, as was the prior practice, because the potential for impact to public resources arises from all of the activities associated with development and operation of the well. Sections 78.15(f)(1) and 78a.15(f)(1) provide clarity and predictability regarding the implementation of and compliance with this statutory provision. For conventional operations this change will have little to no practical effect given the relatively small size of these conventional sites.

- 269.** Comment: §78a.15(f) and (g). Application requirements/limit of disturbance -This subsection requires the operator proposing to construct a well in a location that may impact a public resource to notify the public resource agency and DEP. The term "public resource" is undefined in §78a.1, but the operator is referred to a number of instances, including a limit of disturbance that will impact other critical communities, a location within 200 feet of common areas on a school's property or a playground (both terms undefined and not previously proposed; new in this ANFR), and within an area designated as a wellhead protection area as part of an approved wellhead protection plan (also undefined and not previously proposed; new in this ANFR). The operator is to notify the public resource agency of the limit of disturbance, provide identification of the public resource, come up with a description of the functions and uses of the public resource, and a description of measures to be taken to avoid or mitigate impacts.

In subsection (f)(1) a series of public resources and proposed distances on limits of disturbance of the well site are listed. This list is not consistent with §3215(c) of Act 13. Habitats of rare and endangered flora and fauna are not included. And, (f)(1)(vii) and (viii) relating to common areas

on a school's property or a playground, and area designated as a wellhead protection area as part of an approved wellhead protection plan are not included under §3215(c). This creep of authority is problematic in that the terms “common areas on a school's property,” “playground,” and “wellhead protection area” are not defined, and therefore the potential impact of these provisions cannot be adequately assessed, nor has DEP provided any Regulatory Impact Analysis to describe and assess the impacts of including these newly proposed provisions. Also a wellhead protection plan consists of zones where certain protections are to be provided, which is not acknowledged. It is recommended that the list of public resources in §78.15(f) be limited to, and consistent with, those provided in §3215(c) of Act 13. (193)

Response: Please see response to comment 264 and 265.

The Department interprets “Habitats of rare and endangered flora and fauna” to be threatened and endangered species. “Threatened and endangered species” is a defined term in §§ 78.1 and § 78a.1 and those species are addressed in §§ 78.15(d) and 78a.15(d).

Regarding the comment about a regulatory impacts analysis, please see the Regulatory Analysis Form for the final form rulemaking.

270. Comment: This section talks about distances from water sources and 1,000 feet is mentioned. Keep gas drilling at least 1,000 feet from private water wells and allow for up to 2 years or more to report changes in private water and public water by landowners and owners and make gas companies/gas drilling liable for water impacts from 1 mile away from water wells...and this includes oil drilling, too. (3)

Response: To the extent that the commentator suggests a greater setback for private water wells, the provisions in this rulemaking, in §§ 78.15(f) and 78a.15(f), are not setbacks. The distances in these provisions define an area that requires coordination with public resource agencies and additional consideration during the permit review process in accordance with the Department’s constitutional and statutory obligations to protect public resources. These provisions do not prohibit drilling activities within these defined areas.

In contrast, under Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly expressly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent, the commentator suggests that the General Assembly should extend these setbacks from certain facilities, such as schools, nursing homes or day care facilities, that change should be made through an amendment to the 2012 Oil and Gas Act, and is beyond the authority of the EQB in this rulemaking.

Section 3218(a) requires well operators who affect public or private water by pollution or diminution caused by drilling, alteration or operations activities to restore or replace the affected water supply with an alternate source of water adequate in quality and quantity for the purposes served. Section 3218(b) specifies that a landowner may notify the Department if suffering from pollution or diminution and request an investigation. There are no timeframes or distance limitations associated with these requirements. If a water supply owner makes a water supply complaint to the Department and the Department determines that the water supply was affected by drilling, alteration or operations activities, the operator is responsible to restore or the water supply regardless of when the activities took

place and how far away those activities occurred from the water supply. These are statutory requirements that are not a part of this rulemaking. Statutory requirements may not be amended by regulation.

- 271.** Comment: The scope of protections for Public Resources must be expanded. As stated above, the lack of cumulative analysis, comprehensive protection of public health and the environment as environmental rights, the allowance of harm rather than avoidance of harm is leading to the steady loss of quality and quantity of public resources. The nominal setbacks and standards that are included will not provide needed protection for public resources. (182)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

The distances to certain public resources identified in Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking are consistent with those used by the Department to consider public resources in well application forms since the oil and gas permitting program was established under the 1984 Oil and Gas Act. The Department has found these distances to be effective for purposes of identifying and considering potential impacts to public resources. However, given the increased size of well sites constructed when enhanced development techniques such as hydraulic fracturing are used, Sections 78.15(f)(1) and 78a.15(f)(2) require these distances to be measured from the limit of disturbance of the well site rather than from the well itself, as was the prior practice. For conventional operations this change will have little to no practical effect given the relatively small size of these conventional sites.

The provisions in this rulemaking, in §§ 78.15(f) and 78a.15(f), are not setbacks. The distances in these provisions define an area that requires coordination with public resource agencies and additional consideration during the permit review process. These provisions do not prohibit drilling activities within these defined areas.

In Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent, the commentator suggests that the General Assembly should extend these setbacks from certain facilities, such as schools, nursing homes or day care facilities, that change should be made through an amendment to the 2012 Oil and Gas Act.

Under Section 3215(c) of the 2012 Oil and Gas Act, the Department has the obligation to consider the impacts of a proposed well on public resources “including, but not limited to” certain enumerated resources when making a determination on a well permit. Accordingly, the Department has the authority to include other public resources similar to those listed.

Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking include the public resources listed in 3215(c). Based on comments received, common areas of a school’s property or

playground and well head protection areas were added because these resources are similar in nature to the other listed resources. Playgrounds and school common areas are frequently used by the public for recreation, similar to parks. Wellhead protection areas are associated with sources used for public drinking supplies, another listed resource. In further response to comments, wellhead protection areas have been clarified by including a cross reference to 25 Pa. Code §109.713 and limiting the areas to those classified as zones 1 and 2. Additionally, definitions for the terms “common areas of a school’s property” and “playground” have been added.

Notwithstanding the enumeration of specific public resources in the regulations, the Department will consider the potential impacts to other public resources identified during the permitting process.

To the extent the commentator suggests that additional protections are needed, the Department has developed a comprehensive regulatory scheme, in Chapters 78 and 78a as well as the other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, to regulate oil and gas development activities to ensure protection of public health, safety and the environment. The purpose of these provisions is to identify, consider and protect public resources.

See also response to comment 2413.

- 272.** Comment: 78a.15(f) – Impacts to Public resources - In 2013, the EQB proposed a process for PADEP to consider the impacts to public resources when making a determination on a well permit. In 2015, PADEP proposed a revision of § 78a.15(f) that establishes a 30-day timeframe for applicable jurisdictional agencies to provide comment on projects within certain distances of certain public resources.

We support the proposal to provide public resource agencies with an opportunity comment on any proposed well permit application to ensure public resources are protected. We appreciate PADEP’s agreement to extend the comment period from 15 days (proposed in 2013) to 30 days. However, we remain concerned that the proposed regulation is limited to a well site’s impact, and does not consider the entire area that may be impacted by an Oil and Gas Operation (e.g. pipeline corridors, roads, and staging areas, waste handling areas, surface production facilities, etc.). We recommend the defined term “Oil and Gas Operation” be used to encompass all impacts from newly constructed operations and expansions to existing operations.

Additionally, we remain concerned the potential impact radius proposed around public resources is too small, and the list of public resources is incomplete. We make specific recommendations (in the redline below) for expanding the list of public resources and the impact radius. We recommend the addition of other public natural resources entitled to protection under Article 1, Section 27, of the Pennsylvania Constitution. We also recommend notice to the government of each locality in which the resources are located.

The Applicant should be required to adopt the mitigation measures proposed by the public resource agency or propose measures that are more protective.

We recommend the following proposed revision to § 78a.15(f).

(f) An applicant proposing to CONSTRUCT A WELL-SITE NEW OIL AND GAS OPERATION OR EXPAND AN EXISTING OIL AND GAS OPERATION [drill a well] at

a location THAT MAY IMPACT A PUBLIC RESOURCE AS PROVIDED [listed] in paragraph (1) shall notify the applicable PUBLIC resource agency AND THE LOCAL GOVERNMENT WHERE THE RESOURCE IS LOCATED, if any, in accordance with paragraph (2). THE APPLICANT SHALL ALSO and provide the information in paragraph (3) to the Department in the well permit application.

(1) This subsection applies if ~~the proposed [surface location]~~ LIMIT OF DISTURBANCE ANY PORTION OF THE FOOTPRINT of the well SITE A NEW OIL AND GAS OPERATION OR EXPANSION OF AN EXISTING OIL AND GAS OPERATION is located:

(i) In or within ~~200-feet~~ ½ MILE (2,640 FEET) of a publicly owned park, forest, game land or wildlife area.

(ii) In, WITHIN, or within VIEW OF the corridor of a State or National WILD OR scenic river.

(iii) Within ~~200-feet~~ ¼ MILE (1,320 FEET) of a National natural landmark.

(iv) In a location that will impact other critical communities. [For the purposes of this section, other critical communities means special concern species.] FOR THE PURPOSES OF THIS SECTION, OTHER CRITICAL COMMUNITIES MEANS SPECIAL CONCERN SPECIES, HIGH QUALITY OR EXCEPTIONAL VALUE WATERS, NATIONAL RECREATIONAL AREAS, OR LANDS WITHIN THE BOUNDARIES OF THE NATIONAL WILDLIFE REFUGE SYSTEM, THE NATIONAL SYSTEM OF TRAILS, OR THE NATIONAL WILDERNESS PRESERVATION SYSTEM.

(v) Within ~~200-feet~~ ¼ MILE (1,320 FEET) of a historical or archeological site listed on the Federal or State list of historic places.

(vi) [In the case of an unconventional well, w] Within ~~1,000~~ 4,000 feet of a water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor, OR A STORM DRAIN THAT DISCHARGES TO WITHIN 4,000 OF ANY OF THE ABOVE.

(vii) WITHIN ~~200- FEET~~ 1 MILE (5,280 FEET) OF COMMON AREAS ON A SCHOOL'S PROPERTY OR A PLAYGROUND.

(viii) WITHIN ¼ MILE (1,320 FEET) OF AN AREA DESIGNATED AS A WELLHEAD PROTECTION AREA AS PART OF AN APPROVED WELLHEAD PROTECTION PLAN.

(2) The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1)[, if any], AND THE LOCAL GOVERNMENT WHERE THE RESOURCE IS LOCATED. The applicant shall forward by certified mail a copy of the plat identifying the proposed [location of the well, well site and access road] ~~LIMIT OF DISTURBANCE OF THE WELL SITE~~ THE FOOTPRINT OF THE NEW OIL AND GAS OPERATION OR EXPANSION TO AN EXISTING OIL AND GAS OPERATION and information in paragraph (3) to the public resource agency AND THE LOCAL GOVERNMENT WHERE THE RESOURCE IS LOCATED at least [15] 30 days

prior to submitting ~~its well permit~~ ANY APPLICATION TO CONDUCT AN OIL AND GAS OPERATION application to the Department. The applicant shall submit proof of notification with the well permit application. From the date of notification, the public resource agency AND THE LOCAL GOVERNMENT WHERE THE RESOURCE IS LOCATED has [15] 30 days to provide written comments to the Department and the applicant on the functions and uses of the public resource and the measures, if any, that the public resource agency OR THE LOCAL GOVERNMENT recommends the Department consider to avoid or minimize probable harmful impacts to the public resource where the ~~well, well site and access road~~ NEW OR EXPANDED OIL AND GAS OPERATION is located. The applicant ~~may~~ MUST provide a response to the Department to the comments ADOPTING THE MITIGATION MEASURES PROPOSED BY THE PUBLIC RESOURCE AGENCY OR LOCAL GOVERNMENT OR PROPOSE MEASURES THAT ARE MORE PROTECTIVE.

(3) AFTER THE 30 DAY COMMENT PERIOD IS COMPLETE, the applicant shall include the following information ~~in the well permit application~~ on forms provided by the Department AND SUBMIT THE FORMS TO THE DEPARTMENT:

(i) An identification of the public resource.

(ii) A description of the functions and uses of the public resource.

(iii) A description of the measures proposed to be taken to avoid or mitigate impacts, if any.

(iv) PROOF EACH PUBLIC RESOURCE AGENCY AND THE LOCAL GOVERNMENT WHERE THE RESOURCE IS LOCATED WAS NOTIFIED AND PROVIDED 30 DAYS TO COMMENT.

(v) A COPY OF COMMENTS FROM THE PUBLIC RESOURCE AGENCY AND THE LOCAL GOVERNMENT, AND A WRITTEN RESPONSE TO EACH COMMENT, EITHER ACCEPTING THE PROPOSED MITIGATION MEASURES AND INCLUDING THOSE MEASURES IN THE APPLICATION OR PROPOSING MEASURES THAT ARE MORE PROTECTIVE IN THE APPLICATION.

(4) The information required in paragraph (3) shall ~~be limited to the discrete area~~ INCLUDE ANY PORTION of the public resource that may be affected by the ~~well, well site and access road~~ NEW OR EXPANDED OIL AND GAS OPERATION. (211)

Response: Sections 78.15 and 78a.15 establish the well permit application process and are limited to activities associated with drilling activities. The requirements of these sections are designed to address the impacts within the limit of disturbance of the well site. Other activities associated with the oil and gas operations are regulated through various other provisions in Chapters 78 and 78a, or other laws implemented by the Department.

Please see response to comment 271.

To the extent that the commentator suggests requiring notice to the municipality, Section 3211(b) of the 2012 Oil and Gas Act contains notification requirements for municipalities. Accordingly, the Department disagrees that additional municipal notification is necessary here unless the municipality is the public resource agency.

To the extent that the commentator recommends that applicants be required to adopt the mitigation measures proposed by the public resource agency or propose measures that are more protective, the Department's authority to condition permits based on impacts to public resources is limited by Section 3215(e). That section specifies that the Department must use the criteria established in § 78.15(g) and 78a.15(g) for conditioning permits based on public resource impacts. Additionally Section 3215(e) specifies that the Department has the burden of proving upon appeal that the conditions were necessary to protect against a probable harmful impact of the public resources. For this reason, the Department cannot require applicable to simply adopt the public resources agency's recommendations. Instead, the Department must consider the impacts and assess, using the criteria in §§ 78.15(g) and 78a.15(g), whether permit conditions are necessary.

273. Comment: The Public Resource Provision is also a standard which is vague and undefined and could have devastating implications to the industry depending upon the interpretation. (150)

Response: The provisions in this section are reasonable and appropriate. The Department added definitions for "common area of a school's property," "limit of disturbance," "other critical communities," "Pennsylvania Natural Diversity Inventory," "PNDI receipt," "playground," "public resource agency," and "Threatened and endangered species". These new definitions were added to provide clarify and establish a known universe of public resources that are identifiable. The purpose of these public resource provisions is to largely codify how the Department currently implements its obligations to consider public resources as part of the well permit application process through the well permit applicable forms, the PNDI policy, and "Coordination with Public Resources" form. Additionally, The Department has the obligation to protect the Commonwealth's public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. The Department seeks to implement those constitutional and statutory obligations through the process established in §§ 78.15(d)-(g) and 78a.15(d)-(g)

274. Comment: Concerning definition of a Public Resource (section 78.15, 78.57): Setbacks from schools, playgrounds, parks, hospitals, nursing homes, day care centers, churches and other community gathering places, although improved in the proposed rulemaking, is still insufficient for protecting public health and welfare. Even 300 yards is insufficient. Setbacks ideally should be one mile from public use site boundaries to the boundary of well sites, storage facilities and infrastructure which can rupture, explode or leak. (155)

Response: The provisions in this rulemaking, in §§ 78.15(f) and 78a.15(f), are not setbacks. The distances in these provisions define an area that requires coordination with public resource agencies and additional consideration during the permit review process. These provisions do not prohibit drilling activities within these defined areas.

In Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent, the commentator suggests that the General Assembly should extend these setbacks from certain facilities, such as

schools, nursing homes or day care facilities, that change should be made through an amendment to the 2012 Oil and Gas Act.

Please note that the Department amended §§ 78.15(f)(1) and 78a.15(f)(1) in the final rulemaking and added common areas of a school’s property or playground and well head protection areas to the list of resources in §§ 78.15(f)(1) that trigger additional consideration during the permit review process. Common areas of a school’s property and playground were added to this list because these resources are similar in nature to the other listed public resources. Playgrounds and school common areas are frequently used by the public for recreation, similar to parks. Additionally, definitions for the terms “common areas of a school’s property” and “playground” have been added.

Notwithstanding the enumeration of specific public resources in the regulations, the Department will consider the potential impacts to other public resources identified during the permitting process.

To the extent the commentator is recommending the expansion of the list of public resources to be considered in Sections 78.15(f) and 78a.15(f) of the final rulemaking, please see the response to comment 264 regarding the rationale for the public resources included in these lists. Hospitals, day care centers, nursing homes or other similar facilities have not been added to the list of public resources included in Sections 78.15(f)(1) and 78a.15(f)(1). These types of facilities are not similar in nature as the other listed public resources (i.e., parks, forest, game lands, wildlife areas, species of special concern, scenic rivers, natural landmarks, historical or archeological sites, and public drinking water supplies).

To the extent the commentator suggests that additional protections are needed for these facilities, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

To the extent that the commentator suggest that §§ 78.15(f) and 78a.15(f) should apply to all oil and gas operations, please see response to comment 272.

To the extent that the commentator suggests that the distances in §§ 78.15(f)(1) and 78a.15(f)(1) should be increased, please see response to comment 268.

To the extent that the commentator suggests that additional protections are needed to address spills and releases or protect water quality, the final rulemaking contains numerous provisions to address these concerns, including those relating to control and disposal planning, temporary storage, waste management, onsite processing, and secondary containment. Additionally §§ 78.66 and 78a.66 specifically address reporting and remediating spills and releases.

275. Comment: When it comes to drilling near schools, a minimum one-mile setback on drilling near schools & playgrounds is a must. To allow drilling just over 200 feet from where children learn and play is simply unconscionable. Allowing drilling so near to such sites is flirting with disaster. (368)

Response: Please see response to comment 274.

276. Comment: § 78a.15 (f)(1)(i through viii) -The Commentator suggested in past comments that all distance requirements under Section 78a.15 (f) be stipulated as distances from the edge of the well pad and not “the proposed surface location of the well .”The “surface location” language has been replaced in this version of the regulations with "limit of disturbance of the well site.” While we have concerns about the definition of “well site”, as outlined above, we appreciate this change in language, and believe it to be more protective than our original recommendation.(200)

Response: The Department acknowledges the comment.

277. Comment: 78a.15(f) (Public Resources). The distance between a well site to a public resource that will require notification and assessment should be much larger than the proposed areas in this subsection. Additionally, it should be stated that DEP can deny a permit based on the findings. The protection of public resources require more than notification, they require the avoidance of diminishment, depletion, degradation or harm. None of these distances are large enough to encompass the area that is routinely impacted by oil and gas well sites. Impacts from oil and gas development have far-reaching effects and need greater distances to avoid harm.

The Maryland Department of Public Health concluded that there is a “high likelihood” that unconventional natural gas development will cause air pollution at levels that will impact public health. The Maryland Department of the Environment and the Maryland Department of Health and Mental Hygiene concluded from scientific literature that the closer a gas well is to drinking water wells, the more likely it is to be impaired. An EPA report concludes that fluids produced by hydraulic fracturing contain the original fracturing fluids and natural pollutants from the target oil and gas formation such as radionuclides and heavy metals. Another study found that chemicals from hydraulic fracturing fluids and methane can spread into the aquifer from various natural and drilling and fracturing-related forces. (182)

Response: To the extent that the Commentator suggests increasing the distances provided in §§ 78.15(f)(1) and 78a.15(f)(1), please see response to comment 268.

To the extent that the Commentator suggests that this provision include language that gives the Department the authority to deny a well permit based on our findings, the Department has discretion to deny a permit to drill or operate a well in only limited circumstances outlined in Section 3211(e.1) of the 2012 Oil and Gas Act. This would require a legislative change.

To the extent that the commentator suggests adding certain waters of the Commonwealth to the list of public resources, §§ 78.15(f) and 78a.15(f) have not been expanded because protection of these waters is achieved through other provisions in Chapters 78 and 78a, as well as implementation of other water permitting programs administered by the Department through other environmental laws and regulations. Specifically, § 78.15(b.1) and 78a.15(b.1) require additional consideration during the well permit application review process for any watercourse or any high quality or exceptional value body of water or any wetland one acre or greater in size. Importantly, Chapters 78 and 78a contain many provisions, including the requirements related to erosion and sediment control, surface water discharges, waste management, onsite processing, protection of water supplies, water management planning, secondary containment, well construction, and site restoration that ensure protection of waters of the Commonwealth.

To the extent that the Commentator suggests that more protections are needed in this rulemaking to ensure protection of water supplies during drilling activities, Chapter 78 and

Chapter 78a currently contain requirements that ensure that the well will be constructed and operated to prevent gas, oil, brine, completion and servicing fluids, and other fluids or materials from entering fresh groundwater. These robust well construction standards are coupled with the mechanical integrity assessment requirements which require quarterly inspections to ensure the continued integrity of operating wells. Well construction standards are outside the scope of this rulemaking.

To the extent that the commentator suggests generally that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment. The purpose of these provisions is to identify, consider and protect public resources.

To the extent that the commentator suggests additional protection is needed to address air quality issues, air emissions from oil and gas operations are regulated by the Department under Article III. Changes to Article III are beyond the scope of this rulemaking.

278. Comment: The proposed provision does not take into account the need for an accelerated permit, leaving §78a.16 essentially superfluous. That provision states: “[I]n cases of hardship, an operator may request an accelerated review of a well permit application.” If the proposed unconventional well for which an operator was seeking a permit was near or on a public resource, the new provision would appear to preclude the operator from being able to request an accelerated permit review. This only further highlights the uncertainty in process management presented by the proposed 78a.15(f). Waiting the additional days to notify the Public Resource Agencies added with allowing sufficient time for response from the DEP, and the operator on the Public Resource Agency's comments (without any timeline for coming to a definitive resolve on ambiguous mitigation plan standards) is cumbersome and unnecessary. We ask the DEP to revise the proposed language to include a practical method for addressing accelerated permits, for defining what types of avoidance or minimization of harm, and for establishing an affirmative response standard and timeline for when responses are due back from the DEP. (383)

Response: The requirements in this section have no impact on an applicant’s ability to request an accelerated review. This section requires applicants to notify public resources agencies at least 30 days prior to submitting its well permit application to the Department and gives the public resources agency 30 days after receipt of this notification to provide comments. It is the applicant’s responsibility to ensure that this process is timely. To the extent that immediate action is necessary to protect public health or safety, to control pollution or effect other environmental or safety measures, and extraordinary circumstances, the Department will make the appropriate considerations on a case-by-case while ensuring compliance with the Department’s constitutional and statutory obligations to protect public resources.

279. Comment: § 78.15 & § 78a.15 Application Requirements

Act 13 has provided well-defined and carefully detailed obligations to provide notice of well permit applications to landowners, water purveyors, municipalities, gas storage operators and owners of coal interests. Act 13 has also delineated precise opportunities for certain categories of persons to comment or object to permit applications before such permits are issued by the Department. See Sections 3212 (a) and 3212.1.

- Section 3211 (b.1) of Act 13 prescribes notification requirements with respect to operators having to provide well site plats to various entities in advance of submitting a permit application. These are a surface landowner where the well is located, the municipality in which the well will be drilled, municipalities within 3,000 feet of a well bore, municipalities adjacent to the well, surface landowners and water purveyors whose water supplies are within either 1,000 feet (conventional) or 3,000 feet (unconventional) of the vertical well bore, gas storage operators, and coal seam owners. Section 3211 (b.2) requires proof of these notifications to be sent to the Department with the permit application.
- Sections 3212(a) and (b) provides coal operators and surface owners (who do not also own the subsurface) with the right to file objections to permit locations based upon alleged violations of Section 3215 which section includes and addresses well location restrictions and all of the public resources well location restriction enabling provisions.
- Through Sections 3212(a) and 3212.1, only two entities or categories of persons are authorized, in the course of the well permit application process, to either “object” to or “comment” on well permit applications.
 - The first category is surface landowners on whose tract the well will be located. They are authorized to object to such permits with the objection grounds limited to alleged violations of Section 3215 restrictions or that information in the application is untrue in any material respect.
 - The second category is the municipality where the tract of land upon which the unconventional well will be drilled is located. Only municipalities of this type or description in the group of municipalities required to be notified pursuant to Section 3211 (b) are authorized to “comment.”

This deliberate and comprehensive legislative scheme makes it quite clear that NO OTHER NOTICE OR COMMENT AVENUES are to be created by rulemaking. Each of these notice and comment opportunities has been provided by Act 13, which also requires permit issuance within 45 days of the permit application submission.

Without any legislative direction or authority, the Department is proposing an entirely new well permit application process that would require additional notice to new entities, offering additional opportunities to comment on well permit applications, and would impose this new pre- permit process on all well permit applicants under the guise of protecting impacts to “public resources.”

This proposal is clearly designed to increase the time and cost of each well permit issued in this Commonwealth, which becomes even more apparent by the complete absence of criteria by which the permit reviewer would judge the hundreds of comments to be invited for his or her consideration. The legislative authority for this new pre-permit process is entirely lacking. (213)

Response: The Department disagrees with the commentator’s interpretation of the 2012 Oil and Gas Act. The Department has an obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. The Department has a specific statutory obligation to consider the impacts to public resources under Section 3215(c) of the 2012 Oil and Gas Act. Under Section 3274 of the 2012 Oil and Gas Act, the Department has the

authority to promulgate regulations necessary to implement that statute. It is reasonable and appropriate for the Department to establish a process or notifying public resources agencies and providing those public resources agencies the opportunity to submit comments to the Department on functions and uses of the applicable public resources and any mitigation measures recommended to avoid, minimize or otherwise mitigate probably harmful impacts. Public resources agencies have particular knowledge and expertise concerning the public resources they are responsible for managing. The Department meets its constitutional and statutory obligations to consider public resources through this process. Importantly, these provisions are designed to provide the Department with as much information as necessary to enable the Department to conduct its evaluation of the potential impacts, to review the information in the context of the criteria outlined in Section 78.15(g) and 78a.15(g) and determine whether permit conditions are necessary to prevent a probable harmful impact.

- 280.** Comment: In conjunction with Section 3215(c) of Act 13, which directs the department to consider the impact of a proposed well on public resources, Section 3215(e) grants to the Environmental Quality Board (EQB) authority to “develop by regulation criteria for the department to utilize for conditioning a well permit based on its impact to the public resources identified in subsection (c) and for ensuring optimal development of oil and gas resources and respecting property rights of oil and gas owners.”

Despite this limited grant of rulemaking authority, the department attempts to create - by way of a newly added definition - a novel form of a government or quasi-government entity called a “Public Resource Agency,” to then summarily designate thousands of new things in Section 78a.15(f)(i - vii) as “public resources” eligible for protection by coercive government measures, and to imbue both itself and these new agencies or entities with rights and authority that have not been authorized by the legislature. (252)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

- 281.** Comment: The revision to section 78.15 addressing public resources provides an opportunity to better protect the most vulnerable Pennsylvanians. Thus, I was pleased to see the agency’s addition of schools and playgrounds to the definition of what is considered a public resource, especially since some companies have pursued leasing South Fayette School District property. Given the accidents like explosions and fires that have occurred, and documented water and air pollution from oil and gas infrastructure, it is imperative that we exercise the utmost precaution when making considerations that would allow this industrial operation to operate near areas that are especially vulnerable to environmental hazards. Approval for drilling near such locations warrants added protections as well as the opportunity for the potentially impacted community to weigh in.

However, the 200 foot proximity which triggers the additional requirements and consideration for a public resource is woefully inadequate. To improve protection DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from

the property boundary of any school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, and day care centers. (229)

Response: See responses to comments 264 and 274.

- 282.** Comment: § 78a.15 (f) What is the definition of a Public Resource? What constitutes an impact? Are existing locations exempt or would this include existing well sites? If a new well were to be permitted on an existing well pad site, the well should be “grandfathered” and should not have to meet the setback requirements of the new, proposed Chapter 78 regulations.

Setbacks and permit conditions should not be different than those required for a member of the general public or resident of the Commonwealth. (209)

Response: Please see response to comment 264.

- 283.** Comment: §78a.15(f)(1). The Department should further expand the Public Resources list contained in Section 78.15(f)(1) of the Proposed Rulemaking to include additional resources that have been designated through agency review and public processes, including but not limited to High Quality or Exceptional Value Waters, Exceptional Value Wetlands, and Wild and Wilderness Trout Streams. The revised language in §78a.15(g) reinforces this need. (225)

Response: Please see response to comment 264.

To the extent that the commentator suggests adding certain waters of the Commonwealth to the list of public resources, the Department declines to add these resources to §§ 78.15(f) and 78a.15 because the Department ensures protection of waters of the Commonwealth as that term is defined in §§ 78.1 and 78a.1 through other provisions in Chapters 78 and 78a and by implementation of the comprehensive regulatory program for well development activities under the authority of the laws administered by the Department. Specifically, § 78.15(b.1) and 78a.15(b.1) requires additional consideration during the well permit application review process for any watercourse or any high quality or exceptional value body of water or any wetland one acre or greater in size. Importantly, Chapters 78 and 78a contain many provisions, including the waste management provisions, waste processing, protection of water supplies, water management planning, secondary containment requirements, well construction requirements that ensure protection of waters of the Commonwealth.

- 284.** Comment: Public resources in the area of drilling should be thoroughly identified. This includes natural resources and human resources, such as schools, playgrounds, day care facilities and health facilities. Minimum setbacks of one mile for such resources need to be established. (183, 290, 291, 292, 4870-4914)

Response: Please see responses to comments 264 and 274.

- 285.** Comment: 78.15(f) – I recommend that hospitals be added to the list of public resources. In case of an emergency, there would be many people to evacuate. The DEP needs to have the authority to create a condition regarding hospitals. Hospitals need to be included with the notification zone. (278)

Response: Please see the response to comment 264.

To the extent that the commentator suggests that hospital be added to the list of public resources, please see response to comment 274.

To the extent the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

To the extent that the Commentator suggests that additional requirements are needed for emergency response, other sections of the regulatory framework for well development activities address obligations related to emergencies, including Section 78a.55(i), which contains comprehensive emergency response requirements for unconventional well sites.

- 286.** Comment: There is drilling and fracking happening very close to my elementary and high schools (Mountain View School District). Research shows that when a pipeline explodes, the high consequence area can include a radius over a thousand feet from the explosion. Please improve *Definition of public resource (Section 78.15, 78.57, 78a.15, 78.57a)* (198)

Response: Please see response to comment 272.

To the extent that the commentator suggests extending the setback for schools, please see the response to comment 274.

- 287.** Comment: Better define public resources and provide meaningful protections! (Section 78.15, 78.57, 78a.15, 78.57a) (84)

Response: Please see responses to comments 262, 264, 271 and 277.

- 288.** Comment: 78a.15 Application Requirements: This section creates an open-ended process, which lacks clear standards for implementation, and does not properly balance the cost of permit conditions to protect public resources against the benefits of these provisions. Commentator concurs with comments on this section and believes that the cost of consultation and mitigation will be orders of magnitude higher than the Department estimates and must be reconsidered.(199)

Response: The Department has the obligation to protect the Commonwealth’s public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. The Department seeks to implement those constitutional and statutory obligations through the process established in §§ 78.15 and 78a.15. When the Department conditions a permit based on impacts to public resources it will consider the criteria outlined in §§ 78.15(g) and 78a.15(g).

The Department considered the costs. Please see the Department’s response to question 19 of the regulatory analysis form for the final form rulemaking.

- 289.** Comment: This section should also cover “resources” that involve other susceptible populations, such as hospitals, day care centers, and nursing homes. The setbacks should also be increased to 0.5 mile. (230)

Response: Please see responses to comments 264 and 274.

290. Comment: Add to this section 500 feet from any school property, high density population area, and/or facility in which elderly, young, or ill reside. (161)

Response: Please see response to comments 271 and 274.

291. Comment: §78.15 and §78a.15. Application requirements.

We strongly support the inclusion of school property and playgrounds in the list of public resources (§78.15(f)(1)(vi) and §78a.15(f)(1)(vi)), which would require well permit applicants to submit additional information; establish limits of disturbance; and allow DEP to impose additional permit conditions. This change signals a recognition by DEP of the health and safety risks posed to children and others who spend time on school property. DEP should extend this limit of disturbance to locations where other equally vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as DEP's designated environmental justice areas).

In general, the closer to the source of pollution (e.g., a well or tank), the greater the potential for exposure to contaminants and the likelihood of impacts to health. However, even if DEP decides to require permit applicants to adopt protective measures (e.g., sound barriers or emissions controls), the distance restriction of 200 feet is too small to substantially reduce impacts.

To improve protection from pollution, noise, and light and safety from traffic, accidents, and explosions, §78.15(f)(1)(vi) and §78a.15(f)(1)(vi) should be amended to extend the limit of disturbance from school property to one mile and to include wells, waste storage facilities, access roads, tanks, and any other infrastructure and equipment used in oil and gas activities.

While there is no scientifically definitive distance at which air contaminants cause health impacts, nor an established distance beyond which they would never occur, recent studies suggest the potential for contamination at much longer distances than the requirements included in the draft regulations. A study by the City of Ft. Worth on air quality in gas fields found concentrations of formaldehyde above state regulatory standards 750 feet beyond the site's fenceline. Air modeling conducted in Pennsylvania showed nitrogen oxide above state regulatory standards up to one mile of the Barto Compressor Station in Lycoming County.

A Colorado School of Public Health study of air emissions around gas well operations found that residents living less than a half mile away are at higher risk of respiratory, neurological, and other health impacts and have a higher lifetime risk for cancer, based on exposure to pollutants, than those who live at farther distances. Most recently, a study by researchers at Oregon State University and the University of Cincinnati found that residents living closest to active oil and gas wells had an exposure risk for polycyclic aromatic hydrocarbons (known to cause cancer and respiratory problems) higher than the United States Environmental Protection Agency's acceptable risk level, and that risk estimates decreased 30 percent at distances more than one mile away.

Similarly, Earthworks' survey of health impacts in Pennsylvania found that as the distance from gas wells and facilities decreased, the percentage of respondents reporting specific health symptoms (such as throat irritation and headaches) increased. In addition, recent research underscores the role that landscape, wind and weather conditions, and the stage of production play in determining the intensity of exposure and, in particular, how both episodic events (e.g., compressor station blowdowns) and repeated exposure can worsen health effects. (188)

Response: Please see responses to comments 271, 272, 274, 277, and 289.

- 292.** Comment: Better define public resources and provide meaningful protections! (Section 78.15, 78.57, 78a.15, 78.57a) These wells should not be near any of our populace, their homes, their fields of agriculture, barns, pastures. This is a reckless industry that wants to hit and run, make their millions and leave us to die of cancers. That is what is being allowed due to the injustice of this state not properly regulating this industry. Some will die now, some down the road but our state is being tainted with death for corporate profits. (84)

Response: The Department has the obligation to protect the Commonwealth’s public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. The Department seeks to implement those constitutional and statutory obligations through the process established in §§ 78.15 and 78a.15.

Please see responses to comments 272, 274 and 277.

- 293.** Comment: The inclusion of “common areas” of schools or playgrounds will overwhelm the PADEP with the effort to identify such locations. Adding such criteria unfairly burdens the oil and gas industry and companies such as ours because of the sheer number of “common areas” that potentially could be identified and corresponding mitigation measures that could be proposed. The use of this language lacks the transparency of the resources listed in Act 13, which include state and national resources. Such is notable because of the precise listing procedures for inclusion of these resources and/or documented geographic boundaries, in the case of parks, forests, and game lands. (113)

Response: Please see response to comment 264.

To provide clarity, the Department included definitions for “Common area of a school’s property” and “playgrounds”. These provisions require well permit applicants to identify when these areas are within 200 feet of the well site. In accordance with Section 3211 of the 2012 Oil and Gas Act, well permit applicants are required to identify water supplies within 3,000 feet of an unconventional well and 1,000 feet of a conventional well. Accordingly, since the well permit applicant already conducts a survey of the area around the well, the burden in identifying common areas of a school’s property or playground should not pose a great burden. Additionally, the Department of Education maintains a database of schools at <http://www.edna.ed.state.pa.us/Screens/wfSearchEntity.aspx>.

- 294.** Comment: 78a.15(f): Avoid Potential Confusion from Ambiguous Terms and Accommodate Accelerated Permit Needs. The provision currently states that if a proposed well site may impact a public resource, the operator must notify the Public Resource Agency no less than 30 days prior to submitting its permit application to the DEP, and that the DEP, based on its determination that a “probable harmful impact,” may include well permit conditions to avoid or mitigate those impacts. This language is of critical concern for the regulated community. This language provides no guidance on how the DEP will define “probable harmful impact” and, given the subjective nature of this narrative standard, the proposed language will likely result in unintentionally creating inconsistent enforcement throughout the DEP regions and inconsistent interpretations among operators. This language makes implementing this provision in an effective and responsible manner difficult at best. We are hopeful that the DEP will work with industry,

citizens, and the Public Resource Agencies to create a set of defined steps for managing this new process in a manner that meets the shared goal of balancing the prevention of potential environmental harm and optimizing development of Pennsylvania's natural resources. (383)

Response: In the final-form rulemaking, the Department included new and amended definitions for the terms used in §§ 78.15(f) and 78a.15(f), including “Common area of a school’s property,” “Limit of Disturbance,” “Other critical communities,” “Pennsylvania Natural Diversity Inventory—PNDI,” “PNDI Receipt,” “Playground,” “Public resources agency.” The purpose of these new and amended definitions is to provide clarity and objectivity to process outlined in these sections. Additionally, a cross reference to 25 Pa. Code §109.713 has been made for wellhead protection areas in §§ 78.15(f)(vii) and 78a.15(f)(vii) and this section specifies that this section only applies in Zone I and Zone II.

The Department also amended §§ 78.15(g) and 78a.15(g) to clarify the criteria it will consider when making a decision to condition on a well permit based on the impacts to public resources.

Further, the Department is committed to working with stakeholders to develop a workable approach to implement this section.

295. Comment: § 78.15.(f) and (g). Application requirements/limit of disturbance - This subsection requires the operator proposing to construct a well in a location that may impact a public resource to notify the public resource agency and DEP. The term “public resource” is undefined, but the operator is referred to a number of instances, including a limit of disturbance that will impact other critical communities, a location within 200 feet of common areas on a school's property or a playground, and within an area designated as a wellhead protection area as part of an approved wellhead protection plan. The operator is to notify the public resource agency of the limit of disturbance, provide identification of the public resource, come up with a description of the functions and uses of the public resource, and a description of measures to be taken to avoid or mitigate impacts.

In subsection (f)(l) a series of public resources and proposed distances on limits of disturbance of the well site are listed. This list is not consistent with §3215(c) of Act 13. Habitats of rare and endangered flora and fauna are not included. And, (f)(l)(vii) and (viii) relating to common areas on a school's property or a playground, and area designated as a wellhead protection area as part of an approved wellhead protection plan are not included under §3215(c). This creep of authority is problematic in that a playground is not defined and a wellhead protection plan consists of zones where certain protections are to be provided, which is not acknowledged. It is recommended that the list of public resources in § 15(f) be limited to, and consistent with, those provided in §3215(c) of Act 13.

§ 15(f)(1) proposes distances for limits of disturbance of the well site from specified public resources. This is inconsistent with §3215(c) of Act 13 that lists distances for wells, and not well sites. It is recommended that this section be changed to be consistent with the statute. (334)

Response: Please see response to comment 268.

296. Comment: DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells and longer setbacks of waste storage from school buildings, parks, and playgrounds. This is a positive step, but is not sufficiently protective. While there is no scientifically established “safe setback” beyond which there aren't health risks from oil

and gas development, the distances in the regulations (200 feet and 300 yards) are far too little to offer even limited protection.

To improve protection from pollution, noise, and light and safety from traffic, accidents, and explosions, DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as those living in environmental justice areas where exiting pollution is already too high and people do not have the means to move away). (354)

Response: Please see responses to comments 272, 274, 277 and 289.

- 297.** Comment: The distances in the regulations to various public resources (200 feet and 300 yards) are far too little to offer even limited protection from pollution, noise, and light and safety from traffic, accidents, and explosions. Industry, not DEP, should bear the burden of proof on any protective permit conditions.

DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as environmental justice areas). (2848-3056)

Response: Please see response to comments 274 and 277.

To the extent the Commentator suggests that the public resource consideration extend to other oil and gas development activities, please see comment 272.

- 298.** Comment: Adequate setbacks from unconventional development are not delineated in the new rules. Setbacks from homes, schools, universities, and hospitals should be at least one mile from the well site pad, impoundments, lateral well trajectories, compressor stations and pipelines. This would minimize potential exposure to and adverse health effects from air and noise pollution originating from diesel trucks, heavy equipment, compressors, drilling/hydrofracturing, venting/flaring, explosions, frac sand, hydrogen sulfide, ozone, small particles, volatile organics, radon, and methane migration. It would also decrease the possibility of pollution of fresh drinking water sources from drilling activities, tracking, radioactivity and spills. (337)

Response: Please see responses to comments 274 and 277.

The Department has developed a comprehensive regulatory scheme, in Chapters 78 and 78a as well as the other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, to regulate oil and gas development activities to ensure protection of public health, safety and the environment. The purpose of these provisions is to identify, consider and protect public resources.

- 299.** Comment: A mandatory 1 mile setback of all new wells, waste storage facilities and any other downstream infrastructure for the production or transport of dirty fracked gas from schools, playgrounds, day cares and hospitals to protect the health of our children and at risk populations. (299)

Response: Please see responses to comments 272, 274 and 289.

300. Comment: Please keep the distance of a mile between fracking and schools. I fear that not enough is known about this. Yes, they say that fracking has gone on for years, but not at this level. With increased earthquakes in Oklahoma and Texas, we should keep the wells away from schools and I think Pennsylvania should declare a moratorium on all drilling till more information is known about this. Better to be cautious than to put our children at risk. Thank you. (141)

Response: See response to comment 2040 regarding moratorium on fracking. Please see response to comment 274.

301. Comment: With the recent explosion of a fracking facility hit by lightning in Denton, Texas we have a perfect example why there must be adequate setback from schools and all people. This is not a hypothetical, this really happened. Please take heed and assure that the public is not endangered by fracking facilities, not from explosions nor from polluted groundwater or other environmental hazards. Thank you for considering my comment. (138)

Response: Please see response to comment 285.

302. Comment: We were told at the onset of drilling that well sites would not need to be closer than one mile apart due to horizontal drilling but have seen that has not been the case. We see several well pads along with other infrastructure within a mile, compounding the negative effects of those who live, work or play in those areas. (144)

Response: To the extent that the commentator suggests that additional protections are needed, the Department has developed a comprehensive regulatory scheme, in Chapters 78, Chapter 78a and the other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, to regulate well development activities to ensure protection of public health, safety and the environment.

303. Comment: §78a.15(f)(1) We support the language change to limit of disturbance. We fully support language changes from the surface location and well head to limit of disturbance as being familiar with the daily impacts of well pads, they are not limited to either the well head or the surface location. Spills and blowouts when uncontrolled have traveled beyond the well head and surface location. Adequate and sufficient attention needs to be given to that fact. (170)

Response: The Department acknowledges this comment.

304. Comment: All the setbacks in the public resource section are too small to provide the protections needed and must be expanded to include more sensitive resources, such as private water wells and all our streams and rivers. Current science supports greater protections; see the compendium from Physicians, Scientists and Engineers for Healthy Energy:
http://www.psehealthyenergy.org/site/show_list/id/15

The standard must be to AVOID negative impacts, not mitigate them. The most effective way to protect public resources is to prevent harm in the first instance. (111)

Response: Please see responses to comments 268 and 274.

305. Comment: Commentator strongly supports measuring from the limit of disturbance at a well site, rather than from the wellbore, when assessing proximity to unconventional natural gas

development. The impacts from natural gas development are not confined to the activities conducted at the wellbore. Equipment is located, and operations are conducted, within the limit of disturbance that present risks to human health. For instance, the limit of disturbance includes well pad access roads used by heavy trucks that cause sound, light, and air pollution, such as particulate matter. New York estimated that a single unconventional well can require as many 6,790 truck trips, 3,950 of which are made by heavy trucks. A school may abut an access road, but be located relatively far from the wellbore. The use of limit of disturbance is an acknowledgment that equipment such as tanks, separators, and pumps all create health risks and a population's proximity to these pollution sources must be taken into consideration in the permitting of an unconventional natural gas well.

To create additional clarity and certainty, commentator recommends that "limit of disturbance" be clearly defined as the boundary identified in the permit applicant's erosion and sediment control plan. (221)

Response: To add clarity, the Department added a definition of "limit of disturbance" in §§ 78.1 and 78a.1.

- 306.** Comment: Setbacks are too shallow as they stand. My residence is approximately 700 feet from an operation. It is a nuisance (noise, odors, dust, traffic) and I have evidence it diminished the market value of my home as indicated by an appraisal for refinancing. Pictures of the proximity of my property to the site were included in the appraisal report.

I cannot imagine living any closer than I do!

I cannot open my windows as I would like for the noise and dust are intrusive.

The oil and gas industry needs to be regulated as strictly as my septic system and now my manure management! (208)

Response: Please see responses to comments 268 and 274.

- 307.** Comment: I would like to urge you to establish setbacks from the wellhead to the nearest inhabited dwelling, of at least 1000 ft., unless a waiver has been obtained from that property owner. This will help reduce some noise levels, while also assisting with the dilution of emissions from the chemicals used in the fracking process, as well as from gas/diesel engines. (260)

Response: Please see responses to comments 268 and 274.

- 308.** Comment: Buffers for playgrounds, schools national parks etc. should be 1000 feet rather than 200 ft (160)

Response: Please see response to 268.

- 309.** Comment: The concept of safe distances is referenced both with respect to environmental features, such as wetlands and streams, and especially children. We believe that human exposures should be more broadly considered with respect to sensitive populations. Much of our research now focuses on those "most-at-risk" and we feel stronger and more precise language is required to identify specific populations that are frequently exposed to environmental risks that are more impacted because of developmental, gender or age sensitive conditions. (157)

Response: Please see response to comment 274.

To the extent that the commentator suggests that more protections are needed, the Department has developed a comprehensive regulatory scheme, in Chapter 78, Chapter 78a and the other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws to regulate well development activities to ensure protection of public health, safety and the environment.

- 310.** All the setbacks in the public resource section are too small to provide the protections needed and must be expanded to include more sensitive resources, such as private water wells and all our streams and rivers. Current science supports greater protections; see the compendium from Physicians, Scientists and Engineers for Healthy Energy:
http://www.psehealthyenergy.org/site/show_list/id/15 The standard must be to AVOID negative impacts, not mitigate them. The most effective way to protect public resources is to prevent harm in the first instance. (84)

Response: Please see response to comment 274.

- 311.** Improve protection from pollution, noise, light and safety from traffic, accidents, and explosions. DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property or residence, barn, pasture. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as environmental justice areas). (84)

Response: Please see responses to comments 271, 272, 274 and 289.

- 312.** Comment: (f)(1) Limit of Disturbance should be extended beyond 200 feet to prompt avoidance. Mitigation has been difficult, if not impossible in many of these areas of that require special consideration. (161)

Response: Please see response to comment 268.

- 313. Comment:** As noted above in the comment on the definition of “public resource agency”, the definition includes parties that are not public entities. Notification requirements and standing to file comments are being provided to them without justification. It is recommended that these provisions should only be provided to truly public agencies with defined legal jurisdictions.

Given the significant uncertainties in how public resources are described and how other critical communities are defined, impacts to locations considered to be other critical communities may be unknown to the operator. It seems unreasonable to have the operator identify the public resource, describe its uses and functions to the public resource agency, and develop avoidance or mitigation measures when the public resource agency is the entity that knows about the public resource. This requirement can put the operator in a difficult position. If, for example, the resource agency declares a species to be part of another other critical community, that species could be placed in PNDI without the opportunity for peer review or public input. That could trigger a series of unnecessary events that could be costly to the operator in terms of time and money, when in fact the protection may not be necessary or appropriate. And if the DEP conditions the permit based on the operator's description and the public resource agency's comments, the DEP may have to defend an appeal of the permit condition when a third party who might not be a public entity has information necessary to defend the appeal. (334)

Response: Please see response to comment 280.

- 314.** Comment: §78.15. (f) (1) lists the situations under which public resource agencies should be notified “if the limit of disturbance of the well site is located” within 200 feet of a publically owned park, forest, game land, or wildlife area, State or National scenic river, National natural landmark, historical or archeological site listed on the Federal or State list of historic places, or within 200 feet of common areas on a school's property or playground.

The DEP should require notification and not permit a well pad disturbance area to be within 1000 feet of the public recreation or historical properties listed, and should not allow a well pad or any structures associated with it within a mile of a school property, nursing home, or hospital, public or private. The citizens have a right to use the recreation facilities that their taxes have paid for without the disturbance and possible pollution that is caused by the construction or operation of a well. In addition, populations that are prone to health risks should not be subjected to the noise and possible pollution from the drilling and operation of a well. (377)

Response: Please responses to comments 271, 272, 274 and 289.

- 315.** Comment: § 78.15.(f) discusses impacts to public resources and a process for avoiding or minimizing those impacts. § 78.15(g) indicates that DEP will consider probable harmful impacts of the well, well site or access roads to public resources and consider conditions to the well permit to avoid or mitigate those impacts. Conditioning the well permit to address potential impacts of other activities at the well site and access road is not appropriate. There are other regulatory avenues under other statutes and regulations to avoid or mitigate those impacts. It is recommended that this section be revised accordingly.

§3215(e) of Act 13 requires the development by regulation criteria for the department to use for conditioning a well permit based on its impact to the public resources identified in subsection (c) and for ensuring optimal development of oil and gas resources and respecting property rights of oil and gas owners. The process proposed in § 15(f)(2) does not provide criteria as required by statute. The statements in § 78.15(g) indicating that DEP will consider impacts to the public resource functions and use, without providing any criteria for use by DEP or the operator, is not consistent with the legislative intent. Without criteria, it is questionable whether or not DEP is authorized to condition a well permit for activities related to public resource protection. It is strongly recommended that DEP develop such criteria and promulgate those criteria in regulation as required by Act 13. (334)

Response: Sections 78.15(g) and 78a.15(g) have been amended to clarify the criteria the Department will consider when deciding whether to condition an oil or gas well permit based on impacts to public resources.

- 316.** Comment: The 200-foot limit of disturbance distance for a publicly owned park, forest, game land or wildlife area, historical or archeological site and National natural landmark is too short to provide adequate protection to those important public resources. Noise and air pollution and the risk of significant impacts can be far reaching. We suggest this distance be amended to at least a mile for such public resources.

DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells and longer setbacks of waste storage from school buildings, parks,

and playgrounds. However, the 200-foot limit of disturbance for common areas on a school's property is far too small to offer even limited protection from health risks.

To improve protection from pollution, noise, and light, and safety from traffic, accidents, and explosions, DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the boundary of any school property. (384)

Response: Please see response to comment 268.

To the extent the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

317. Comment: Ohio had a one and a half mile evacuation zone during a well incident and studies have shown that the closer to wells the more negative impacts to health and quality of life. (144)

Response: Please see response to comment 285.

318. Require that all sites for drilling, compressor stations, etc. be at least two miles from public facilities such as schools, parks, playgrounds, libraries, government buildings, etc. In zoned communities, require that oil and gas operations be restricted to existing areas zoned industrial and not be placed within two miles of residential areas. (13)

Response: Please see responses to comments 271, 272 and 274.

319. Comment: 78a.15(f)(1)(vi)_Water supplies are being affected at much greater distances than 1000' feet. To accurately assess an area around a public resource that could be affected by an oil or gas well site, DEP should require a much greater area to be subject to notification and assessment, requiring mapping and analysis of the geologic properties and hydrologic connectivity of ground and surface water systems of the area. Distances from a well to water supplies should be based on this site specific information. Drinking water wells closer to drill sites (less than 1 km) are likely to be adversely affected by hydraulic fracturing. An EPA report concludes that fluids produced by hydraulic fracturing contain the original fracturing fluids and natural pollutants from the target oil and gas formation such as radionuclides and heavy metals. The report also found that because the fluids are generally stored on site in pits or tanks the accidental release of fracturing fluids can occur, resulting in groundwater contamination and soil contamination.

Contaminants can migrate very far if fractures or fissures are intersected and the distances are very specific to the geologic make up, making a "one size fits all" review area of 1000' ineffective and not supportable by available scientific evidence. Groundwater and surface water are connected as one system; groundwater moves through the subsurface, emerging to the surface over time, allowing for pollutants to migrate with the groundwater to water supplies. See comments above at [78a.15\(f.1.i.\)](#). An assessment should be done of the potential for impacts to an area defined by a mapping of underground fractures and fissures that can make migration of methane more likely, and of the natural subwatershed groundwater flows to assess where a pollution plume may move and where it may surface, rather than an arbitrary 1000' review area.

Areas that are prone to methane degassing naturally may be areas that are more likely impacted by the disturbances that accompany gas well drilling, fracking, and extraction. Aquifer tests have

found effects of drilling on aquifers for 4,300 feet from the gas well. The connectivity of ground and surface waters allows contamination from gas and oil operations to travel great distances over time (days, years, or centuries), even miles from the source of the pollution. Contaminants will move with groundwater flows laterally and down-gradient. The highly toxic properties of the fracturing chemicals used and the natural contaminants that are distributed by drilling and fracturing in the geologic formations pose long-lived health and environmental dangers. If it is found that the public resource will be inevitably impacted and the damage cannot be avoided or restored, the permit must be denied by DEP.

Contaminants, including methane, can migrate from gas and oil wells to shallow groundwater and then to surface water. Methane concentrations were 17 times higher on average in shallow wells that were within one kilometer of one or more gas wells than in wells without gas wells. Higher methane concentrations in shallow groundwater occur as a result of oil and gas well drilling and fracking and from legacy wells that have not been plugged. Methane in water wells and degassing to the surface endangers people due to the explosive properties and water quality effects; movement of methane into springs and streams can cause dead zones that are depleted of oxygen, resulting in severe aquatic life damages such as fish kills and extirpation of species.

Chemicals used in hydraulic fracturing and methane were found in water wells 1-3 km from Pennsylvania shale gas well sites. Researchers report that DEP concluded that methane had contaminated the aquifer that supplies water to at least three households located in a Susquehanna River watershed and cited the company for violating the law and regulations. Additional analysis by the researchers revealed 2-n-Butoxyethanol and glycols in one of the wells at nanogram per liter concentrations leading to the conclusion that the pollution was caused by drilling or fracking fluids from the nearby gas wells. (182)

Response: Please see response to comments 264 and 277.

- 320.** Comment: 78a.15(f)(1)(i)_DEP should change how it determines a setback that is protective of publicly owned park, forest, game land or wildlife area; the setback should be much greater and based on a site specific analysis. It is reported in a report examining potential state park impacts from gas well development that when hydraulic fracturing occurs in and around a state park, water quality and water quantity changes occur in groundwater and surface water in the area. If land within a park is hydrologically connected to land outside the park where a gas well is being developed, such as being part of a subwatershed, adverse impacts can travel substantial distances, far greater than 200'. Groundwater and surface water are connected as one system; groundwater moves through the subsurface, emerging to the surface over time. A groundwater contaminant plume will spread laterally and downgradient. The contaminated water will flow over time (days, years, or centuries) to the surface and can emerge within park boundaries if this hydrologic connection exists.

The high level of toxicity of the chemicals used in hydraulic fracturing and the relatively high concentration of these chemicals in fluids injected in hydraulic fracturing, poses a danger to human health and other living resources, affecting park resources and recreationists.

Wildlife and recreational impacts also can carry great distances, such as noise, lights, scenic view obstruction or degradation and other quality diminishment. DEP should not allow a well pad to be located upstream in a watershed or subwatershed of a park and a ten mile buffer between a well pad and the boundary of a park should be mandatory to minimize the impact on wildlife and recreationists.

DEP should establish setbacks based on environmental factors such as watersheds and hydrologic connectivity, not an arbitrary 200' to prevent park resource degradation. (182)

Response: Please see response to comments 268, 274 and 277.

- 321.** Comment: The Proposed 200' Setback is Inadequate and Should be at Minimum One-half Mile. Commentator is most concerned with protecting parks and public spaces – and those who visit them – from the harmful impacts of oil and gas production. Though each of Pennsylvania's 18 national parks has distinct borders, they are part of their surrounding landscapes. The air quality, water quality, water quantity and wildlife habitat of our parks can be seriously harmed by industrial development, including oil and gas drilling, on their borders. Additionally, the visitor's experience of these places is threatened by the noise, lights and pollution of industrial facilities, jeopardizing the robust tourist economies parks support. The need for setbacks from national parks and public lands is evident, and the proposed two hundred feet setback is simply not enough to protect the outstanding natural and cultural values, and the visitor experience at Pennsylvania's national parks and other public lands. Studies in Wyoming, Utah and Colorado have repeatedly shown that health risks from hydraulic fracturing activities are greatest for those living within a half-mile of wells. Health impacts, including cancer, were found to be higher in those living within a half-mile of wells, resulting from exposure to trimethylbenzenes, aliphatic hydrocarbons, xylenes, benzene, and other chemicals. Though these studies were conducted on residents, the same impacts should be considered for visitors to our national parks and public lands. The threats of the pollutants produced by oil and gas operations are too great to risk on those enjoying the outdoors – and supporting an existing tourism economy. With no doubt that harmful air impacts extend far beyond the 200-foot setback proposed in the Chapter 78 and 78a draft, the final regulations should require a setback of no less than one-half mile. Similarly, a 200-foot buffer fails to mitigate visual impacts. Depending on surrounding environmental conditions, well pads can be seen for miles. The problems are exacerbated at night, when pads are lit with bright floodlights that can be seen for miles. Where natural gas is flared off, the visual impacts – as well as air quality impacts - are even greater, both night and day. For tourists, nothing dampens a visit to a national park quite like the sight of industrial development on its borders, and increasing the setback from 200 feet to no less than one-half mile would help achieve a better balance between resource development and tourism. Finally, an increase in the setback of wells from national parks and other public lands would help mitigate other harmful results of the production of oil and natural gas, such as the increase in large truck traffic. The Pennsylvania DOT estimates that the average Marcellus well requires an average of 1,400 truck visits during the productive life of the well. These trucks also generate air quality and noise impacts, and also can cause major damage to rural roads and traffic problems for park visitors. The combined impacts created by the close proximity of oil and gas wells to national parks and park visitors are such that 200 feet simply is not sufficient.

In order to protect tourists, their experience, and the economies they support, Commentator recommends expanding the Pennsylvania setback requirement from national parks and public spaces from 200 feet to one-half mile. (175)

Response: Please see responses to comments 268 and 277.

- 322.** Comment: We are very appreciative of the efforts the Commonwealth is making to protect public resources where oil and gas development activities occur. We have a few comments on this section, organized by subsection.

§ 78a.15 (f)(1)(i) and § 78.15 (f)(1)(i) - We recommend the DEP add the following language (in bold italics), “in or within 200 feet of a publicly owned or administered park, forest, game land or wildlife area.” Adding “or administered” would address a subset of management situations in a variety of units and affiliated areas within the National Park System, as we explain in more detail below. We also recommend the notification requirements be greater than 200 feet. We recommend 1,000 feet as the notification distance from the edge of the well pad. At this distance there is a reasonable potential for subsurface impacts from gas migration associated with possible over-pressuring of the annulus, as well as potential surface impacts to natural sounds and night skies, wildlife, viewshed and other resources within National Park System units and affiliated areas.

We also recommend language clarifying that any property acquired and/or developed with federal grant assistance from the Land and Water Conservation Fund (LWCF) is subject to LWCF Act Section 6(£)(3) restrictions to outdoor recreation uses in perpetuity unless such uses are approved by the National Park Service pursuant to the LWCF post-completion regulations at 36 CFR 59.3. Each LWCF grant-assisted site is encumbered by a Section 6(£)(3) boundary identifying the property subject to these provisions. The LWCF 6(f)(3) restricted areas may or may not include all property within the formal boundary of the public outdoor recreation/park area in question. For the Commonwealth, the governor-appointed LWCF State Liaison Officer is Ms. Lauren Imgrund, of the Department of Conservation and Natural Resources (DCNR) whose responsibility is to ensure that all LWCF 6(±)(3) restricted property throughout the Commonwealth, including all state and local lands, are used for public outdoor recreation purposes pursuant to the Act and implementing regulations. DCNR can provide more information on LWCF funded areas within the Commonwealth subject to these restrictions. More information on LWCF funded lands is provided below. (200)

Response: Please see responses to comments 268 and 277.

To the extent that the commentator suggests language that clarifies that land acquired with grant assistance from the LWCF is subject to the LWCF Act, the Department declines to make this suggested change as it is not appropriate to restate such federal requirements in this rulemaking.

323. Comment: Application Requirements (§ 78.15 and § 78a.15) commenter believes the term “wildlife area” should be changed to “wild area” as defined in 17 PA § 27.4. Wild area definition and guidelines. The term “wildlife area” does not appear to be defined elsewhere in PA regulation and it is unclear to what specific land areas this term refers. (205)

Response: The Department has considered this comment and declines to make the suggested change to this rulemaking. The Department declines at this time to define this term. If the need for further clarification becomes apparent during implementation of this provision, the Department will develop guidance to address any identified issues.

324. Comment: **78a.15(f)(1)(ii) and 78.15(f)(1)(ii)** - Section 78.15(f)(1)(ii) references a “corridor” of a state or national scenic river. This term is not defined within the regulations and the subparagraph does not reference a separate law, rule or regulation for the definition of “corridor.” As a result it is unknown what the meaning of “corridor” is for purposes of this subparagraph and Chapter 78. The IRRC's comments also suggest that clarity could be improved by defining this term. *IRRC Comments* at pg. 7. (190)

Response: The Department declines to define the term at this time. The term “corridor of a state or federal national scenic river” is a term that is currently a component of the well

permit application process. As part of the current well permit application process applicants must identify whether the proposed well is within the corridor of state or national scenic river. This is a detailed process that requires looking at maps developed by the Department of Conservation and National Resources and the National Park Service. For these reasons, it is more appropriate to develop guidance in policy. Accordingly, to the extent that more guidance is needed beyond what is already provided in the well permit application materials, the Department will provide any needed guidance.

- 325.** § 78a.15 (f)(1)(ii) and § 78.15 (f)(1)(ii) - We recommend that the language be changed from “in or within the corridor of a state or national scenic river” to “in or within the corridor of a state designated scenic river or a unit of the National Wild and Scenic River System” to more accurately reflect the range of potential designations. (200)

Response: To the extent that the commentator suggests that clarity is needed relating to the term “corridor of a State or National scenic river”, please see response to comment 324.

- 326.** Comment: (78a.15(b.2)(f)(1)(ii)) The commentator recommends the Department provide a definition or additional clarifying language to the phrase “corridor of a state or national scenic river”. (210)

Response: Please see response to comment 324.

- 327.** Comment: 78a.15(f.1.ii.) Should be changed to: In, within, or within view of the corridor of a State or National Wild and Scenic River under the National Wild and Scenic Rivers Act or scenic or protected river under other special protection designations including Exceptional and High Quality Waters. (182)

Response: To the extent that the commentator suggests that clarity is needed relating to the term “corridor of a State or National scenic river”, please see response to comment 324.

To the extent that the commentator suggests additional public resources be added to the list in §§78.15(f)(1) and 78a.15(f)(1), please see comment 264.

- 328.** Comment: § 78a.15 (f)(1)(iii) and § 78.15 (f)(1)(iii) -National Natural Landmark -We recommend the notification distance be 1,000 feet from the edge of the well pad. As noted above, at this distance there is a reasonable potential for subsurface impacts from gas migration associated with possible over pressuring of the annulus, as well as potential surface impacts to natural sounds and night skies, wildlife, view sheds, and other resources. (200)

Response: Please see responses to comments 268 and 277.

- 329.** Comment: The DEP is defining and creating regulations regarding critical communities. Presently, there are two large diameter, high pressure gathering lines within our township which have been routed through the timber rattlesnake's habitat. I've been extremely concerned about that and that the fact that the public had no input in that permitting process. In fact, this area previously was the largest contiguous timber rattlesnake habitat in Pennsylvania. There has been so much disturbance in that area to accommodate energy that I am wondering how exactly our timber rattlesnakes are faring. Is that area still considered contiguous? Has their habitat been truly protected? What are the long term ramifications of destroying their dens? (278)

Response: To the extent that the commentator is inquiring about a particular project or project area, those comments are outside the scope of this regulation. To the extent that the commentator suggests that additional protections are needed in the pipeline permitting process, this rulemaking does not address pipeline permitting.

Sections 78.15(f) and 78a.15(f) provide a process for the Department to consider the impacts of a well, well site or access road on the listed public resources, including other critical communities as that term is defined in § 78.1. This process includes coordination with the applicable to public resource agencies to ensure that probable harmful impacts to those species are addressed during the permit review process.

330. Comment: In Section 78a.15(f) the Department originally proposed to equate “critical communities” with “special concern species.” We objected to this provision because, among other reasons, it “create[d] tremendous uncertainty about a permit applicant’s obligations with regard to an ever-changing and undefined list.” The Department has now proposed a definition of “other critical communities,” however the same problems remain and have been significantly compounded. The definition now proposed is so vague and general as to potentially encompass every plant and animal species on earth, except those listed as T&E species [“Plant and animal species not listed as threatened or endangered ... including...”]. Moreover the list of examples following the word “including” are equally vague using terms that are undefined in any law or regulation and are apparently open to evolving interpretation by anyone. To the extent the terms are intended to refer to certain species, areas, features, and/or communities on the Pennsylvania Natural Diversity Inventory (PNDI) database, such designations are not done by rulemaking, nor are they clearly defined there either. Accordingly, DEP is improperly seeking to create a binding regulatory requirement in excess of its statutory authority. Since permit applicants would be required to undertake extensive and expensive procedures, pursuant to Section 78a.15(f)(1)(iv), if a well site is “in a location that will impact other critical communities,” it is essential to know exactly what species, areas, features, and communities are covered and to be able to establish the locations of those species, areas, features and communities. The proposed definition fails to provide any meaningful details, guidance, or criteria and should be eliminated.

More fundamentally, the Department’s authority to regulate the potential impact on public resources derives from Section 3215(c) of Act 13. In fact, the term “other critical communities” is used in that subsection and nowhere else in Act 13, nor is it used in any other statute relied upon as authority for these regulations. However, in the Robinson Township decision (*Robinson Twp. et al v. Commonwealth*, 83 A.3d 901 (PA 2013)), the Supreme Court enjoined the application of Section 3215(c). Accordingly, the Department lacks the authority to regulate with regard to “other critical communities” specifically and lacks the legal authority to implement Section 3215(c) in its entirety. Section 78a.15(f) should be stricken.

Section 78a.15(g) replicates, in part, the language of Act 13 Section 3215(e) which recognizes the oil and gas owners’ property rights to develop the oil and gas resources. However, Section 3215(e) also requires the EQB to develop by regulation criteria for the DEP to utilize in the imposition of any permit conditions to protect public resources while respecting those property rights and ensuring optimal development of those resources. DEP has not proposed any such criteria. The rule thus fails to comply with Act 13, which requires that the EQB develop these criteria in this rulemaking.

Taken together, Section 78a.15(f) and the definition of “Other Critical Communities” exceed the Department’s legal authority as determined by the Supreme Court and provide a definition that

not only far exceeds any rational interpretation of legislative intent but is also so ambiguous and subjective as to be arbitrary and capricious. (210)

Response: To the extent that the commentator argues that the Department lacks authority for these provisions, please see response to comment 262.

The Department agrees that greater clarity is needed regarding the definition of “other critical communities” and has amended that definition in §§ 78.1 and 78a.1.

The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c)(4) of the 2012 Oil and Gas Act, the Department has a legal obligation when reviewing a well permit application to consider the impacts to public resources including “other critical communities.” The phrase “other critical communities” is defined in the final rulemaking to mean species of special concern identified through the Pennsylvania Natural Diversity Inventory (PNDI) consistent with the Department’s past practices and policies. Under Section 3274 of the 2012 Oil and Gas Act, the Environmental Quality Board has the authority to promulgate regulations necessary to implement the statute.

The Department’s well permit application materials and its “Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation,” Doc. No. 021-0200-001 establish a process that has been and continues to be in use by well permit applicants to identify and consider species of special concern. The final rulemaking codifies this process and is consistent with the Department’s long-standing use of PNDI to fulfill its responsibility to consider impacts on species of special concern when issuing permits under various environmental statutes.

In response to comments, the final rulemaking amends the definition of “other critical communities” to clarify that this term applies only to those species of special concern that appear on a PNDI receipt. Also in response to comments, the Department removed the provisions in the draft-final rulemaking relating to specific areas within the geographical area occupied by a threatened or endangered species and significant non-species resources. These changes were to ensure that the definition reflects the existing PNDI process.

The process for consideration of public resources in Sections 78.15 and 78a.15 makes appropriate use of information available in the PNDI database from the public resources agencies with the authority, knowledge, and expertise to identify and protect species of special concern. Sections 78.15(f) and 78a.15(f) outlines a reasonable and appropriate process that provides important information to the Department to evaluate potential impacts and to assess the need for additional conditions in the well permit using the criteria in Section 78.15(g) and 78a.15(g). This rulemaking is consistent with the Pennsylvania Constitution and applicable statutes and does provide reasonable and appropriate protections for public health and safety and the environment.

331. Comment: Presumably, one will be informed of the presence of these non-listed species and non-species resources by utilizing the Pennsylvania Natural Diversity Index (“PNDI”) database and obtaining a PNDI receipt with a hit for such non-listed species and non-species resources. PNDI, however, does not use the term “critical communities,” but when certain non-listed species come up in the PNDI database, a PNDI receipt indicates that “special concern” species may be impacted by the project. “Special concern” species, however, are not defined in any state or federal statute or regulation, and no agency or entity that populates the PNDI database utilizes a consistent or public standard or process for the categorization of such species. These decisions are made without public notice, input, rulemaking or peer review.

Thus the proposed list of “critical communities” to be newly protected through the creation of well permit conditions, pursuant to a new process that would have agencies other than PADEP create well permit obligations, cannot create certainty or predictability for those who would obtain well permits in Pennsylvania because the definition incorporates lists of species and non-species resources that can change without notice on a daily, weekly or monthly basis. And while the term “critical communities” is not defined in Act 13 or elsewhere, its meaning should be considered in the context in which it was used—alongside of “rare and endangered” flora and fauna. “Rare” and “endangered” are terms that do have definitions and a process for categorization by the Pennsylvania agencies tasked with the protection of species, such as the Department of Conservation and Natural Resource, the Pennsylvania Game Commission, and the Pennsylvania Fish and Boat Commission. But by protecting all non-listed species, and adding such categories as “tentatively undetermined” and “candidate” to its proposed definition, PADEP has departed far from the General Assembly’s use of the word “critical” communities in Act 13. The use of the term “critical” communities indicates that such communities are in dire need of protection, comparable to the status of threatened or endangered species. Threatened and endangered species, however, are only listed after thorough review, public notice and rulemaking procedures, and generally accepted scientific review. PADEP’s definition of “critical communities” would elevate all non-listed species, as well as various non-species resources, to levels of protection comparable to those for threatened or endangered species without any public input or science to justify such protection. Further, having inserted a definition of “critical habitat” (borrowed from the PNDI Policy) in subpart (2) of its proposed definition of “critical communities,” PADEP would read Act 13 as creating an obligation for PADEP to consider the “habitats” of “critical habitats.” The context and language of Act 13 Section 3215 (c)(4) simply do not support a definition of “critical communities” that would include either critical habitats or non-species resources, such as those listed in subparts (2) and (3) of the new definition in the draft final rules.

Request that the Department Clarify at what stage is the species to be considered “proposed”? The listing has multiple steps. Also the USFWS recently has proposed several species for listing then withdrawn that proposal. So the listing does not always turn into a listing.

Finally, Act 13 expressly requires EQB to develop criteria by regulation for PADEP to use if it imposes permit conditions based on impacts to any public resources, including habitats of critical communities. Such criteria must ensure the “optimal development of oil and gas resources” and respect “property rights of oil and gas owners.” The draft final rules, however, do not create any criteria for the PADEP to utilize in conditioning well permits to protect against harmful impacts to public resources, further compounding the uncertainties created by the proposed definition of “critical communities.” (232)

Response: Please see response to comment 330.

To the extent the commentator suggests that these provision provide public resources agencies the ability to create well permit conditions, please see response to comment 280.

To the extent the commentator suggests clarified criteria in §§ 78.15(g) and 78a.15(g), please see response to comment 315.

332. Comment: 78a.15(f) Threatened and Endangered Species - The proposed rule, with no definition for “Other Critical Communities” creates an overly broad and unworkable program for protection of threatened and endangered species.(232)

Response: The final rulemaking contains revised definitions for the terms “other critical communities” and “threatened and endangered species.”

333. Comment: The Commentator asserts that the Department’s authority to regulate the potential impact on public resources derives from Section 3215(c) of Act 13 of 2012 and that the Supreme Court enjoined application of that section. The Commentator contends that the term “other critical communities” is used in that subsection and nowhere else in Act 13 and that the term is not used in any other statute relied upon as authority for these regulations. The Commentator suggests that §78a.15(f) and the definition of “Other Critical Communities” exceed the Department’s legal authority as determined by the Supreme Court and provide a definition that not only far exceeds any rational interpretation of legislative intent but is also so ambiguous and subjective as to be arbitrary and capricious. (210)

Response: Please see responses to comments 262 and 330.

334. Comment: The direct and indirect costs of the new proposed standards are so high that they will discourage small, independent conventional oil and gas well operators from further development. First, because a small, independent conventional well operator does not have the expertise to determine the presence of a special concern species, the operator will be required to hire an expert on animals and plants to make that determination in almost every case. Second, should the expert conclude that the desired well site may impact “other critical communities,” the operator will have to make a choice between the costs of developing a mitigation plan and pursuing the permit and the cost of being deprived of the value of his/her minerals. Given the lack of guidance as to what an acceptable mitigation plan would look like, the cost to develop such a plan is unknown. Third, because the meaning of “other critical communities” is so uncertain, the risk of being found in violation of the regulation at some point in the future is high. (201)

Response: The Department disagrees that coordination with public resource agencies to consider impacts to other critical communities will impose an economic hardship on conventional oil and gas operators. These operators are currently required to identify the habitats of special concern species where the proposed well site or access road will be located and describe measures proposed to be taken to avoid or mitigate impacts to special concern species. The applicant must provide a PNDI receipt with the well permit application and, if a potential impact is identified, the applicant must notify the applicable public resource agency. The applicant should also be consulting with the agency to identify appropriate avoidance and/or mitigation measures. As this is an existing well permit application component necessary to comply with the statutory requirements, this final rulemaking does not impose any new financial burden.

Also, please see response to comment 330.

335. Comment: The provision of the proposed final rule requiring a conventional well operator who proposes to construct a well site in a location that will impact a “species of special concern” to obtain approval from the Department as part of the permitting process is not in the public interest and should be withdrawn. (201)

Response: Please see response to comment 262.

336. Comment: The Department's definition of “other critical communities” to include “species of special concern” is not consistent with the statutory authority of the Department or with the intention of the General Assembly. Act 13 provides that “[o]n making a determination on a well permit, the department shall consider the impact of the proposed well on public resources, including but not limited to “...[h]abitats of rare and endangered flora and other critical communities.” 58 Pa.C.S. § 3215(c)(4). The phrase “other critical communities” is not defined by statute, and was carried over verbatim from the 1984 Oil and Gas Act. 58 P.S. § 601.205(c)(4) (repealed). When the 1984 Oil and Gas Act was enacted, the concept of “species of special concern” - which are species of plants and that are neither threatened nor endangered - did not even exist. According to the Pennsylvania Biological Survey, that concept was first introduced in a publication entitled Species of Special Concern in Pennsylvania, H.H. Genoways and F.J. Brenner, eds, Carnegie Museum of Natural History, Special Public No. 11, Pittsburgh PA 1985), pgs. 3-5, the year after the 1984 Oil and Gas Act was enacted. The concept of species of special concern does not appear in statute. While Act 13 does authorize the EQB to develop regulations implementing 58 Pa.C.S. § 3215(c), that does not give the Department a blank check to codify an amorphous concept that did not even exist in 1984. Indeed, the decision to equate “other critical communities” with “species of special concern” represents a policy decision of such a substantial nature that it requires an act of the General Assembly before it can become law. We join others who have questioned the legal authority of the Department to define “other critical communities” in this manner. (201)

Response: Please see response to comment 330.

337. Comment: Confidence in the Department's ability to develop a single, publicly-available database of species of special concern that will not result in a major cessation of oil and gas development is lacking. The Pennsylvania National Diversity Inventory (PNDI) includes every natural plant community that occurs in Pennsylvania as a species of special concern. The Pennsylvania Natural Heritage Program (PNHP) also maintains a list of special concern species, which includes non-species, partial designations, and entries with no designations at all. The PNHP list also changes on a regular basis. (201)

Response: Please see response to comment 330.

338. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule governing well operations that impact “other critical communities.” (201)

Response: The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The

Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

339. Comment: The Department's regulatory analysis form is silent on the need for greater protection for species of special concern. It also does not explain how conventional oil and gas operations place these species in danger of becoming threatened or endangered. (201)

Response: Please see responses to comments 262, 330 and 338.

340. Comment: The Department's regulatory analysis form does not reflect the Department's consideration of the direct and indirect costs of the proposed standards or the economic impact that those standards would have on small businesses. As explained above, in order to avoid running afoul of this regulation, a small independent conventional well operator will have to incur - at a minimum - the cost of hiring an expert in animals and plants in order to determine whether a desired well location will impact "other critical communities." If the project is to move forward, the operator will then incur the cost of preparing a mitigation plan and negotiating with the public resource agency and the Department on well location and permit conditions. All to extract his own minerals. (201)

Response: Please see the Department's response to questions 17, 18, 19, 22, 23, 24 and 27 in in the Regulatory Analysis Form for the final form rulemaking for detail regarding small businesses and how they were considered during the rulemaking process.

Please see responses to comments 262, 330 and 338.

The Department amended the definition of "other critical communities" to clarify that it term applies only to those species of special concern that appear on a PNDI receipt. Under existing well permit application requirements, all well permit applicants must submit a PNDI receipt to demonstrate compliance with applicable law. Conducting a PNDI search and generating a PNDI receipt places no new additional cost on well operators. .

341. Comment: The process to be employed following a determination that the location of a proposed well site will impact "other critical communities" is equality unclear and ambiguous. The operator is required to contact the public resource agency responsible for managing the public resource upon which the critical community is located and provide a copy of a plat and mitigation plan in order to solicit its comments and recommendations. Then the operator has to provide all of this information to the Department so that it can determine whether the well site "poses a probable harmful impact to a public resource." If it does, than the Department can include unspecified conditions in the permit to avoid or mitigate those impacts. There are no standards limiting the Department's discretion. If the operator appeals to the Environmental Hearing Board (EHB), the department has the burden of demonstrating that "the conditions were necessary to protect against a probable harmful impact of the public resource." This is a one-sided standard, which ignores the requirement that the regulations reflect a balanced approach taking into account the "optimal development of oil and gas resources" and "property rights of oil and gas owners." 58 Pa.C.S. §3215(f)(1). (201)

Response: Please see responses to comments 262, 315, 330 and 338.

342. Comment: In section (f) (1) (IV) – we see again the mention of "critical communities".

Commenter supports this inclusion in the application requirements. We are in agreement with the proposed rulemaking in this section, lest one bulldozer destroy irreplaceable bird, mammal, reptile, amphibian, and plant habitat and millions of years of geology. (176)

Response: The Department acknowledges this comment.

343. Comment: 78a.15(f)(1)(iv)_Critical communities should be revised to include: National Recreation Areas, National Wildlife Refuges, and other nationally protected areas. (182)

Response: The Department declines to add national recreation areas, national wildlife refuges and other nationally protected areas to the definition of other critical communities because, as the Department clarified in its amendment to the final rulemaking, this term applies only to plant and animal species.

To the extent the commentator suggests additions to the list of public resources, please see response to comment 264.

344. Comment: **78a.15(f)(1)(iv) and 78.15(f)(1)(iv)** - These sections would require notification to public resource agencies when the project will impact other critical communities. As noted above, the term “other critical communities” is vague and uncertain. Seneca continues to suspect that other critical communities is intended to refer to critical habitat as that term is defined under the *Endangered Species Act*, and that the reference to special concern species is referring to that term as defined in the DEP's *Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation*. Assuming that is the case, treating PNDI as equivalent to the *Endangered Species Act* is inappropriate as the standards for PNDI are vague, undeveloped and significantly different from the *Endangered Species Act*. It is rather arbitrary for the DEP/EQB, absent any direction from the General Assembly and absent vetting the processes, procedures and standards of PNDI through full regulatory review and scrutiny in accordance with the *Regulatory Review Act*, 71 P.S. §§ 745.1 *et seq.*, to take a DEP Policy and make it equivalent to a Federal standard for purposes of state well permit applications. Seneca recommends that the definition of “other critical communities” be removed from the proposed regulations and that this subparagraph be revised to read: “(iv) In a location that will impact a critical habitat or species as defined in the *Endangered Species Act*.” (190)

Response: The Department disagrees, please see response to comment 330.

345. Comment: Under the Final Rules, a company making an application for drilling must not only give notice to the public service agencies responsible for managing the locations of threatened or endangered plant and animal species, but under the proposed Final Rules they must also give notice to the public service agencies responsible for other critical communities in the drilling area. If the audience is wondering what are the other critical communities, they are all plant and animal species not listed as threatened or endangered by a public service agency. So, notice must be given to the agencies responsible for locations where there are threatened and endangered species, and to the agencies that are responsible for locations where there are plant and animal species that are not threatened or endangered. That sounds like all plant and animal species to me. There are some examples given in the Final Rules. Among the inclusions in that group would be plant and animal species classified as “rare”, tentatively undetermined, or a candidate, taxa of conservation concerns, and special concern plant populations.

There is no place in the Final Rules, however, that defines these critical communities. The PA Natural Diversity Index, typically referred to in such instances for help, does not use or define the

term critical communities. While it does use the term special concern plant populations, it does not define that term, and there is no definition of special concern plant population in any federal or state statute or regulations.

This is quite troublesome. Plant populations appear on the threatened or endangered lists only after a thorough review, public notice and rulemaking, which, we would presume includes scientific support for that designation. That is the same process these Final Rules have undergone.

Because, however, there is no statutory procedure for determining what is a critical community, or what is a plant species of special concern, each public resource agency can define it differently, independently creating its own list, without any requirement that there be public notice and rulemaking, or that there be scientific support for the designation. As a result, there could be inconsistent decisions by different agencies about what constitutes a critical community or special concern plant population, and the lists could change monthly, weekly and even daily since there is no statutory procedure to create the lists.

If Chapter 78 is to be applied consistently and fairly to all drill operators in the application process, there must be consistency in the application requirements. The proposed Final Rules do not provide that consistency and could interfere and prevent future development without due process, and do not fairly balance the interests of the public with the energy community. I urge the Agency to reconsider the proposed Final Rules to be sure they provide due process in all aspects and also to ensure there is adequate time for public comment. (349)

Response: Please see response to comment 330.

- 346.** Comment: Other critical communities: This expands the requirement from identifying and protecting threatened and endangered species to identifying and protecting “other critical communities.” Other critical communities have not gone through the public listing or review process and includes many items that one governmental agency or another has decided internally are worthy of protection. Again, there is lots of room for misuse of this unrealistic expansion of the intent of protecting threatened and endangered species. (343)

Response: Please see response to comment 330.

- 347.** Comment: The new proposed standards will have a severe adverse effect on the productivity of small, independent conventional well operators. The up-front costs to investigate whether a desired well location will impact “other critical communities” will make it less likely that those operators will commit the funds necessary to develop a new conventional well. This in turn will make them less productive. (201)

Response: Please see responses to comments 330 and 334.

- 348.** Comment: (78a.15(b.2)(f)(1)(iv)) In this subsection, the Department originally proposed to equate “critical communities” with “special concern species.” The commentator objected to this provision because, among other reasons, it “create[d] tremendous uncertainty about a permit applicant’s obligations with regard to an ever-changing and undefined list.” The Department has now proposed a definition of “other critical communities”; however, the same problems remain and have been significantly compounded. We incorporate by reference our comments to the definition of “other critical communities” in § 78a.1 and our cover letter to these comments, which describe our concerns and propose that the definition fails to provide any meaningful details, guidance or criteria and should be eliminated.

Pursuant to IRRC's April 14, 2014 letter, EQB must provide a "more detailed explanation of the rationale for this subparagraph, why it is needed, how it will be implemented, why it is legal, and why it is consistent with the intent of the General Assembly and Act 13." Neither EQB nor PADEP has provided this information. (210)

Response: Please see responses to comments 262 and 330.

Please also see regulatory analysis form for the final-form rulemaking.

349. Comment: Other critical communities - this expands the requirement from identifying and protecting threatened and endangered species to identifying and protecting "other critical communities". Other critical communities have not gone through the public listing or review process and includes many items that one governmental agency or another has decided internally are worthy of protection. Again, there is lots of room for misuse of this unrealistic expansion of the intent of protecting threatened and endangered species and the Department should only require an evaluation of listed threatened or endangered species. (335)

Response: Please see responses to comments 262 and 330.

350. Comment: 78.15 Application requirements.

(f) ...construct a well site...that may impact a public resource in paragraph (1)...

(1) (iv) "In a location that will impact other critical communities".

Can this public resource be better defined (see comment under Definitions)? This requirement is extremely vague and does not give the operator direction with regards to determining what the other critical communities might be an exposure? How do we determine if we might impact them? What is the definition of impact? Are there distance restrictions that might be applied depending on the critical community? How does an operator plan future development without such information? (204)

Response: The Department amended the definition of the term "other critical communities" in §§ 78.1 and 78a.1. In this amended definition, the Department clarifies that it applies only to those species of special concern that appear on a PNDI receipt.

351. Comment: It is recommended that the "other critical communities" be limited to locations that have been identified and listed by truly public entities through a process that includes public comment, and that a "public resource agency" be required to follow procedures under the regulatory review process when listing a species for protection. This would minimize the frequency of permit conditions leading to appeals, and would help to assure that "other critical communities" that truly deserve protection are properly identified and protected in a legal manner. (334)

Response: The Department disagrees, please see response to comment 330.

352. Comment: § 78a.15(f)(1)(v) and § 78.15(t)(1)(v) -Historical or archaeological site - We believe the notification distance should be greater than 200 feet. Five hundred feet is likely not a great enough distance when there are vibration and other construction effects that may disturb or undermine the structural integrity, and historic and visual character of such a site. For purposes of notification we again recommend 1,000 feet for these and for the reasons cited in our comment above at § 78a. 15 (f)(1)(i). (200)

Response: Please see response to comment 268.

353. Comment: We are encouraged by the Department’s wording § 78a.15(f)(1)(vi), requiring that the applicant notify the Department if the limit of disturbance of the site lies within 1000 ft. of an extraction point used by a water purveyor. (163)

Response: The Department acknowledges this comment.

354. Comment: There are significant concerns with this proposed section which includes water purveyors, municipalities, and school districts within the list of public resource agencies that would have authorities and responsibilities within 78.15 and 78a.15 to review and condition oil & gas permits. Of particular concern here is the fact that the term “water purveyor” includes not only public utilities or other public entities, but also many private companies or organizations that provide drinking water to a sufficient number of individuals (25 or more individuals for 60 or more days per year) or via 15 service connections. For example, a company/facility with 25 or more employees that supplies its own drinking water would be defined as a “water purveyor” and as such, a “public resource agency” under the proposed definitions. Classifying those types of private entities as “public resource agencies” with the associated roles and responsibilities outlined in 78a.15 is inappropriate, particularly without any associated Regulatory Impact Analysis of the consequences. (169)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c)(4) of the 2012 Oil and Gas Act, the Department has a legal obligation when reviewing a well permit application for an unconventional well to consider the impacts to public resources including “sources used for public drinking water supplies” Section 3215(a) provides that public drinking water supplies include water wells, surface water intakes, reservoirs or other water supply extraction points used by a water purveyor. Section 3213 of the 2012 defines “water purveyor” as the owner of operator of a public water system as defined in the Pennsylvania Safe Drinking Water Act or any person subject to the Water Rights Law. Accordingly, the Department has a statutory obligation to consider the impacts of a proposed well of public drinking water supplies used by water purveyors as that term is defined in the 2012 Oil and Gas Act.

The language and requirements outlined in §§ 78.15 and 78a.15 the Department mirrors these statutory obligations. Any change to these provisions should be to the 2012 Oil and Gas Act.

Because this is not a statutory requirement when reviewing a conventional well permit the Department has amended the definition of “public resource agency” in 78.1 and deleted the reference to water purveyors.

355. Comment: The scope of the public resource protections affecting school common areas and playgrounds must be extended from 200 feet to one mile. The proposed 200 foot radius does not accurately account for the risks posed by unconventional natural gas development. Limiting the

rule to those public resources within 200 feet of the well site excludes many public resources that will be subjected to probable harmful impacts of unconventional natural gas development.

Based on the available public health research, and past experience with unconventional natural gas development accidents, school common areas and playgrounds within one mile of a well site can face probable harmful impacts from the development—the distance may be even greater. Therefore, the scope of the public resource protections must be extended to areas within one mile of the limit of disturbance.

First, in assessing the scope and extent of probable harmful impacts, it is important to be mindful of the fact that school common areas and playgrounds are populated by children, a group particularly vulnerable to pollution. Children eat, drink, and breathe more per unit of body weight than adults, they are likely to be more active and spend greater amounts of time outdoors, their young age means that diseases with long latency periods—such as cancers—will have more time to manifest, and as compared to adults, children have a diminished ability to metabolize and expel chemicals. All of these factors compel one to afford children, and where they are known to congregate, special consideration when developing policies to protect them from harmful pollutants.

Second, the public health research shows that populations living within one mile of unconventional natural gas development are adversely affected. In a study conducted in Washington County, Pennsylvania, residents living within one kilometer of a gas well, as compared to those living within two kilometers, reported suffering from higher numbers of respiratory symptoms and skin rashes. In Colorado, researchers found higher rates of birth defects and low birth rates in children born to mothers living within 10 miles of unconventional natural gas development sites as compared to those living more than 10 miles from unconventional natural gas development. Finally, in another Pennsylvania study, researchers found that women living within 2.5 kilometers of a well site, as compared to those living farther away, gave birth to children with lower average weights and children likely to be at low weight births. The available research clearly demonstrates that adverse health impacts associated with unconventional natural gas development extend well beyond 200 feet of the well site.

Third, mandatory evacuation zones imposed in response to well site accidents show that harms can be expected at distances far exceeding 200 feet from the well site. In October 2014, in Ohio, a well accident “released millions and millions of cubic feet of gas” creating a situation a local official described as “very dangerous,” and required a crew to be flown in from Texas to get the well under control. A two mile evacuation zone was instituted that required 400 homes to be evacuated. In another Ohio well accident occurring in December 2014, officials evacuated homes within 1.5 miles of the well site. Nine days after the evacuation, displaced residents were still unable to return to their homes. In Dunkard Township, Pennsylvania, the Chevron well explosion required the imposition of a half-mile police perimeter around the site. As the evacuation zones suggest, threats from unconventional natural gas development can be felt at distances much greater than 200 feet from the well site.

Fourth, Pennsylvanians place great faith in the state unconventional natural gas development regulations. Many residents will view the 200 foot scope as a signal that at distances greater than 200 feet, their children will be safe from the harmful health impacts of unconventional natural gas development. As discussed above, the evidence clearly shows otherwise. Residents must be responsibly informed of the risks associated with unconventional natural gas development so that they can make prudent decisions to ensure the safety of their children. This rule will confuse

parents and drive the false belief that their children will be safe when more than 200 feet from an unconventional natural gas development well site.

The DEP has rightly concluded that school common areas and playgrounds face grave threats from unconventional natural gas development and that a procedure must be instituted whereby these threats can be effectively mitigated. Unfortunately, the rule as written will fail to extend these protections to a great number of school common areas and playground which will face probable harmful impacts from proximate unconventional natural gas development. Commentator urges the DEP to extend the scope of the protection to school common areas and playgrounds within one mile of the limit of disturbance. (221)

Response: To the extent that the commentator suggests that no drilling activities occur within a certain area of schools, The provisions in this rulemaking in §§ 78.15(f) and 78a.15(f) are not setbacks. The distances in these provisions define an area that requires coordination with public resource agencies and additional consideration during the permit review process. These provisions do not prohibit drilling activities within these defined areas.

In Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent, the commentator suggests that the General Assembly should extend these setbacks from certain facilities, such as schools, nursing homes or day care facilities, that change should be made through an amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests extended the distance provided in §§ 78.15(f)(1)(iv) and 78a.15(f)(1)(iv), the distances to certain public resources identified in Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking are consistent with those used by the Department to consider public resources in well application forms since the oil and gas permitting program was established under the 1984 Oil and Gas Act. The Department has found these distances to be effective for purposes of identifying and considering potential impacts to public resources. However, given the increased size of well sites constructed when enhanced development techniques such as hydraulic fracturing are used, Sections 78.15(f)(1) and 78a.15(f)(2) require these distances to be measured from the limit of disturbance of the well site rather than from the well itself, as was the prior practice. For conventional operations this change will have little to no practical effect given the relatively small size of these conventional sites.

To the extent that the commentator suggests that additional requirements are needed for emergency response, other sections of the regulatory framework for well development activities address obligations related to emergencies, including Section 78a.55(i), which contains comprehensive emergency response requirements for unconventional well sites.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment. The purpose of these provisions is to identify, consider and protect public resources.

- 356.** Comment: (78a.15(b.2)(f)(1)(vii)) The commentator recommends that this provision be withdrawn, and that PADEP proceeds with a separate proposed rulemaking in order to fully and properly comply with the Regulatory Review Act.

“Common areas on a school’s property” or “playground” are not defined, and include areas that are not publicly accessible. Also, it is not clear whether a playground must be associated with a school based on the current wording. Unlike the majority of the resources listed in subsections (i) through (v), which have established boundaries, “common areas on a school’s property” do not have defined boundaries. Schools may own property with ancillary functions, such as a maintenance yards or drainage areas. Moreover, “schools” could include academic schools from pre-kindergarten through post-secondary education (e.g., trade schools, colleges or universities) and even educational facilities for non-traditional/non-academic subjects. The same issue arises for “playgrounds”, which could include private restaurants with play facilities. The potential for an overly broad interpretation of the Department’s definition is high, and could include literally thousands of types of “common areas” and “playgrounds”. PADEP will be overwhelmed by the multiplicity of “common areas,” as well as the variety of comments by schools for the mitigation of potential impacts. (210)

Response: Sections 78.1 and 78a.1 include added definitions of “Common area of a school’s property” and “playground.”

To the extent the commentator suggests that common areas of a school or playground should be removed from the list of public resources, please see the response to comment 263.

- 357.** Comment: “There is no evidence that fracking and supporting infrastructure can operate without risks to human health. Yet there is a growing body of peer-reviewed science that provides significant evidence of the public health risks of shale oil and gas development. There is also no scientifically definitive setback distance that would prevent health and safety impacts from oil and gas infrastructure.

Given the accidents like explosions and fires that have occurred, and documented water and air pollution from oil and gas infrastructure, policy-makers should exercise the utmost precaution when making decisions that could impact children and other vulnerable populations. Children are especially vulnerable to environmental hazards and warrant greater protection from environmental risks.

I, the undersigned, urge the Department of Environmental Protection to include a one-mile setback from the property boundary of oil and gas infrastructure and the property boundary of a school property in its revisions to Pennsylvania's regulations for above-ground oil and gas operations (Chapter 78).” (257)

Response: Please see response to comment 355.

- 358.** Comment: § 78a.15 (f) (1) (vii) - What is a “common area on a school property”? What is a “playground” (does the playground need to be on school property other is it any type of playground)?(187)

Response: Sections 78.1 and 78a.1 include added definitions of “Common area of a school’s property” and “playground.”

359. Comment: Section 78a.15(0(1)(vii) -Application Requirements
Please define what is meant by “common areas.” This setback is unclear and left to interpretation.
(222)

Response: Sections 78.1 and 78a.1 include added definitions of “Common area of a school’s property” and “playground.” To the extent that the commentator suggests that this provision establishes setbacks, please see response to comment 355.

360. Comment: § 78.15 (f) (1) & § 78a.15 (f) (1)

Section 78.15 (f)(1) would add several new Public Resources to the list established by the General Assembly, including common areas on a school’s property, and playgrounds to the existing list of natural or entirely public resources that may trigger consideration by PADEP in its well permitting.

Even if PADEP has the authority to expand the list of public resources, common areas of schools and playgrounds are simply not comparable to:

- Publicly owned park, forest, game land or wildlife area;
- State or National scenic river;
- National natural landmark;
- A location that will impact other critical communities; or
- Historical or archeological site listed on the Federal or State list of historic places.

“Common areas” on a school’s property or playground are not publicly accessible and lack the clarity of the resources listed in Act 13 which include state and national resources of a limited nature, all of which are clearly known because of precise listing procedures for inclusion or clear geographic boundaries, in the case of parks, forests, and game lands. It is also notable that the public resources listed in Act 13 are limited in number and unlikely to be altered or expanded without significant public notice. The sheer number of “common areas” that PADEP would add to the list illustrates the incongruity of the additions. Even if one were to limit “schools” to public school districts, permit applicants, school officials and permit reviewers will be overwhelmed with the variety and uses of “common areas,” as well as the universe of measures that could be recommended by schools and parents for the mitigation of impacts. These additions create tremendous regulatory uncertainty, and will certainly create numerous unintended consequences, including the consideration of hundreds of proposed mitigation measures to address thousands of different types of “common areas.” All of these concerns are equally applicable to the addition of ‘playgrounds’ to public resources to be protected. (213)

Response: Please see responses to comments 263 and 355. Additionally, the Department amended Sections 78.1 and 78a.1 to include definitions of “Common area of a school’s property” and “playground.”

361. Comment: The revision to section 78.15 addressing public resources provides an opportunity to better protect the most vulnerable Pennsylvanians. Thus, I was pleased to see the agency’s addition of schools and playgrounds to the definition of what is considered a public resource. Given the accidents like explosions and fires that have occurred, and documented water and air pollution from oil and gas infrastructure, it is imperative that we exercise the utmost precaution when making considerations that would allow this industrial operation to operate near areas that are especially vulnerable to environmental hazards. Approval for drilling near such locations

warrants added protections as well as the opportunity for the potentially impacted community to weigh in.

However, the 200 foot proximity which triggers the additional requirements and consideration for a public resource is woefully inadequate. To improve protection DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, and day care centers. (164), (247)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Under Section 3215(c) of the 2012 Oil and Gas Act, the Department has the obligation to consider the impacts of a proposed well on public resources “including, but not limited to” certain enumerated resources when making a determination on a well permit. Accordingly, the Department has the authority to expand the list of public resources to include public resources similar to those listed.

Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking include the public resources listed in 3215(c). Based on comments received, common areas of a school’s property, playgrounds, and well head protection areas were added because these resources are similar in nature to the other listed public resources. Playgrounds and school common areas are frequently used by the public for recreation, similar to parks. Wellhead protection areas are associated with sources used for public drinking supplies, another listed resource. In further response to comments, wellhead protection areas have been clarified by including a cross reference to 25 Pa. Code §109.713 and limiting the areas to those classified as zones 1 and 2. Additionally, definitions for the terms “common areas of a school’s property” and “playground” have been added.

Notwithstanding the enumeration of specific public resources in the regulations, the Department will consider the potential impacts to other public resources identified during the permitting process.

To the extent the commentator questions what constitutes an impact, §§ 78.15(f)(2)-(3) outline the process for coordinating with public resource agencies and the information that a well permit applicant must include in the well permit application to address potential impacts. The purpose of these sections is to identify the public resources that may be impacted by well drilling and to outline a process to ensure the Department has sufficient information to evaluate when determining whether permit conditions are necessary to prevent a probable harmful impact to the functions and uses of those public resources using the criteria in §§ 78.15(g) and 78a.15(g). Accordingly, within the context of these provisions an impact is a probable harmful effect to the functions and uses of the public resource.

Section 78.15(f) and 78a.15(f) specify that this public resource consideration is required as part of each well permit application. For that reason, this public resource consideration

applies prospectively to all future well permit applications.

Response: To the extent that the commentator suggests that no drilling activities occur within a certain area of schools, the provisions in this rulemaking in §§ 78.15(f) and 78a.15(f) are not setbacks. The distances in these provisions define an area that requires coordination with public resource agencies and additional consideration during the permit review process. These provisions do not prohibit drilling activities within these defined areas.

In Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent, the commentator suggests that the General Assembly should extend these setbacks from certain facilities, such as schools, nursing homes or day care facilities, that change should be made through an amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests extended the distance provided in §§ 78.15(f)(1)(iv) and 78a.15(f)(1)(iv), the distances to certain public resources identified in Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking are consistent with those used by the Department to consider public resources in well application forms since the oil and gas permitting program was established under the 1984 Oil and Gas Act. The Department has found these distances to be effective for purposes of identifying and considering potential impacts to public resources. However, given the increased size of well sites constructed when enhanced development techniques such as hydraulic fracturing are used, Sections 78.15(f)(1) and 78a.15(f)(2) require these distances to be measured from the limit of disturbance of the well site rather than from the well itself, as was the prior practice. For conventional operations this change will have little to no practical effect given the relatively small size of these conventional sites.

To the extent that the commentator suggests that additional requirements are needed for emergency response, other sections of the regulatory framework for well development activities address obligations related to emergencies, including Section 78a.55(i), which contains comprehensive emergency response requirements for unconventional well sites.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment. The purpose of these provisions is to identify, consider and protect public resources.

- 362.** Comment: The 500-foot distance should be at the borders of the school district’s property as playgrounds and ancillary uses, as presently located in a given area, may change with time. This would put a population at risk unnecessarily. (161)

Response: To clarify this area for additional review during the well permitting process, the Department amended Sections 78.1 and 78a.1 to include definitions of “Common area of a school’s property” and “playground.”

363. Commentator is a coalition of parents, concerned citizens, and advocacy organizations, dedicated to protecting school children from the health risks of shale gas drilling and infrastructure by keeping it at least one mile away from schools. Commentator advocates for a one-mile minimum of protection around schools from natural gas infrastructure. Commentator also connects local groups to shared resources and information needed to protect children’s health and safety. During the Chapter 78 comment period, our coalition collected over 5,000 petitions requesting the Pennsylvania Department of Environmental Protection (DEP) to include a one-mile setback from the property boundary of oil and gas infrastructure and the property boundary of a school property in its Chapter 78 revisions.

Application requirements pertaining to public resources

DEP has added “common areas on a school’s property or playground” to the list of “public resources” that require additional consideration when permitting oil and gas wells (Section 78.15, 78a.15). This would mean that any applicant proposing to construct a conventional or unconventional well in a way that would cause disturbance within 200 feet of such areas would need to provide specific information to DEP, including measures to reduce negative environmental impacts. This regulation would also allow DEP to add requirements to a permit in order to prevent impacts.

This is a positive step that signals recognition by DEP of the risks posed to children and others who spend time on school property. The 200-foot distance applies to the “limit of disturbance,” which could include access roads, tanks, pits, etc.— not just the wellbore. However, the proposed regulation is not a setback and would not automatically restrict the ability of oil and gas operators to conduct their activities near schools.

Even if protective practices are used (e.g., sound barriers or emissions controls), the distance restriction of 200 feet is far too small to reduce potential impacts. In general, the closer to the source of pollution (e.g., a well or tank), the greater the potential for exposure to contaminants and the likelihood of impacts to health. There is no scientifically definitive distance at which air contaminants cause health impacts, nor an established distance beyond which they would never occur.

At the same time, recent studies suggest the potential for contamination at much longer distances than the notification and comment requirements included in the proposed Chapter 78 and Chapter 78a revisions. A study by the City of Ft. Worth on air quality in gas fields found concentrations of formaldehyde above state regulatory standards 750 feet beyond the site’s fence line.¹ Air modeling conducted in Pennsylvania showed nitrogen oxide above state regulatory standards up to one mile of the Barto Compressor Station in Lycoming County.² A Colorado School of Public Health study of air emissions around gas well operations found that residents living less than a half mile away are at higher risk of respiratory, neurological, and other health impacts and have a higher lifetime risk for cancer, based on exposure to pollutants, than those who live at farther distances.³

Most recently, a study by researchers at Oregon State University and the University of Cincinnati found that residents living closest to active oil and gas wells had an exposure risk for polycyclic aromatic hydrocarbons—known to cause cancer and respiratory problems—higher than the federal acceptable risk level and that risk estimates decreased 30% at distances more than one mile.⁴

Similarly, Earthworks’ survey of health impacts in Pennsylvania found that as the distance from gas wells and facilities decreased, the percentage of respondents reporting specific health symptoms (such as throat irritation and headaches) increased.⁵ In addition, recent research

underscores the role that landscape, wind and weather conditions, and the stage of production play in determining the intensity of exposure and, in particular, how both episodic events (e.g., compressor station blowdowns) and repeated exposure can worsen health effects.⁶

In light of the above research about health concerns and to improve protection from noise and light and improve safety from traffic, accidents, and explosions, DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other related infrastructure from the property boundary of any school property. In addition, DEP should extend the public resource notification requirements to two miles beyond the limit of disturbance from proposed gas infrastructure.

Also concerning are limitations included in the public resource section of the regulations that could hamper its actual implementation:

- DEP would have discretion over whether or not to implement the regulation.
- If an operator appeals permit conditions, DEP would bear the burden of proof in demonstrating that the conditions are warranted.
- DEP would have to consider an operator's property rights and any restriction on the "optimal development" of oil and gas when deciding whether to impose permit conditions.

Finally, given the agency's limited staff and resources, it is very possible that permit reviews would not include a comprehensive consideration of environmental and health impacts. In turn, there is less likelihood that permit conditions related specifically to public resources would be imposed. This is particularly concerning in light of the 2012 Executive Order imposed by Governor Corbett that requires DEP to establish timeframes within which permit applications must be reviewed. Known as the Permit Decision Guarantee, the order aims to ensure that permits are processed "as expeditiously as possible" and makes "compliance with the review deadlines a factor in any job performance evaluations."⁷ Under the policy, a basic drill and operate well permit must be issued in no more than 32 days.

In conclusion, the proposed regulations are limited and their application discretionary, while the proposed distances (200 feet and 300 yards) are far too small to offer protection to both the children and adults who spend time at schools. To improve protection from pollution, noise, and light and safety from traffic, accidents, and explosions, DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other related infrastructure from the property boundary of any school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as environmental justice areas). Thank you for the opportunity to comment. (219)

Response: Please see responses to comments 263, 271, 272, 274, 277, 289, and 355.

- 364.** Comment: I thank you for proposing changes to the existing PA oil and gas regulations under chapter 78. This has very much needed to happen in order to protect the people who live near this industry. I live in Butler County which is in South Western PA where unconventional natural gas development (UNGD) is happening at lightning speed. About a year and a half ago Rex Energy presented the Mars Area School district with a lease agreement to drill underneath the 5 campus schools (all in one area) where my two son's ages 8 and 10 go to school along with 3,200 of their

friends. The Geyer well pad was to be placed ½ mile from the 5 campus schools. I desperately started researching UNGD looking for reasons why this would be O.K. to be conducting near and underneath my children. I could not find any peer reviewed studies published in reputable journals that demonstrated that there are no short term or long term health effects or safety issues from UNGD. Instead, I found a large amount of peer reviewed studies published in many academic and medical journals about the clear dangers of UNGD. I then found other parents who were just as concerned as I was about this industrial process occurring so close to where our children spend a large part of their lives and would potentially be exposed to so many health and safety risks. Thus, the Mars Parent Group was formed and we have been asking for a 2 mile no drill zone around the schools. We have scientific data to back up our request because I actively reached out to those who are experts in the fields of UNGD – Jerome Paulson, MD, FAAP Director of the Mid-Atlantic Center for Children’s Health & the Environment; David Brown, ScD, Toxicologist, Environmental Health Consultant, Beth Weinberger, MPH, PhD, Research and Communications Consultant, Southwest Pennsylvania Environmental Health Project, and Samantha Malone, MPH, CPH, Manager of Science and Communications FracTracker Alliance. These folks were kind enough to educate me and send me various PowerPoint presentations that they had created and I merged them into one. Mars Parent Group (MPG) sent this PowerPoint to all of our local government, school board members, state representatives, and the DEP. <http://www.marsparentgroup.com/> The PowerPoint message is very clear that there are inherent risks with UNGD and placing it so close to where people live, work, play, and go to school can have deleterious health and safety effects. (250)

Response: Please see responses to comments 263, 277 and 355.

365. Comment: 78.15 Definition of public resource

This is of particular importance to me as there are six unconventional gas wells permitted a half mile from where my children attend school and reside. Peer reviewed studies show that there is a relationship between health and safety risks and proximity to a well pad. Well pad incidents in PA and the tri-state area have resulted in evacuations of up to two miles. Conservative studies indicate that adverse health effects are observed up to two miles from surface operations. I belong to a community group that has been advocating for a two-mile buffer zone around schools based on the above information. In speaking with legislators and DEP representatives, we understand that setback numbers are arbitrary, a compromise that all involved parties can live with. As a mother, I find this practice to be a totally unacceptable method for creating a regulation that is supposed to protect my children’s health and safety. Setbacks can be powerful tools. Please make the most of implementing strong setbacks in these revisions in order to provide meaningful protection to children and other vulnerable members of our population (200 feet and 300 yards are not sufficient). DEP should require at a minimum a one mile setback (again please keep in mind that research indicates two miles is better) of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property. (218)

Response: Please see responses to comments 264, 277 and 355.

366. Comment: Amend your proposed revisions to Pennsylvania's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. (259)

Response: Please see response to comment 355.

367. Comment: I urge you to place a One Mile Minimum separation between schools and oil & gas operations in Pennsylvania.

Please amend your proposed revisions to the state's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. (136, 142, 143, 154, 262)

Response: Please see response to comment 355.

368. Comment: In Section 78a.15 (f)(vii) I strongly support the addition of the notification zone for schools and playgrounds. I feel that the notification zone, however, would be better served by extending it to 2500 feet. I see a benefit for schools and playgrounds being adequately notified because I volunteer at Roslund Elementary School and currently they do fire drills, lockdown drills, and shelter in place drills to plan in the event of an emergency. It would be beneficial for the School Administration to know when a natural gas well will be close to their property- so they can tailor their emergency drill plans to an event that may have a greater chance of occurring- i.e. drilling spills, fire during construction, well-head blow outs. We have a duty to our children to keep them as safe as possible by allowing schools to have ample notification and plan contingencies. The 200' notification zone is not adequate enough- I feel a ½ mile radius is more warranted. These are children- they deserve more than 200' for notification. Keep in mind this is a notification provision- not a setback. The Industry should be supporting notification to schools in a ½ mile radius or greater, this does not inhibit their development at all and, in fact, makes them responsible corporate citizens. I would like to see this notification provision extended to hospitals as well. (168)

Response: Please see response to comment 355.

369. Comment: Please make sure that the new relations include a requirement that there be a one mile minimum separation between schools and oil & gas operations. It is very important that you do all you can to protect children while they are in school. (140, 263, 381)

Response: Please see response to comment 355.

370. Comment: Amend your proposed revisions to Pennsylvania's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. (259)

Response: Please see response to comment 355.

371. Comment: While we are glad that DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells, this notification requirement alone is completely inadequate. To improve protection from pollution, noise, and light and safety from traffic, accidents, and explosions, DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the boundary of any school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and environmental justice communities. (144, 241, 345, 2848-3056)

Response: Response: Please see responses to comments 263, 277 and 355.

372. Comment: In section (f.1) regarding “limit of disturbance” notification, the commenter is NOT in agreement with Roman Numeral 7 (vii) requiring notification of a permit application for a well pad within a mere 200 feet of common areas on school property or a playground. This is less than the length of a football field. It defies rationality and common sense to think that a gas well located 201 feet away does not warrant notification. The disturbance and risks of locating a gas well this close to a playground or building that our children travel to and from 5 days a week, and

where they spend upwards of 30 hours weekly carries with it a much wider zone of influence. The commenter supports expanded notification up to 1 mile in all directions to provide parents, teachers, coaches, administrators, students, and support staff reasonable and fair warning of what is to come. (176)

Response: Please see response to comment 355.

373. Comment: We support the Department’s inclusion of schools and playgrounds in the list of public resources addressed in §§ 78.15(f) and 78a.15(f). (231, 231a)

Response: The Department acknowledges the comment.

374. Comment: PA DEP, please amend your proposed revisions to the state's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. Evidence continues to grow, showing that such operations contaminate and pollute water and air near every well. Keeping these dangerous sites far away from children is simple logic. (139)

Response: Please see responses to comments 263, 277 and 355.

375. Comment: There is no evidence that fracking and supporting infrastructure can operate without risks to human health. Yet there is a growing body of peer-reviewed science that provides significant evidence of the public health risks of shale oil and gas development. There is also no scientifically definitive setback distance that would prevent health and safety impacts from oil and gas infrastructure.

Given the accidents like explosions and fires that have occurred, and documented water and air pollution from oil and gas infrastructure, policy-makers should exercise the utmost precaution when making decisions that could impact children and other vulnerable populations. Children are especially vulnerable to environmental hazards and warrant greater protection from environmental risks.

I urge the Department of Environmental Protection to include a one-mile setback from the property boundary of oil and gas infrastructure and the property boundary of a school property in its revisions to Pennsylvania's regulations for above-ground oil and gas operations (Chapter 78). (95, 97, 97a, 98, 99, 1762-2296)

Response: Please see response to comment 355.

376. Comment: Application Requirements (§ 78.15 and § 78a.15) Commentator would appreciate a clearer definition of what is meant by a “common area” of school property in order to properly address any potential concerns when working near schools. Commentator proposes that “common area” be defined as “an area of school property where children routinely gather, such as school bus loading zones, playgrounds, sports fields, and designated emergency evacuation muster areas.” In addition, Commentator proposes that regulatory language be added to provide for the allowance of a waiver or variance to be granted by the school board. (205)

Response: The Department amended Sections 78.1 and 78a.1 to include definitions of “Common area of a school’s property” and “playground.”

The Department declines to allow for a waiver of this provision. The public resource protection requirements in Sections 78.15 and 78a.15 establish a process for the Department

to consider and protect public resources from the impacts of a proposed well and coordinate with other Commonwealth agencies. As such, these provisions are authorized by law and are necessary for the Commonwealth to fulfill its constitutional and statutory obligations.

377. Comment: In the application section 78.15(f) the notification zone for school buildings, parks or playgrounds is currently listed as 200'. I feel it should be a larger distance. In section 57a(f)(8) of the rulemaking, fluid storage tanks may not be placed within 900' of schools. So it would seem that a 900' rather than 200' notification zone for school buildings, parks or playgrounds would also be appropriate. (165)

Response: Please see response to comment 355.

378. Comment: § 78a.15(f) An applicant proposing to CONSTRUCT A WELL SITE [drill a well] at a location THAT MAY IMPACT A PUBLIC RESOURCE AS PROVIDED [listed] in paragraph (1) shall notify the applicable PUBLIC resource agency, if any, in accordance with paragraph (2). THE APPLICANT SHALL ALSO and provide the information in paragraph (3) to the Department in the well permit application.

(1) This subsection applies if the proposed [surface location] LIMIT OF DISTURBANCE of the well SITE is located

- (i) In or within 200 feet of a publicly owned park, forest, game land or wildlife area.
- (ii) In or within the corridor of a State or National scenic river.
- (iii) within 200 feet of a National natural landmark.
- (iv) location that will impact other critical communities. [For the purposes of this section, other critical communities means special concern species.]
- (v) Within 200 feet of a historical or archeological site listed on the Federal or State list of historic places.
- (vi) [In the case of an unconventional well, w] Within 1,000 feet of a water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor.
- (vii) WITHIN 200 FEET OF COMMON AREAS ON A SCHOOL'S PROPERTY OR A PLAYGROUND.
- (viii) WITHIN AN AREA DESIGNATED AS A WELLHEAD PROTECTION AREA AS PART OF AN APPROVED WELLHEAD PROTECTION PLAN.

Commentator has significant concerns about this section. Act 13 did not include language or express intent to impose oil and gas development restrictions based on broadly defined and unspecified "other critical communities" or "a playground." As noted above, the Department's definition for other critical communities is overly broad, ambiguous, and subjective; it could encompass virtually any species, geological formation, or natural area, without an adequate basis in fact or law, nor any ecological basis for protection. Nor is any process defined for determining what species, formations, and areas constitute critical communities.

Similarly, the Department has not defined what "a playground" will mean in this context nor any process for determining what areas qualify as a playground for this purpose. It is not clear whether a playground must be associated with a school based on the current wording. Unlike the majority of the resources listed in subsections (i) through (v), which have established boundaries, "common areas on a school's property" do not have defined boundaries. Schools may own property with ancillary functions, such as a maintenance yards or drainage areas. Moreover, "schools" could include academic schools from pre- kindergarten through post-secondary education (e.g., trade schools, colleges or universities) and even educational facilities for non-traditional/non-academic subjects. The same issue arises for "playgrounds", which could include

private restaurants with play facilities. These deficiencies introduce significant regulatory uncertainty and risk to operations.

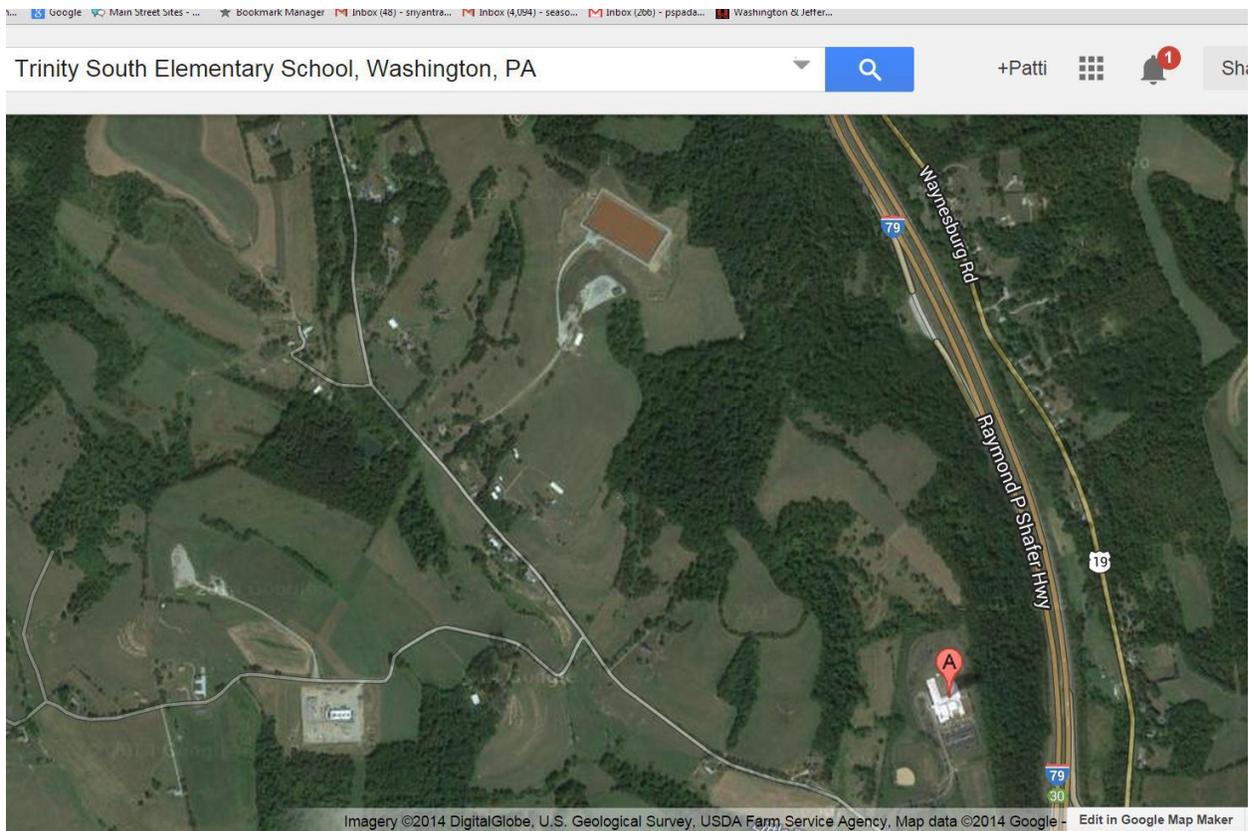
As previously noted, the Department’s authority to regulate the potential impact on public resources derives from Section 3215(c) of Act 13 of 2012. However, according to the Robinson Township decision (*Robinson Twp. et al v. Commonwealth*, 83 A.3d 901 (PA 2013)) the Department lacks the authority to regulate with regard to “other critical communities” specifically and lacks the legal authority to implement Section 3215(c) in its entirety. Lastly, the protective efforts intended for threatened and endangered species and their designated critical habitats are already required under 25 PA Code Chapter 102. As such, Commentator suggests Section 78a.15(b.2)(f) be stricken from the rule. (199)

Response: Please see responses to comments 263, 277 and 355.

379. Comment: We commend DEP for recognizing that schools and playgrounds deserve special consideration during the permitting of unconventional gas wells. (221)

Response: The Department acknowledges this comments.

380. Comment: I am 100% supportive of keeping all fracking and natural gas activities farther away from schools. As for open impoundments (above or in-ground) 200 feet is not far enough. 300 yards is too close. Below is a picture of Trinity South Elementary (A) and the brown open pit that was fined for leaks. I think they are about a mile apart. Unfortunately, even a mile feels too close. How about keeping industrial activities out of towns, agricultural areas, and away from homes and schools? The huge gas trucks also damaged a small bridge that the school buses cross daily.



(145)

Response: Please see response to comment 274 To the extent the commentator raises issues related to centralized impoundments, the Department has removed those provisions from this rulemaking. Please see the responses to comments on §§ 78.59c and 78a.59c.

381. Comment: (f)(1)(vi) School properties should be to their boundaries given potential expansion and existing access of students to the entire property. (161)

Response: To clarify the public resource requirements, the Department added a definition of common areas of a school's property to §§ 78.1 and 78a.1.

382. Comment: I support schools being added to the definition of public resource and that a notification zone of 200' "within common areas on a school property or playground" has been created. However, 200' is inadequate. This zone should be increased to 0.5 mile with regards to these resources. (23)

Response: Please see response to comment 355.

383. Comment: **78.15(f) and 78a.15(f)** - I support schools being added to the definition of public resource and that a notification zone of 200' "within common areas on a school property or playground" has been created. Comment: **78.15(f) and 78a.15(f)** - I support schools being added to the definition of public resource and that a notification zone of 200' "within common areas on a school property or playground" has been created. However, 200' is inadequate. This zone should be increased to 0.5 mile with regards to these resources. It should also cover "resources" that involve other susceptible populations, such as hospitals, day care centers, and nursing homes. The setbacks should also be increased to 0.5 mile. (230)

Response: Please see responses to comments 264, 289 and 355.

384. Comment: Setbacks from schools in Chapters 78 and 78a are contradictory and should be increased. In both Chapters, item (3)(vi) says the setback is 200 feet from a common space or playground. Item (8) says the setback is 300 yards=900 feet from a building or playground. All school setbacks should be at least 1000 feet.

Setbacks from hospitals, nursing homes and day care centers must also be at least 1000 feet. They should be the same or greater than school setbacks because the ill, elderly and young children are most at risk from air emissions near gas well operations. (131)

Response: The 900 yard setback appeared in the ANFR in §§ 78.57a(f)(8) § 78a.57a(f)(8). These sections have been removed from the final rulemaking. Please see responses to comments on those sections.

To the extent that the commentator suggests an increased setback, please see response to comment 273.

To the extent that the commentator suggests additions to the list of public resources, please see responses to comments 264 and 289.

385. Comment: I appreciate the opportunity to address the officials of the PA DEP, the members of the Technical Advisory Board, and the representatives from the Oil and Gas Industry who are in the

audience today.

My name is Amy Nassif and I am a member of the Mars Parent Group. Today I traveled with my daughter from Mars, PA, a town about 20 miles north of Pittsburgh in Butler County. I am here to speak to you on behalf of over 3,200 children in the Mars Area School District and all the school districts across the Commonwealth.

When a six well site was proposed in March of 2014 near our school district, our group began researching unconventional gas drilling and the health and safety impacts of this type of industry on children and communities. The Mars Parent Group continues to spend countless hours investigating. We rely on expert peer reviewed research from the Southwest Environmental Health Project, Physicians Scientists and Engineers for Healthy Energy, the Mid---Atlantic Center for Children's Health and the Environment, the Harvard Center for Environmental Health, the Archives of Environmental Health Perspectives, the Occupational Safety and Health Administration, the Centers for Disease Control, and the Journal of Environmental Health Perspectives to name a few. We have also studied information provided by the US Department of Energy, the American Petroleum Institute, the PA Department of Environmental Protection, and the Marcellus Shale Coalition. Our group utilizes these sources as we continue to discuss the health and safety impacts of unconventional gas drilling in proximity to children and schools. We implore you to do the same as you further consider the Final Draft Ruling of Chapter 78a.

The compilation of research confirms harmful health and safety impacts are within a two--- mile radius of an unconventional well site. The health research and continued reports of incident and accident evacuation zones are what compelled me to be here today to speak to you as an advocate for my daughter, her younger sister, and 3,200 of their friends. Our district campus, of five school buildings, supporting kindergarteners through high school seniors, are uniquely in close proximity to each other and alarmingly only one half mile from a proposed 6 well site and 300' from the well site limit of earth disturbance. Despite letters sent to the PA DEP on our behalf from Dr. Jerome Paulson and Dr. Seth Shonkoff imploring caution in approving development of this well site, a petition with over 1600 signatures, and a Section 3251 Conference at the NW Regional DEP, the site was approved on September 12, 2014. At the time of approval, Mr. Craig Lobins personally informed me that all applicable laws are being followed. His words did not provide any comfort nor did they have any consideration for the health and safety of my children and our school district.

As parents and taxpayers, our group is extremely grateful that the Department of Environmental Protection has now added school districts to the list of public resources that require additional consideration when permitting oil and gas wells. The Department has proposed a limitation of disturbance of a well site within 200 feet of common areas on a school's property or playground. In addition, setbacks between waste storage from school buildings, parks, and playgrounds is now increased to 300 yards. The department now recognizes that there may be probable harmful impacts on school districts. But I ask you all now, as some of the key decision---makers, where did these arbitrary numbers come from? Can you provide me, and other concerned parents with the research that demonstrates that health and safety affects are eliminated at 200 feet? or 300 yards? Does air pollution, noise, and light stop at 201 feet or 301 yards? Will heavy truck traffic, incidents, accidents, and explosions respect these new boundaries?

Unfortunately, these proposed regulations are inadequate and will not help protect my children and their friends, but there is hope for some of the remaining 500 school districts in the Commonwealth. The Department now has an opportunity before them to provide proper regulation that will protect schools. The Department can act in a manner that is responsive to a

mounting body of research and look to their own collected data and reports and increase these distances in the proposed regulations to truly protect our children.

Please do not place schools within known health effects and known evacuations zones.

Realizing that there are existing well sites that are in close proximity to schools, revisions to Chapter 78a are only a beginning. The Department must also address the issue of uncaptured methane permeating the air. This type of air pollution from not only well sites, but also the pervasive infrastructure that supports it, is perilous and sustains exposure risk to schools over the lifetime of all unconventional well development.

When you can approve this rule making with 100% certainty that school children will not be harmed by the continued practices of the unconventional oil and gas industry, this mother of two will be satisfied along with the children and parents that I represent.

I appreciate your consideration of my public comment. (124)

Response: Please see response to comment 355.

- 386.** Comment: **78.15 and 78a.15** -DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells and longer setbacks of waste storage from school buildings, parks, and playgrounds. This is a positive step but is not sufficiently protective. While there is no scientifically established “safe setback” beyond which there aren't health risks from oil and gas development, the distances in the regulations (200 feet and 300 yards) are far too little to offer even limited protection.

To improve protection from pollution, noise, and light and safety from traffic, accidents, and explosions, DEP should require at a minimum a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property. This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as environmental justice areas). (111, 294, 299)

Response: Please see responses to comments 264, 277, 289 and 355.

- 387.** Comment: 78a.15(f)(vii) I strongly support the addition of the notification zone for schools and playgrounds. I feel that the notification zone would be better served by extending it to 2500 feet. My experience has been such that I see a benefit for schools and playgrounds being adequately notified because young children are our most important natural resource and should be protected at whatever additional cost to the Industry. It is important that school administrators have the ability to know what facility is being proposed and have contact information and resources to call if they have questions. (242)

Response: Please see response to comment 355.

- 388.** Comment: As a township EMA Coordinator and first responder with the FWM Fire Company, in the case of an emergency at the Mehoopany Elementary School, I will be among those that respond. Therefore, **78a.15 (f)(vii)** I strongly support the addition of the notification zone for schools and playgrounds. I feel that the notification zone would be better served by extending it to 1,000 feet. I see a benefit for schools and playgrounds being adequately notified because as a first responder, we are going to need to promptly evacuate the school and close roads. We are

going to need to secure the site in order to keep the public at a safe distance and tourists away from the area. I'm not convinced that the 200' notification zone is adequate considering at present, our FWM Fire Company has no documented incident action plan. We do have experience fighting a fire at the school, and we know our area. It is just uncertain with the parcel size the school is located (20 acres) whether there that 200' will be sufficient from the point of public safety. It may be relevant that the FWM Fire Company should be consulted during the permitting of a well pad that would be within 1,000 of the school building, playgrounds or common areas. (278)

Response: Please see response to comment 355.

389. Comment: Section 78.15(f) would add several new Public Resources to the list established by the General Assembly, adding wellhead protection areas, schools, and playgrounds to the existing list of natural or entirely public resources that may trigger consideration by PADEP in its well permitting. The new public resources are described as locations:

- WITHIN 200 FEET OF COMMON AREAS ON A SCHOOL'S PROPERTY OR PLAYGROUND.
- WITHIN AN AREA DESIGNATED AS A WELLHEAD PROTECTION AREA AS PART OF AN APPROVED WELLHEAD PROTECTION PLAN.

First, even if PADEP has the authority to expand the list of public resources, common areas of schools and playgrounds are simply not comparable to:

- Publicly owned park, forest, game land or wildlife area;
- State or National scenic river;
- National natural landmark;
- A location that will impact other critical communities; or
- Historical or archeological site listed on the Federal or State list of historic places.

“Common areas” on a school's property or playground are not publicly accessible and lack the clarity of the resources listed in Act 13, which include state and national resources of a limited nature, all of which are clearly known because of precise listing procedures for inclusion or clear geographic boundaries, in the case of parks, forests, and game lands. It is also notable that each public resource listed in Act 13 is limited in number and unlikely to be altered or expanded without significant public notice. The sheer number of “common areas” that PADEP would add to the list illustrates the incongruity of the additions. Even if one were to limit “schools” to public school districts, permit applicants, school officials and permit reviewers will be overwhelmed with the variety and uses of “common areas,” as well as the universe of measures that could be recommended by schools and parents for the mitigation of impacts.

These additions create tremendous regulatory uncertainty and will certainly create numerous unintended consequences, including the consideration of hundreds of proposed mitigation measures to address thousands of different types of “common areas.”

Second, Act 13 expressly provides for the protection of water wells under Section 3215(a) through a setback requirement that can be waived by the owner of that supply. Given that the legislature already considered and addressed wellhead protection in this manner, there is no authority for PADEP to create either duplicative or additional protection by expansion of the

listed public resources in Section 3215(c). The legislature considered and comprehensively provided for the protection of water supplies in the adoption of Act 13 in 2012. The legislators deliberately chose to add precise protection with respect to unconventional well locations in Section 3215(a) and drinking water supplies in Section 3215(c) and created obligations for PADEP in Section 3218.1.3 In the face of this comprehensive statutory scheme, the inclusion of wellhead protection areas in the permit review process is clearly beyond PADEP and EQB's statutory authority and should be deleted.

Further, if PADEP intends to protect some "area" beyond the setbacks and protections already specified in Act 13, neither the need nor purpose for such expansion can be gleaned from the proposed revision, preventing us or anyone else from providing a well-informed comment on whether the revision properly addresses either a need or PADEP's purpose in making the revision. And even if there were legal authority for PADEP or EQB to add wellhead protection areas to the list of public resources provided by the legislature, and the need for such protection justified the proposed revision, "wellhead protection area" is not a defined term, and approved wellhead protection plans are not readily available, preventing both compliance and enforcement of the rule.

Regulation must provide clear and predictable direction to the public and the agency tasked with its enforcement. The proposed addition of wellhead protection areas to a list of public resources to be considered by PADEP in the course of issuing well permits has no clear legal authority, purpose, justification or direction with respect to compliance or enforcement. It is clear, however, that, as written, it will open the door to protracted and costly discussion and debate between and among permit applicants, permit reviewers and the public. If this is the purpose of the revision, it is certain to succeed.

Act 13 – if the relevant sections had not been invalidated under *Robinson* – expressly requires EQB to develop criteria by regulation for PADEP to use if it imposes permit conditions based on impacts to any public resources, including habitats of critical communities. Such criteria must ensure the "optimal development of oil and gas resources" and respect "property rights of oil and gas owners." The Draft Final Rule, however, does not create any criteria for the PADEP to utilize in conditioning well permits to protect against harmful impacts to public resources, further compounding the uncertainties created by the proposed definition of "critical communities." PADEP has failed to comply with one of the very few express commands of Act 13.

Finally, we repeat and reaffirms its prior comment to the process of notice and comment proposed under Section 78.15(f)(2), which has been revised in a manner that exacerbates rather than resolves the problems created in the prior draft through the inclusion of additional public resource agencies to be notified and additional public resources to be considered. DEP's proposed revisions in paragraph (f)(2) would result in significant costs because the revisions do not comply with Pennsylvania law and do not contain a process for respecting private property rights of oil and gas owners.

In contrast to the process established under Pennsylvania property law, the proposed regulations create a burdensome and open-ended process in which discussion is abandoned. Instead, the process bypasses that discussion in favor of vesting in the DEP the unilateral right to impose operating conditions. Specifically, the regulations allow the array of public resource agencies to simply communicate concerns to the DEP. The give and take of the established due regard process is eradicated because, under the proposed regulations, the DEP becomes the judge of what the operating conditions should be on public lands.

Not only is this a remarkable usurpation of private property rights in the face of the legislature's express protection of same, but the proposed regulations are without any limit as to what concerns the resource agencies might submit, what constitutes a "harmful impact" under the regulations, or what the limits of mitigation might be. The proposed regulations are not even tied to the standard of "reasonable use" which has been a part of Pennsylvania Common Law for over 100 years and which, by virtue of extensive practice in the conventional oil and gas fields, is marked by established practices.

The process outlined by PADEP's Draft Final Rule unlawfully intrudes on established relationships under property and contract law, and would invite unbounded suggestions for the mitigation of perceived impacts from state agencies, local municipalities and schools, in what appears to be a plan to obstruct, rather than foster, the optimal development of the oil and gas resources of this Commonwealth. (212)

Response: Please see responses to comments 262, 264, 277, 280, 289, 315, 334 and 355.

The "due regard process" does not apply to these provisions. The "due regard process" pertains to the relationship between surface and subsurface owners. The Department has constitutional and statutory obligations to consider and protect public resources that are separate and unrelated to the property issues between surface and subsurface owners. The provisions in §§ 78.15 and 78a.15 establish a process for the Department to consider and protect public resources from the impacts of a proposed well and coordinate with public resource agencies to fulfill these obligations. These provisions function to provide the Department with information necessary to enable the Department to conduct its evaluation of potential impacts and to review the information in the context of the criteria outlined in §§ 78.15(g) and 78a.15(g), and to determine whether permit conditions are necessary to prevent a probable harmful impact.

390. Comment: Amend your proposed revisions to Pennsylvania's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. (259)

Response: Please see response to comment 355.

391. Comment: The proposed 200 foot setback between schools and fracking activities is unacceptable. There should be at least a 2 MILE distance between any school and unconventional gas drilling activity. (109)

Response: Please see response to comment 355.

392. Comment: The minimum setback from schools and sites that serve vulnerable populations such as hospitals and nursing homes should be not less than 1.5 to 2 miles since that is the average distance of recent evacuations. (129)

Response: Please see responses to comments 264, 289 and 355.

393. Comment: Regarding set-backs from schools: I urge DEP to institute at least a one-mile set-back between schools and shale gas operations. (194)

Response: Please see response to comment 355.

394. Comment: Please establish a one mile minimum between oil wells and schools. (261)

Response: Please see response to comment 355.

395. Comment: Setbacks for schools are insufficient. The distances in the draft regulations should be tripled. Measurement should be measured from property boundary of the school to the boundary of the gas lease. These “school setback” should also be apply to hospitals, churches, nursing homes, and day care centers. (85, 179)

Response: Please see responses to comments 264, 289 and 355.

396. Comment: DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells and extended the setbacks of waste storage from school buildings, parks, and playgrounds. It is essential to include schools to protect our children but the setbacks are completely inadequate. While there is no scientifically established “safe setback” beyond which there aren’t health risks from oil and gas development, the distances in the regulations (200 feet and 300 yards) are far too little to offer even limited protection. (84)

Response: Please see responses to comments 277 and 355.

397. Comment: Putting children at risk of being poisoned from fracking fluids and gas emissions from drilling within one mile of any school is unacceptable. Those who think it’s ok otherwise obviously doesn’t have their kids near such. (39a)

Response: Please see responses to comments 277 and 355.

398. Comment: Drilling is occurring too close to brand new communities & Schools. Example is Rex drilling near Weatherburn Heights, Valencia PA & the Mars School District. There are toxic chemicals in the gases which cannot all be contained and even more worrisome concern is that if there was an explosion, the mothers of these small children would have difficulty executing an evacuation process. Gas companies have an ethical responsibility to do their best to uphold the highest safety standards in their work which in turn should warrant keeping this dangerous activity away from large volumes of babies and children.(87, 87a)

Response: Please see responses to comments 277 and 355.

399. Comment: I did not know much about fracking until the past few weeks, but since something so controversial and dangerous has come so close to our schools and plan, I started reading and researching to better understand how fracking is done, and why it has so many environmental and health concerns. And since I am a registered nurse, I especially focused on the health effects in the literature. Since we are talking about fracking concerns to health, I compared fracking practices to medical care because medicine cannot achieve positive health outcomes without taking the research, analyzing it, and using what they learned to help make necessary changes to protect and improve health. You see, through medical research, it has been found that to achieve optimal health; prevention is the key to keeping ourselves, especially our children in the best health possible. Biologically speaking, to keep children in good health, they need clean air, clean food, and clean water. With a proposed fracking facility adjacent to our children, this violates our code as to what we need to help keep our children healthy. For you see, children, especially, are more vulnerable to air and water pollution for several reasons and I would like to explain in simple terms why. For instance, when a child is outside playing a strenuous activity, they will take large gulps of air in and they are more sensitive to pollutants because their lungs are more permeable to age 6 (what this means is toxins can get into their lungs more easily). In regards to

water contamination, babies and children can be more easily affected because they drink more water in relation to their body size so they experience more exposure to water and their possible contaminants than an adult would. With this said, our children in Weatherburn would be double dosed to the toxins because not only may they be living next to a fracking facility which has known toxic chemicals such as carcinogens (cancer-causing)in its mix, but then they have to go to school and breathe in the same, toxic cocktail of air. I feel it is highly unethical that gas companies would frack or even want to frack near residential plans and schools based on the evidence. Why we in Weatherburn are so adamant that fracking has no place directly beside our plan (and our position is not whether we believe or not believe in fracking) it is that our children will not get a break from the air pollution since we are 0.25 miles from the wells and within a mile of the schools. So our children will sleep, play, and go to school in a potentially, toxic area.

Another major concern, I see, is that most of our Weatherburn children are either in utero to around age 6. So from what I already stated above, our kids are in more danger due to their young ages, not fully developed immune systems and the extreme, close proximity to the fracking wells. And if you remember from high school science for example with radiation, time and distance is what you go by in regards to toxicity. The closer and longer you are exposed to something toxic, the greater the chance you can have an adverse effect. As I read for hours, I did not and still do not understand that if so many research studies state that there has been documented cases of ill health that range from nausea, to asthma, to full blown leukemia, why don't we just take the stand of prevention? The one conclusion that all of the studies pointed to was that there has been documented alterations in health in some of our children (especially the ones between the fracking site and up to 0.5 miles of the wells). The recommendations of many of the studies indicate that until more research is available, we have to be cautious and keep the fracking sites as far from pregnant woman and children as possible. And unfortunately, research takes time. In relation to medicine, if medicine ignored the evidence-based research, our patients would not have the best health outcomes and more harm would come to them. So gas companies need to step up to the plate to, listen to research studies, and alter their practices of fracking so close to large volumes of children. And as we all know from the recent Greene county tragedy, is that no matter how careful man is, toxic gases, mixed with the power of Mother Nature and the component of human error is just something that cannot be totally eradicated. So until the gas executives take into consideration the evidence to alter their current fracking practices of fracking anywhere they deem, we have to be the voices, protectors, and advocates for our children. To conclude, I, as well as the other parents and concerned members of our community are here to please ask for your help, guidance, support and expertise to help us keep our most prized assets safe; it is not money, it is not power, it is not our houses. It is our beautiful, precious, vulnerable children that cannot ever be replaced. (87a)

Response: To the extent that the commentator suggests an increased setback or additional measures for emergency response, please see response to comment 355.

To the extent the commentator suggests that additional protections are needed, please see response to comment 277.

400. Comment: There is drilling and fracking happening very close to my elementary and high schools (Mountain View School District). Research shows that when a pipeline explodes, the high consequence area can include a radius over a thousand feet from the explosion. Please improve *Definition of public resource (Section 78.15, 78.57, 78a.15, 78.57a)* (198)

Response: Please see response to comment 285.

401. Comment: § 78a.15 (f) (1) (vii) What is a “common area on a school property”?

What is a “playground” (does the playground need to be on school property other is it any type of playground)? (209)

Response: The Department amended §§ 78.1 and 78a.1 to include definitions for these terms.

402. Comment: Only the public resource agency is afforded the opportunity to submit comments as part of the public resource permit application process. Where the common area of a public school is deemed a public resource, the parents of the children attending the subject school are not afforded an opportunity to comment. The public resource agency is directed to provide comment on the “functions and uses of the public resource” and what must be done to “avoid or minimize probable harmful impacts to the public resource where the well, well site and access road is located.” Where there are probable harmful impacts to schools, it is the school children who are of greatest concern. And in cases where children are likely to be affected, the parents of those children must be afforded an opportunity to participate in a process aimed at ensuring their children’s safety and general welfare. (221)

Response: When the processes outlined in §§ 78.15 and 78a.15 are triggered as part of the well permit application process, the Department encourages public resources agencies to coordinate their comments with the potentially impacted community. When it is a “common area of a school’s property” this would include the entire school community.

403. Comment: Allowing gas development (well sites as well as other industrial activities) near schools puts children at risk. As currently written, Chapter 78a does not protect school children from harm.

Commenter has several concerns with respect to the portion of 78a quoted below:

- (1) There are documented and well characterized air emissions and resulting exposures to nearby properties and individuals.
- (2) The burden of proof, as it is spelled out in the regulation, is first on the school or school district to make the case that the DEP avoid or minimize probable harm to the students and staff at the school.
- (3) The DEP then weighs the impact of protective conditions for the school against the operator’s optimal development of the oil and gas resources. If appealed, the burden of proof that the students and staff must be better protected goes to the DEP. The industry does not necessarily need to address the health concerns raised and the DEP may be insufficiently attentive to the health risks it has the opportunity to mitigate.

Commentator believes that the DEP needs to reconsider this approach to probable harm to a public resource, particularly a school. We fear that future epidemiological research as well as the lived experience of the children at schools near gas development will reveal the proposed form of regulation as insufficiently protective of school children’s health. We question DEP’s emphasis on the property rights of the applicant and instead, support empirically based, protective set-back distances that would apply to schools throughout the state, regardless of the impact of those setbacks on natural gas operators. There is a growing body of literature on health risks posed by close proximity to unconventional natural gas development activity (cited in the following pages)

as well as information on setbacks employed under other circumstances, which can be tapped to guide setback decisions.

The most recent studies show the need for unconventional natural gas development regulations to include a strong focus on the potential to damage child health. We encourage the DEP to consider research on risks associated with close proximity to wells and compressor stations.

Moore et al. (2014) report, in particular, in pre-production, particulate matter (PM_{2.5}), PM₁₀, methane (CH₄), nitrogen oxide (NO_x), volatile organic compounds (VOCs), silica (sometimes 10 or more times higher than the recommended exposure limit for workers), benzene, toluene, ethylbenzene, and xylene (BTEX), hydrogen sulfide (H₂S), and formaldehyde are released. Several of the chemicals cited by Moore are known or suspected carcinogens and can produce a variety of non-cancer health effects, particularly in the respiratory system. In their extensive study of air emissions, Colborn et al (2012) found numerous chemicals in the air associated with unconventional natural gas development, including methane, ethane and other alkanes. They found many non-methane hydrocarbons especially during the drilling stage. Methylene chloride was detected 73% of the time. Formaldehyde and acetaldehyde were detected in every sample. Naphthalene was detected in every sample and was the highest concentration among the polycyclic aromatic hydrocarbons (PAHs) detected. The chemicals detected in Colborn's study can have an array of cancer and non-cancer health effects including those affecting the endocrine, respiratory and neurological systems.

McKenzie (2012) estimated chronic and subchronic non-cancer hazard indices (HIs) and cancer risks from exposure to hydrocarbons for residents living > 0.5 mile and >= 0.5 mile from wells in Colorado. The authors found that residents living <= 0.5 mile from wells were at a greater risk for health effects from exposure to natural gas development than those living > 0.5 mile from wells. They found a subchronic non-cancer HI of 5 for those living <=0.5 mile compared with an HI of 0.2 for those living > 0.5 mile from wells , which was driven primarily from exposure to trimethyl-benzenes, xylenes, and aliphatic hydrocarbons.

In her 2014 paper, McKenzie looked at birth outcomes and presence of multiple wells. Prevalence of congenital heart defects (CHDs) increased with exposure tertile, with an odds ratio of 1.3 for the highest tertile and neural tube defects prevalence was associated with the highest tertile of exposure, compared to no gas wells within a 10-mile radius.

Hill evaluated effects of proximity to drilling on birth outcomes. In PA, the introduction of drilling increased low birth weight and decreased term birth weight, on average, among mothers within 2.5 km of a well compared to others within 2.5 km of a future well. Adverse effects were also detected using measures such as small for gestational age and APGAR scores (Hill 2012). In CO, proximity to wells reduces birth weight and gestation length on average and increases the prevalence of low birth weight, premature birth and small for gestational age (2013). In Dallas – Fort Worth Hill finds that living in a zip code within the shale gas region reduces birth weight and gestation length on average, with mixed effects for low birth weight and premature birth. Findings also suggest that NO_x, sulfur dioxide (SO₂), formaldehyde and BTEX associated with shale gas development have adverse impacts on birth outcomes (Hill 2014).

Paulik (2015) sampled for 62 polycyclic aromatic hydrocarbons (PAHs) near well sites. PAHs are associated with cancer risk and respiratory distress. She found PAH levels were higher near well sites (<0.1 mile) than those between 0.1 and 1.0 mile and > 1 mile. Paulik concludes that PAH mixtures in areas heavily impacted by natural gas extraction may have higher than acceptable cancer risk, and this risk increases as exposure moves closer to an active well.

Rabinowitz (2014) included 180 randomly selected households with ground-fed wells in his study. Gas well proximity for each household was compared to the prevalence and frequency of reported dermal, respiratory, gastrointestinal, cardiovascular, and neurological symptoms. The number of reported health symptoms per person was higher among residents living < 1 km compared with >2 km from the nearest gas well. Reported skin conditions were more common in households <1 km compared with >2 km from the nearest gas well. Upper respiratory symptoms were also more frequently reported in persons living in households less than 1 km from gas wells compared to households 1-2 km or >2 km from nearest well.

These peer reviewed and published findings, as well as personal reports from residents themselves, document the need for DEP to assure that setback distances are protective of child health.

School children and risk

Overall, children are at higher risk from air and water contamination than are adults. This has been well established.

- Children have higher respiratory rates and breathe a greater volume of air than adults do. As a result, children exposed to air contaminants breathe in more toxics per pound of body weight than adults.
- Children accumulate more toxins in their bodies than adults. Their bodies are still maturing and they cannot metabolize some toxicants as well as adults. They don't detoxify as efficiently.
- Children's lungs are still developing and they have narrower airways than adults. Children are more vulnerable to the harmful effects of ambient air pollutants. As their lungs are not completely developed, children may experience greater exposure to environmental pollutants than adults and higher doses of varied composition may remain in their lungs for a greater duration (Tzuvian 2005).
- Children spend more time engaged in vigorous activity outside.
- Children's brains are still developing. Many classes of the toxic agents released in air and water during unconventional natural gas development are known to interfere with developmental processes within the brain (Rodler 1995).

Children, by law, must spend at least 180 days per year at school. Concerned parents are prevented from taking protective steps to protect their children's health and are thus depending on the DEP regulations to do so.

In Pennsylvania, public schools are open for instruction at least 180 days. The number of instructional hours in a school year is to be at least 450 for half-time pre-K and kindergarten, 900 for full-time pre-K and kindergarten and elementary schools and 990 for secondary schools. While children spend the bulk of their school day inside, they may frequently be outside for recess and gym class. That said, outdoor air contamination quickly becomes indoor air contamination.

This can constitute a great deal of exposure for these school children.

Exposure to ozone, particulate matter, sulfur dioxide, and nitrogen oxides (all of which are associated with UNGD) have been well documented to exacerbate asthma (Tzuvian 2011). In the 2011-12 school year, 9.55% of Washington County students, 10.64% of SW Pennsylvania students and 12.05% of Pennsylvania students had a diagnosis of asthma (PA DOH 2012). In Pennsylvania in 2010 the child lifetime prevalence of asthma among males was 18.6 percent. For girls the child lifetime prevalence was 10.1 percent (PA DOH 2012).

Of 66 reviewed studies addressing asthma and school attendance, virtually all showed a correlation between the illness and high rates of student absenteeism (Taras 2005). (186)

Response: To the extent that the commentator suggests an increased setback, please see response to comment 273.

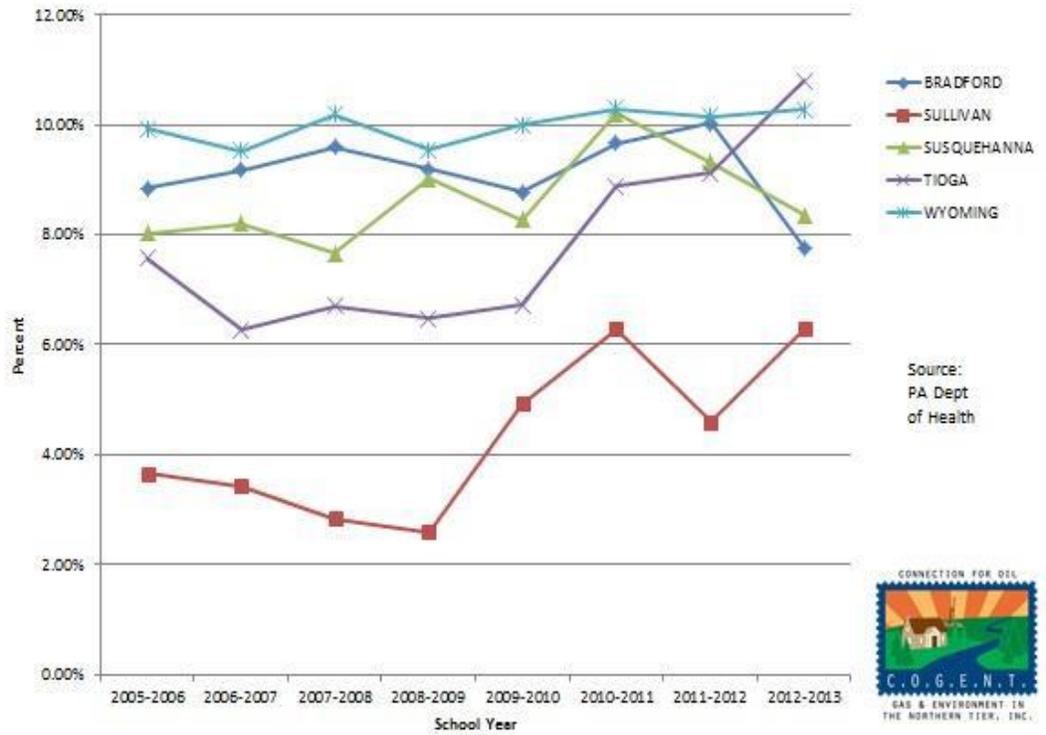
To the extent that the commentator suggests that additional protection are needed, please see response to comment 277.

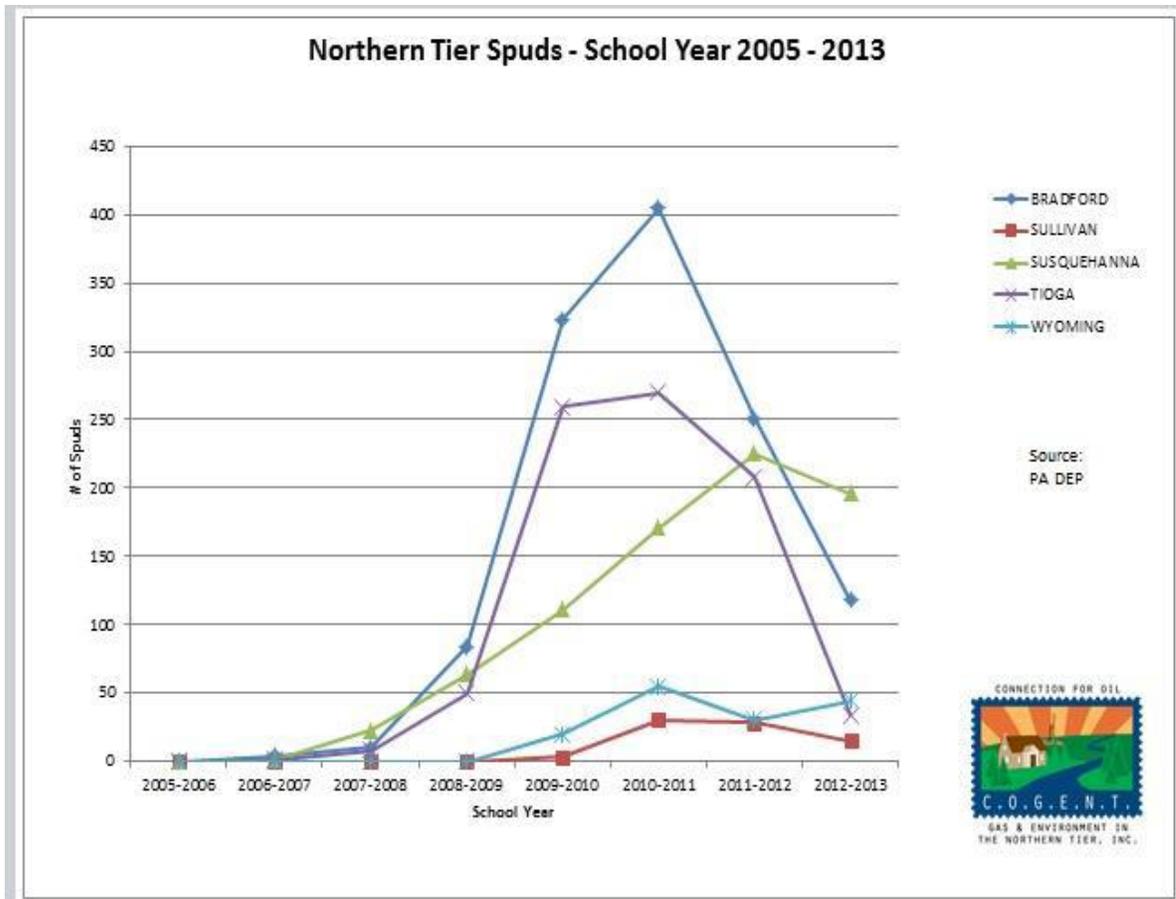
To the extent that the commentator suggests that the Department conduct further research, the Department will consider that comment further as it is outside the scope of this rulemaking.

404. Comment: §78a.15.(f)(vii) WITHIN 600 FEET OF COMMON AREAS ON A SCHOOL'S PROPERTY OR A PLAYGROUND.

We are still lacking long term air monitoring data on air emissions concerning drilling, fracturing, work-over rigs and producing well pads. There is a lack of information what effect these emissions may have on children. According to the PA Department of Health's School Age Asthma statistics, (which we've been tracking) the Northern Tier's school age asthma rates have been increasing since development began. We are continuing to lack long term data on the well development's harmful emissions such as VOCs & HAPs and what this may mean to children attending school, playing sports etc. in areas that are within measured feet of well pads.

Northern Tier School Students with Medical Diagnosis of Asthma 2005 - 2013





A school district may desire dialogue between the district, jurisdictional fire company and operator in order to craft an effective incident action plan. This plan would enable all parties to know their roles in the event of an emergency that may occur while school is in session. The revision to 600' would provide this opportunity. School properties located within zoned municipalities may provide for such a requirement. School properties located within non-zoned municipalities have little or no opportunity for such a requirement; that does not necessarily mean they are at lesser risk.

One example of how this provision may assist in better operations near school common areas occurred during the fall of 2014 at Elk Lake School District. At the culmination of the annual fall sports activities, Elk Lake sponsors their Annual Homecoming which includes recognizing senior sports participants. During 2014 when this annual festivity occurred, flaring was taking place at the well pad behind the school common area. Despite the use of the field PA system, those in attendance could not hear what was being said due to the loudness of the flare. Due to new regulations, for the most part, flaring is a well development activity of the past. However, it is an example of why an operator needs to communicate or have permit conditions that dictate segments of time when work can/cannot occur. There is a good chance that drilling or fracturing would provide the same outcome to those attending Homecoming with coinciding well activity. If we are all going to co-exist, there needs to be land-use respect with the neighbors and in this case, school common areas. It is important to note, that in this particular case, the nearest well pad to the school common area, measured well pad edge to common area edge is approximately 920 feet. Thus, there is most definitely a reason to consider extending the proposal of 200 feet to that of 600 feet or something greater.

The proposed 200 feet, as a notification zone is too short a distance to enter into a discussion on how to avoid or minimize probable harmful impacts for school children and activities.

Therefore, we are recommending the distance be revised to a minimum of 600 feet or more appropriately, perhaps something greater. (We had proposed at the March TAB meeting 600 feet; subsequent to that meeting we were advised of the situation that occurred at Elk Lake School District's Home Coming.) (170)

Response: Please see response to comment 355.

405. Comment: 78a.15 (f)(vii) We strongly support the addition of the notification zone for schools and playgrounds. Our watershed area includes an elementary school where there are several well pads already within 3,000 feet. We have a jointly held multi-muni association park within the development area equipped with playground equipment, baseball fields and a pavilion. The Creek Junction Park is open to the public daily where playground equipment and basketball court is utilized by families and groups. The pavilion provides location for everything from outdoor church services, family reunions and auction/barbeques. The location, while it is not attached to a school, should a well pad be able to be sited nearby could affect the daily functions and use of the park. Additionally, we also have a little league complex within our watershed that is located on private property with a 99 year lease with the local athletic association. Children of all ages and adults are regularly seen playing ball at this complex from early spring through fall. We'd prefer to see the notification zone extended to a more suitable longer distance. 200 feet is not an optimal notification zone for our local elementary school, Creek Junction Park or locally leased ball fields. (171)

Response: Please see response to comment 355.

406. Comment: Regarding the permitting of wells and pipelines a mere 200 feet of common areas on school property or playground areas is insufficient for the safety of our children. The potential for accidents alone would suggest at least a mile setback, but the actual emissions and damaging noise and chemicals should require such a setback for safety. (220)

Response: Please see response to comment 355.

407. Comment: You need to make sure that our citizens are protected from the potential threats of fracking. You need to adopt a regulation that gas operations cannot occur within 1 mile of any school in the state. This regulation should include all operations of the gas company, including drilling, transport and processing of toxic fracking fluid, and handling of the gas itself.(137)

Response: Please see responses to comments 272 and 355.

408. Comment: §78.15 and §78a.15. Application requirements.

We strongly support the inclusion of school property and playgrounds in the list of public resources (§78.15(f)(1)(vi) and §78a.15(f)(1)(vi)), which would require well permit applicants to submit additional information; establish limits of disturbance; and allow DEP to impose additional permit conditions. This change signals a recognition by DEP of the health and safety risks posed to children and others who spend time on school property. DEP should extend this limit of disturbance to locations where other equally vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as DEP's designated environmental justice areas).

In general, the closer to the source of pollution (e.g., a well or tank), the greater the potential for exposure to contaminants and the likelihood of impacts to health. However, even if DEP decides to require permit applicants to adopt protective measures (e.g., sound barriers or emissions controls), the distance restriction of 200 feet is too small to substantially reduce impacts.

To improve protection from pollution, noise, and light and safety from traffic, accidents, and explosions, §78.15(f)(1)(vi) and §78a.15(f)(1)(vi) should be amended to extend the limit of disturbance from school property to one mile and to include wells, waste storage facilities, access roads, tanks, and any other infrastructure and equipment used in oil and gas activities.

While there is no scientifically definitive distance at which air contaminants cause health impacts, nor an established distance beyond which they would never occur, recent studies suggest the potential for contamination at much longer distances than the requirements included in the draft regulations. A study by the City of Ft. Worth on air quality in gas fields found concentrations of formaldehyde above state regulatory standards 750 feet beyond the site's fence line. Air modeling conducted in Pennsylvania showed nitrogen oxide above state regulatory standards up to one mile of the Barto Compressor Station in Lycoming County.

A Colorado School of Public Health study of air emissions around gas well operations found that residents living less than a half mile away are at higher risk of respiratory, neurological, and other health impacts and have a higher lifetime risk for cancer, based on exposure to pollutants, than those who live at farther distances. Most recently, a study by researchers at Oregon State University and the University of Cincinnati found that residents living closest to active oil and gas wells had an exposure risk for polycyclic aromatic hydrocarbons (known to cause cancer and respiratory problems) higher than the United States Environmental Protection Agency's acceptable risk level, and that risk estimates decreased 30 percent at distances more than one mile away.

Similarly, Earthworks' survey of health impacts in Pennsylvania found that as the distance from gas wells and facilities decreased, the percentage of respondents reporting specific health symptoms (such as throat irritation and headaches) increased. In addition, recent research underscores the role that landscape, wind and weather conditions, and the stage of production play in determining the intensity of exposure and, in particular, how both episodic events (e.g., compressor station blowdowns) and repeated exposure can worsen health effects. (188)

Response: Please see responses to comments 263, 271, 272, 274, 277, 289, and 355.

- 409.** Comment: Protect the Children. DEP should require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property. (354)

Response: Please see responses to comments 272 and 355.

- 410.** Comment: The PA DEP must amend its proposed revisions to the state's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. (258)

Response: Please see responses to comments 272 and 355.

- 411.** Comment: You require a notification and not a setback for schools. Meaningful setbacks must be established. The distance of 200 feet for a gas well site from a school's property or playground is

woefully inadequate. You are quite aware of the Chevron explosion/fire and loss of life for young Ian McKee. Revisit your files. Use the info on hand for safe distance. A gas well has the potential for a serious accident. Please do not allow any gas well site to be built within one half mile of any structure or facility that houses children-including not only where they attend school but where they live.

Gas wells should not be in our backyards, front yards or our SCHOOLYARDS! (244)

Response: Please see response to comment 355.

412. Comment: As a member organization of the Protect Our Children coalition, we initiated a petition calling for a one mile minimum separation between schools and oil & gas activities, something not provided in the proposed revisions. I am submitting the 4665 signatures we have collected as of the time of this submission for the record. Many of the comments made by signers indicate that even a one mile separation is insufficient. We urge you to amend the rules to include the separation before approving them.

The evacuation zone around a fire, explosion, or blow out is often two miles. It can extend even farther, so we think that a one mile minimum is insufficient in that regard and ask that you err on the side of caution and provide the greatest setback possible. We also know that there is no scientifically-established safe setback from oil & gas activities, yet we do know the exposure to the kinds of toxins in and around oil & gas operations can cause health and developmental problems in school-age children. For both of those reasons and for the peace of mind of parents of all children, we ask you to protect Pennsylvania's children and establish a deep setback. (257)

Response: Please see response to comment 355.

413. Comment: Amend your proposed revisions to Pennsylvania's oil & gas regulations to include a one mile minimum separation between schools and oil & gas operations. (259)

Response: Please see response to comment 355.

414. Comment: (vii) "Within an area designated as a wellhead protection area as part of an approved wellhead protection plan" What is this? It is not defined in Definitions. (204)

Response: The Department amended §§ 78.15(f)(1)(vii) and 78a.(f)(1)(vii) in the final rulemaking to provide the needed clarity. These section specify that the process in §§ 78.15 applies when the limit of disturbance of the well site in located within zones 1 and 2 of a wellhead protection area as part of a well head protection program approved under § 109.713 (relating to wellhead protection program).

415. Comment: Section 78a.15(f)(1)(viii) - Application Requirements

Please define what is meant by a "wellhead protection area." Who can establish a wellhead protection area? How would a wellhead protection area be established? In light of the proposed permit restrictions that would follow from the presence of a wellhead protection area, the Department should further define this. (222)

Response: Please see response to comment 414.

416. Comment: Wellhead Protection Area – further clarification is needed on what constitutes a

“Wellhead Protection Area”. This section should specify that the wellhead protection areas is not as it is defined in the “Wellhead Protection Plan” and only pertains to that area that is zoned for protection by the municipality involved.(335)

Response: Please see response to comment 414.

417. Comment: The commenter greatly appreciates the efforts of DEP to amend Chapters 78 and 78a to improve the protection of Pennsylvania’s vital drinking water resources. In particular, water suppliers with approved wellhead protection plans will be included in the notification process, the land disturbed from well development activity is included in the notification area and more stringent surface water protection measures have been proposed. (237, 246, 249)

Response: The Department acknowledges the comment.

418. Comment: 78.15.f.vii and 78a.15.f.1.vii and 78a.15.f.1.vi should all require that the applicant notify DEP if the limit of disturbance at the site lies within a SWPZ, as defined by a DEP-approved SWPP. At minimum, under 78.15.f, the original “vi” should be reinstated to include the notification of a water supplier with a water well, surface water intake, reservoir or other water supply extraction point that is within 1000’ of a proposed well site. (249)

Response: The wellhead protection program is established under § 109.713 and allows for an objective and identifiable area. Regarding 78.15(f)(1)(vi), this provision was deleted from Chapter 78 because it was specific to unconventional wells. This provision was retained in Chapter 78a.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

419. Comment: Act 13 expressly provides for the protection of water wells under Section 3215(a) through a setback requirement that can be waived by the owner of that supply. Given that the legislature already considered and addressed wellhead protection in this manner, there is no authority for PADEP to create either duplicative or additional protection by expansion of the listed public resources in Section 3215(c). The legislature considered and comprehensively provided for the protection of water supplies in the adoption of Act 13 in 2012. The legislators deliberately chose to add precise protection with respect to unconventional well locations in Section 3215(a) and drinking water supplies in Section 3215(c) and created obligations for PADEP in Section 3218.1 .2 In the face of this comprehensive statutory scheme, the inclusion of wellhead protection areas in the permit review process is clearly beyond PADEP and EQB’s statutory authority and should be deleted.

Further, if PADEP intends to protect some “area” beyond the setbacks and protections already specified in Act 13, neither the need nor purpose for such expansion can be gleaned from the proposed revision, preventing the commentator or anyone else from providing a well-informed comment on whether the revision properly addresses either a need or PADEP’s purpose in making the revision. And even if there were legal authority for PADEP or EQB to add wellhead protection areas to the list of public resources provided by the legislature, and the need for such protection justified the proposed revision, “wellhead protection area” is not a defined term, and

approved wellhead protection plans are not readily available, preventing both compliance and enforcement of the rule.

Regulation must provide clear and predictable direction to the public and the agency tasked with its enforcement. The proposed addition of wellhead protection areas to a list of public resources to be considered by PADEP in the course of issuing well permits has no clear legal authority, purpose, justification or direction with respect to compliance or enforcement. It is clear, however, that, as written, it will open the door to protracted and costly discussion and debate between and among permit applicants, permit reviewers and the public. If this is the purpose of the revision, it is certain to succeed. (213)

Response: Please see responses to comments 264 and 414.

420. Comment: We are encouraged by the Department’s wording in § 78.15(f)(1)(vii), and § 78a.15(f)(1)(viii), requiring that the applicant notify the Department if the limit of disturbance at the site lies within an approved wellhead protection area. (163)

Response: The Department acknowledges the comment.

421. Comment: We respectfully request that the terms Source Water Protection Zone (SWPZ) and Source Water Protection Plan (SWPP) should be substituted everywhere in the proposed changes for wellhead protection zone and wellhead protection plan, respectively, thereby giving the Commonwealth laws that are more protective of all drinking water sources. (163)

Response: See response to comment 2336 .

422. Comment: § 78.15(f)(1)(vii), § 78a.15(f)(1)(viii), and § 78a.15(f)(1)(vi), should all require that the applicant notify the Department if the limit of disturbance at the site lies within a SWPZ, as defined by a DEP-approved SWPP.(163)

Response: See response to comment 2336.

423. Comment: Source Water Protection Zones (SWPZs) and Source Water Protection Plan (SWPP) should replace wellhead protection zone and wellhead protection plan every place it appears in the Chapters. This will allow the inclusion of water suppliers relying on surface water sources in the notification process too. (249)

Response: See response to comment 2336.

424. Comment: 78.15.f.vii and 78a.15.f.1.vii and 78a.15.f.1.vi should all require that the applicant notify DEP if the limit of disturbance at the site lies within a SWPZ, as defined by a DEP-approved SWPP. At minimum, under 78.15.f, the original “vi” should be reinstated to include the notification of a water supplier with a water well, surface water intake, reservoir or other water supply extraction point that is within 1000’ of a proposed well site. (237, 246, 249)

Response: See response to comment 2336 regarding use of source water protection zones in place of wellhead protection area. Regarding 78.15(f)(1)(vi), this provision was deleted from Chapter 78 because it was specific to unconventional wells. This provision was retained in Chapter 78a.

425. Comment: (78a.15(b.2)(f)(1)(viii)) The commentator recommends that this provision be

withdrawn, and that PADEP proceeds with a separate proposed rulemaking in order to fully and properly comply with the Regulatory Review Act. The term “wellhead protection area” is not defined, as discussed in our general comment to § 78a.1. Given that the term is undefined, the potential impact of this provision cannot be adequately assessed. Additionally, information regarding wellhead protection areas and wellhead protection plans is not readily available to the public.

In 58 Pa. C.S. § 3215(a) the Legislature considered and addressed unconventional well location restrictions pertaining to setbacks from water wells and water supply exaction points by a water purveyor, for the purpose of protecting water supplies. Section 2315(a) provides for a waiver of the setback requirement by the owner of the water supply. The scope of (vii) is clearly beyond the Legislature’s intended level of protection for water supplies and should be deleted.

Wellhead protection area is defined in Chapter 109, but we recommend a revised definition for the use of the term in 25 Pa. Code § 78.15. Relying on the Chapter 109 definition of wellhead protection area would likely have broad implications not considered by the drafters of the proposed ANFR; at a minimum, the definition should be limited to Zone I wellhead protection areas as defined in § 109.1. (210)

Response: To the extent that the commentator asserts that the Department did not comply with the Regulatory Review Act, please see responses comments 2301 and 2335.

Please also see responses to comments 2336, 264 and 414.

426. Comment: § 78a.15(f)(2) While Commentator does not object to the requirement that a potentially affected and appropriately defined public resource agency be provided notification and opportunity to comment on a permit application, Commentator is concerned about the additional time required from notice to permit submittal and the additional time required for written comment regardless of whether it is needed. Permit processing times are currently taking anywhere from 60 days to several months, which has already presented a significant challenge to operational efficiency. Adding 30 days to notification requirements prior to permit submittal further increases these delays, in some cases challenging the very economics of our operations, which already face a low commodity price environment. Similarly, should a public resource agency provide comments on a permit application quickly, the requirement to wait 30 days adds delay without benefit. Commentator suggests that proof of timely notification be required with the permit application but not be limited to a 30 day comment period should the public resource agency respond earlier. Alternatively, the public comment period should be able to be conducted concurrently during the permit application review process. Commentator suggests that the regulatory language be modified to require notification to the public resource agency in a similar manner as is required for surface owners under Act 13. Commentator requests that the existing permitting application forms that track record of notification be modified to add in a column for public resource agencies. To facilitate this change, Commentator suggests the following modified language:

The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1). Notification to the public resource agency shall be on forms, and in a manner prescribed by the department, sufficient to identify the details of the application and include a copy of the survey plat identifying the limit of disturbance of the well site. The applicant shall submit proof of notification with the well permit application. (199)

Response: The timeframes provided in these sections provide for adequate notice prior to application submittal and a reasonable time for public resource agencies to respond with comments within the existing permit review timeframe.

427. Comment: We support the Department’s extension of the comment period for resource agencies from 15 days to 30 days in §§ 78.15(f) and 78a.15(f). The additional time will make it more feasible for the resource agency to assess impacts and develop mitigation recommendations to protect the attributes of the public resource that will be affected. (231, 231a)

Response: The Department acknowledges the comment.

428. Comment: Section 78.15 (f)(2). I could not find an actual definition of ‘public resource’ to who the proposed applicant is to submit the well site information to for comment to the Department. Does the Department intend to provide a clear definition of public resource? Would this include municipalities and county planning offices? School districts? Watershed Groups? Public water facilities? Local, county and state parks and recreation departments? For clarity, the Department should clearly identify who are the intended ‘public resources’ that the applicant is to submit information to regarding their project and who will have the ability to provide comment to the Department. (9)

Response: Sections 78.1 and 78a.1 define “public resource agency”. Sections 78.15(f)(1) and 78a.15(f)(1) of the final rulemaking include the public resources that are required to undergo additional consideration as part of the permit application review process.

429. Comment: 78a.15(f)(2) The commentator recommends that the previous deadline for providing necessary information to the public resource agency (i.e., 15 days prior to submitting a permit application) be retained.

The “if any” wording should also be retained here, consistent with the wording in the introductory paragraph to (f).

The commentator also recommends that the Department revise this paragraph to reflect the situation where a public resource agency is also the surface landowner. Additionally, the Department should clarify that the time periods in (f)(2) are measured in calendar days. (210)

Response: The Department declines to amend these provisions to limit public resource review to 15 days. Based on comments received, the Department determined that 30 days was a reasonable and appropriate timeframe given the meeting schedules of some public resources agencies. In the final rulemaking the Department retained the “if any” language in §§ 78.15(f)(2) and 78a.15(f)(2). Insufficient information was provided related to a suggested change related to surface landowner. Therefore, the department declines to make that change. Further, the timeframes apply to calendar days in this section.

430. Comment: 78a.15(f)(1)(viii) and 78.15(f)(1)(viii) - The terms “wellhead protection area” and “wellhead protection plan” need to be defined. (190)

Response: Please see response to comment 414.

431. Comment: 78a.15(f)(2). Local government units should be added to the notification requirement of all applications that will effect public resources. The increase from 15 to 30 days is an improvement but due to local government meeting schedules in practice, 45 days will provide the

time needed for local government to perform its review and comment through a mandated public process. (182)

Response: 3211(b)(2) requires well permit applicants to send a copy of the plat to municipalities. Further, based on comments received, the Department determined that 30 days was a reasonable and appropriate timeframe given the meeting schedules of some public resources agencies.

432. Comment: § 78a.15(f)(2) - We had previously raised concerns over the 15 day notification time periods outlined in this section of the proposed regulations. We are pleased to see the time periods have been changed to 30 days as we recommended. This is a more manageable timeframe for public resource agencies (such as NPS) to provide written comments to the Department. Additionally, we suggest the revised regulations read (in bold italics), “The applicant shall forward by certified mail, return receipt requested...” The U.S. Postal Service “return receipt requested” would ensure applicants meet the required proof of notification stipulation in the regulations. (200)

Response: §§ 78.15(2) and 78a.15(2) requires notice to be provided by certified mail and the applicant must provide proof of notification. The Department added a new definition of “certified mail” in §§ 78.1 and 78a.1 in the final rulemaking. Accordingly, requiring return receipt requested would not be appropriate.

433. Comment: § 78a.15(f)(4) and § 78.15(f)(4) - Regarding the language “The information required in paragraph 3 shall be limited to the discrete area of the public resource that may be affected by the well, well site and access road”, the term “discrete area” is not defined, and is ambiguous. As we note above, the term should be defined in § 78a.1 and § 78.1. This language does not specify who makes the determination of the area that may be affected by the well, well site and access road. We suggest that the resource agency involved, for example the National Park Service, which is most familiar with its resources, should have input as to the area, specific resources and functions that may be affected by the well, well site and access road, and into the measures proposed to avoid or mitigate impacts. The NPS would welcome dialogue with developers to define specific areas of potential impact and seek mutually agreeable measures to avoid or mitigate those impacts. (200)

Response: The Department declines to define the term “discrete area” at this time. If the need for further clarification becomes apparent during implementation of this provision, the Department will develop guidance to address any issues identified. To the extent the commentator suggests that the public resource agencies aid in defining this area, the Department welcomes this input in the comments submitted by public resource agencies.

434. Comment: Section 78.15(f)(2) The requirement of the applicant to notify the public resource agency at least 15 days prior to submitting a permit application to the Department and the 15 days that the resource agency has to respond to the Department, in writing, is too short a time window to accurately respond. I do not find that 15 days is adequate time for a resource agency to be able to accurately respond to the Department. At minimum, and more in line with PA Act 14, 30 days could be provided in order to respond. (9)

Response: The Department agrees and has made the appropriate changes to these provisions.

435. Comment: We strongly support the time extension for other state agencies to evaluate potential

impacts to “public resources” for plans and permits that are to be issued by the DEP. However, when resources affected may be considered broader in scope and require federal agencies or multi-state players, such as DRBC, to offer an expert opinion, we believe the possibility of additional time extensions should be referenced to allow for additional collaboration with important partner organizations when special resource issues are identified. (157)

Response: The Department has provided 30 days to public resource agencies to provide comments. Based on comments received, this is a reasonable and appropriate timeframe. The Department suggests that well permit applicants start this process as soon as possible to ensure adequate coordination with public resource agencies prior to submitting applications.

436. Comment: Is this 30 days from the date notification was sent by the operator? If so, it should state that to be clear. So as not to be confused with the date the PRA received the notification. (204)

Response: §§ 78.15(f)(2) and 78a.15(f)(2) provides: “For the date of notification, the public resource agency has 30 days to provide written comments to the Department . . .” This section explicitly provides that the 30 days is triggered by receiving notice. The Department disagrees that further clarity is needed.

437. Comment: Section 78.15 Application requirements. In addition to requiring setbacks from public resources (parks, state forests, game lands, wildlife areas scenic rivers, national landmarks, critical communities, historic or archeological sites, school properties, well head protection zones, the operator is required to describe the functions and use of the public resource. The operator should not be made to speculate on the functions and use. This is a transfer of the permitting review process from the Department to the operator or to other agencies in the State. DEP should not shift its responsibility to others. (335)

Response: The Department has determined that the public resource impact screening provisions as outlined in Section 78.15(f)-(g) and 78a.15(f)-(g) are reasonable, appropriate and necessary to ensure that the Department has complied with its obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Please see the response to comment 262.

Requiring that a well permit applicant provide information about the proposed location and potential impacts along with coordination t with public resource agencies is necessary and appropriate to ensure the Department fulfills its constitutional and statutory obligations.

438. Comment: § 78.15 (f)(2) & § 78a.15 (f)(2)

We repeat and reaffirm our prior comment to the process of notice and comment proposed under Section 78a.15(f)(2), which has been revised in a manner that exacerbates rather than resolves the problems created in the prior draft through the inclusion of additional public resource agencies to be notified and additional public resources to be considered. DEP’s proposed revisions in paragraph (f)(2) are without statutory authority, and would result in significant costs because the revisions do not comply with Pennsylvania law and do not contain a process for respecting private property rights of oil and gas owners. (213)

Response: Please see responses to comments 262, 264, 268, 280 and 315.

439. Comment: 78a.15(f)(3)(iii). DEP does not have authority under the constitution to allow detrimental impacts unless there has been a demonstration of compelling state interest and that the least impactful means has been utilized. It is insufficient to simply “mitigate impacts.” Any detrimental impacts need to be remediated and there needs to be full restoration. The proposed regulations do not accomplish this in regards to public resources. (182)

Response: Please see responses to comments 262 and 315. This rulemaking is consistent with the Pennsylvania Constitution and applicable statutes and does provide reasonable and appropriate protections for public health and safety and the environment.

440. Comment: 78a.15(f)(3) Commentator’s suggested amendatory language:

(i) an identification of the public resource, which may include a description of the functions and uses of the public resource.

(ii) a description of the measures proposed to be taken to avoid or mitigate impacts, if any. (210)

Response: The Department declines to make this suggested amendment. These provisions provide a reasonable and appropriate outline of information to be included in the well permit application.

441. Comment: In addition to requiring setbacks from public resources (parks, state forests, game lands, wildlife areas scenic rivers, national landmarks, critical communities, historic or archeological sites, school properties, well head protection zones, the operator is required to describe the functions and use of the public resource). My objection is that the operator is to speculate on the functions and use and that this is a transfer of the permitting review process from the Department to the operator. (343)

Response: Please see response to comment 437.

442. Comment: Comment: (78a.15(f)(4) The commentator recommends the Department add clarifying language regarding the term “discrete area”.

Commentator’s suggested amendatory language:

(4) The information required in paragraph (3) shall be limited to the discrete, physically separate and distinct area of the public resource that may be affected by the well, well site and access road. (210)

Response: Please see response to comment 433.

443. Comment: As authorized by Act 13, the EQB is required to develop criteria upon which permit conditions would be based and which would protect the rights of mineral owners while allowing for optimal development of oil and gas resources. Upon review of the proposed revisions, such criteria is missing. The failure to offer a procedural construct for the regulations will exacerbate regulatory uncertainty for the oil and gas industry. (113)

Response: Please see response to comment 315.

444. Comment: § 78a.15 (g) - Define “probable harmful impact”? An impact is either harmful or not harmful; “probable harmful” is subjective and is dependent upon an individual’s interpretation of a specific circumstance. (187)

Response: Please see response to comment 264.

445. Comment: Section 78a.15(g) replicates, in part, the language of Act 13 Section 3215(e) which recognizes the oil and gas owners’ property rights to develop the oil and gas resources. However, Section 3215(e)1 also requires the EQB to develop by regulation criteria for the DEP to utilize in the imposition of any permit conditions to protect public resources while respecting those property rights and ensuring optimal development of those resources. DEP has not proposed any such criteria. The rule thus fails to comply with Act 13, which requires that the EQB develop these criteria in this rulemaking.

IRRC suggested in its April 14, 2014 letter that the final-form regulation include criteria “that will allow the regulated community to know how the Department will determine if an application poses a probable harmful impact.” Additionally, IRRC noted in the same letter the phrase “probable harmful impact” used in subsections (f)(2) and (g) is vague. The quality of the evidence required for the Department to determine that harm to a public resource is probable and impose a condition in the permit should be clear and convincing evidence. (210)

Response: Please see responses to comments 264 and 315.

446. Comment: § 78a.15(g) Commentator is concerned that the proposed language of this section does not include any criteria, as required by Section 3215(e) of Act 13, that the Department must satisfy if it imposes permit conditions to protect public resources. This omission undermines the applicant’s right to appeal such conditions to the Environmental Hearing Board and to obtain meaningful judicial review. The provision should set forth specific criteria for this purpose, and it should specify that the evidence of probable harmful impact must be clear and convincing. (199)

Response: Please see response to comment 315.

447. Comment: The newly proposed regulations that purport to effect the legislative mandate of Section 3215(e) requiring the development of criteria (i.e. standards by which something may be judged or decided) for conditioning a well permit do not articulate or identify the criteria required to determine if the purposes enumerated in in Sections 3215(e) (1) and (2) have been satisfied.

Accordingly, without prescribing uniform standards that the department is required to “develop” and “to utilize” for judging whether the various enumerated purposes have been satisfied, the department may not under any circumstances condition well permits under the authority of Section 3215. Pointedly, the proposed regulations offer no reference whatsoever to any requirement that the department is even obligated to consider the Commonwealth's environmental statutes or the limitations of Section 3215 itself, such as the prohibition against abridgement of prior contracts or leases as expressed in subsection 3215(g), in rendering its decisions on and fashioning the terms of well permit conditions. The regulations as proposed would result in ad hoc administration, providing no objective standard to guide industry, the department, or the public, which in turn will inevitably lead to controversy and costly litigation. (252)

Response: Please see response to comment 315.

448. Comment: The proposed regulations are flawed as they do not articulate or identify criteria specifically required to be developed for utilization in the conditioning of well permits. (252)

Response: Please see response to comment 315.

449. Comment: §78.15(g) Permit Applications

DEP's proposed subsection (g) does not implement the requirement of Act 13, Section 121(e) because it does not provide criteria to allow the DEP to balance the three interests stated in that section of the Act. Act 13 requires EQB to promulgate regulations to create criteria for the conditioning of well permits for the protection of public resources.

Suggested Regulatory Language and Revisions:

The presence of well sites and the conduct of oil and gas operations on or in the vicinity of Public Resources, as listed in Section 3215(c), are not in and of themselves an impact or harm requiring or authorizing the imposition of any well permit conditions under Section 3215(e). Because Section 3215(e) expressly requires the Department to ensure optimal development of oil and gas resources and directs the Department to respect the property interests of oil and gas owners mere inconvenience to users of Public Resources will not be the type of harm that may be mitigated by a condition placed on a well permit. When considering conditions to be imposed on well permits, necessary for the protection against probable harm to Public Resources, the Department will take the following steps:

1. Describe the Public Resource from the list in Section 3215(c) being considered for protection, as provided by the applicant in response to the question on the permit application and submission of the "Coordination of Well Location with Public Resources." Standard of Harm;
2. Determine if there is clear and convincing evidence to demonstrate that:
 - a. There will be permanent or long term (10 or more years) physical harm to the Public Resource from operations authorized by the permit,
 - b. the harm is clearly in excess of the reasonable use standard and
 - c. The harm is more likely than not.

If the harmful impact meets the above criteria; proceed to steps 3 through 5 Standard of protection:

3. Consider the minimum necessary measures to mitigate in consultation with the applicant and after consideration of pre-existing agreements between the parties.
 - a. Propose the minimum necessary mitigation as a permit condition only if existing mitigations will not address the circumstances.
 - b. Ensure the optimal development of the resource and protection of oil and gas property rights by conducting a thorough analysis of the costs of compliance with any recommended permit condition and the necessity to avoid waste of oil and gas resources through inappropriate locational constraints.

4. The issuance of a permit containing conditions imposed by the Department pursuant to this subsection shall be an action that is appealable to the Environmental Hearing Board. The Department shall have the burden of proving that the conditions were necessary to protect against a probable harmful impact of the public resource and that without the permit condition, the activity would not be a reasonable use of the surface. (212)

Response: The Department declines to make these changes, please see response to comment 315.

450. Comment: We object to the limitations in §78.15(g) and §78a.15(g) that could hamper the actual implementation of public resource protections; these should be deleted. DEP should not have to consider the “optimal development” of oil and gas when deciding whether to impose permit conditions. This would in effect give resource development precedence over the protection of environment and health, the very purpose for which the regulation was developed.

In addition, DEP should not have to bear the burden of proof in demonstrating that the additional permit conditions are warranted. Given the agency’s limited staff and resources, DEP may be less likely to impose permit conditions related specifically to public resources. This is particularly concerning in light of the 2012 Executive Order imposed by Governor Corbett that requires DEP to establish timeframes within which permit applications must be reviewed. Known as the Permit Decision Guarantee, the order aims to ensure that permits are processed “as expeditiously as possible” and makes “compliance with the review deadlines a factor in any job performance evaluations.” Under the policy, a basic drill and operate well permit must be issued in no more than 32 days. (188)

Response: 3215(e) of the 2012 Oil and Gas Act requires that the criteria include “ensuring optimal development of oil and gas resources and respecting property rights of oil and gas owners.”

Sections 78.15(g) and 78a.15(g) have been revised to remove the language regarding the Department’s burden of proof upon appeal of a condition necessary to protect a public resource. Section 3215(e) of the Oil and Gas Act states that the Department has the burden of proving that a well permit condition imposed to protect a public resource is necessary to protect against a probable harmful impact of the public resource.

451. Comment: PADEP proposed a process at § 78a.15(g) for PADEP to consider the impacts to public resources when making a determination on a well permit. The proposed regulation authorizes PADEP to include conditions in the well permit to avoid or mitigate impacts.

We support PADEP’S ability to include conditions in the well permit to avoid or mitigate harmful impacts to public resources. However, the regulation needs to take into account the full footprint of the proposed development (including, but not limited to the proposed well site, waste handling facilities, processing facilities, pipeline routes, storage areas, and access road), using the newly defined term “Oil and Gas Operations.” PADEP did not propose modifications to § 78a.15(g) in this 2015 version; however, we make specific recommendations below to ensure consistency with our recommendations for the other sections of § 78a.15 above.

We recommend that PADEP be required to include permit conditions to avoid potentially adverse impacts, and if avoidance is not possible, to mitigate such impacts on the public resource. If adequate avoidance or mitigation cannot be implemented, PADEP should deny the permit application as authorized under 58 Pa. C.S. § 3211(e.1)(1).The applicant should have the burden

of proof in any proceeding challenging either permit conditions imposed by PADEP in an effort to avoid or mitigate adverse impacts on public natural resources or the denial of a permit.

We recommend the following proposed revision to § 78a.15(g).

(g) If ANY PORTION OF the proposed FOOTPRINT OF A NEW OR EXPANDED OIL AND GAS OPERATION ~~well, well site or access road~~ poses a ~~probable~~ POTENTIALLY SIGNIFICANT harmful impact to a public resource, the Department ~~may~~ SHALL include conditions in the well permit to avoid or mitigate those impacts to the public resource's current functions and uses AND SHALL DENY THE PERMIT IF NECESSARY TO ASSURE COMPLIANCE WITH THE CONSTITUTION OR ANY LAW ADMINISTERED BY THE DEPARTMENT. The Department will consider the impact of any potential permit condition on the applicant's ability to exercise its property rights with regard to the development of oil and gas resources and the degree to which any potential condition may impact or impede the optimal development of the oil and gas resources. HOWEVER, THE DEPARTMENT SHALL NOT APPROVE PERMITS WITHOUT CONDITIONS REASONABLY CALCULATED TO AVOID OR MITIGATE POTENTIALLY SIGNIFICANT HARMFUL IMPACTS ON PUBLIC RESOURCES.

The issuance of a permit containing conditions imposed by the Department under this subsection is an action that is appealable to the Environmental Hearing Board. ~~The Department~~ IN SUCH AN APPEAL, THE APPLICANT has the burden of proving that the DEPARTMENT'S DECISION TO IMPOSE conditions ~~were necessary~~ to protect against a probable harmful impact ofN the public resource OR TO DENY A PERMIT WAS ARBITRARY AND CAPRICIOUS, AN ABUSE OF DISCRETION, OR CONTRARY TO LAW. (211)

Response: Please see responses to comments 272 and 315.

To the extent that the Commentator suggests that this provision include language that gives the Department the authority to deny a well permit based on our findings, the Department has discretion to deny a permit to drill or operate a well in only limited circumstances outlined in Section 3211(e.1) of the 2012 Oil and Gas Act. This would require a legislative change.

452. Comment: (g) How does the Department define “probable harmful impact to a public resource”?

Response: Please see responses to comments 264 and 315.

453. Comment: §78a.15(f) discusses impacts to public resources and a process for avoiding or minimizing those impacts.

§78a.15(g) indicates that DEP will consider probable harmful impacts of the well, well site or access roads to public resources and consider conditions to the well permit to avoid or mitigate those impacts. Conditioning the well permit to address potential impacts of other activities at the well site and access road is not appropriate. There are other regulatory avenues under other statutes and regulations to avoid or mitigate those impacts. It is recommended that this section be revised accordingly. (193)

Response: Please see response to comment 262 relating to the Department’s constitutional and statutory obligation to consider public resources during to permit application process.

454. Comment: §3215(e) of Act 13 requires the development by regulation of criteria for the department to use for conditioning a well permit based on its impact to the public resources identified in subsection (c) and for ensuring optimal development of oil and gas resources and respecting property rights of oil and gas owners. The process proposed in §78a.15(f)(2) does not provide criteria as required by statute. The statements in §78a.15(g) indicating that DEP will consider impacts to the public resource functions and use, without providing any criteria for use by DEP or the operator, is not consistent with the legislative intent. Without criteria, it is questionable whether or not DEP is authorized to condition a well permit for activities related to public resource protection. It is strongly recommended that DEP develop such criteria and promulgate those criteria in regulation as required by Act 13. (193)

Response: Please see response to comment 315.

455. Comment: §78a.15(g): Requiring the Department to consider the impact of its permit on “optimal” development of the oil and gas resources is profoundly improper. The requirement for optimality turns DEP into the agent of the applicant. How is DEP supposed to evaluate what is “optimal” for the applicant? What is the standard for “optimality”? Is DEP required by this provision of the rule to simply take the well operator’s word for what is “optimal”? The word ‘optimal’ must be stricken. (216)

Response: 3215(e) of the 2012 Oil and Gas Act requires that the criteria include “ensuring optimal development of oil and gas resources and respecting property rights of oil and gas owners.” Accordingly, these section mirror statutory requirements.

456. Comment: Placing the burden on the DEP to show that permit conditions are necessary to protect against probable harms turns on its head the near universal practice of requiring the petitioner to prove its case when bringing a challenge. When the DEP finds that there will be a probable harmful impact to a public resource, and it imposes permit conditions to mitigate those impacts, well permit applicants can challenge the conditions before the EHB. The rule, as written, states that the DEP will then have the initial burden of showing the conditions it imposed are necessary. Not only is this a startling departure from common practice, but it conflicts with Pennsylvania Supreme Court precedent. Further, it reflects bad public policy as it will incentivize DEP to be overly cautious in the use of permit exemptions, provide permit applicants with undue leverage, and will no doubt invite a challenge to nearly every permit condition DEP decides to impose.

Section 3215(e) of Act 13 provides that DEP must carry the burden of showing that its permit conditions are necessary. But in reviewing § 3215(e), the Pennsylvania Supreme Court had this to say:

If an applicant appeals permit terms or conditions—and only the applicant can appeal—Section 3215 remarkably places the burden on the Department to “prov[e] that the conditions were necessary to protect against a probable harmful impact of [sic] the public resources.” 58 Pa.C.S. § 3215(e). Viewed in terms of the constitutional mandates, this is *topsy-turvy*: Act 13 places on the Department the burden of proof and persuasion, and the people are allocated thereby the risk of an erroneous decision by the Environmental Quality Board. See *Commonwealth v. Sanchez*, 614 Pa. 1. 36 A.3d 24, 65 (2011). *This naturally invites the Department to articulate “necessary” conditions as minimal standards that an applicant would accept without litigation.* The scheme also provides the oil and gas operator *leverage* in the first instance to negotiate permit terms and conditions to optimize industrial development, even at the expense of protected environmental and habitability concerns. *The statutory scheme overall dilutes the Department's authority to*

regulate and enforce adequate environmental standards, and fosters departures from the goal of sustainable development. (emphasis added)

A plurality of the Supreme Court adopted the above quoted analysis and a majority struck down the provision. Not only is the DEP not statutorily compelled to require this burden switch, but court precedent prohibits it from doing so.

The same concerns articulated by the Pennsylvania Supreme Court are at play here. The DEP may hold back on imposing the conditions strong enough to protect against harmful impacts, and instead under-regulate out of fear of legal challenge. Even more troublingly, the threat of legal challenge could dissuade DEP personnel from imposing any conditions. As with all government agencies, DEP has limited resources. The DEP may not have the legal resources required to defend the many permit conditions that may need to be imposed and thereby face pressure to limit the use of permit conditions. For all these reasons, where a well site represents a probable harmful impact and the DEP imposes condition, the operator must shoulder the burden of demonstrating that the conditions are not necessary. (221)

Response: Sections 78.15(g) and 78a.15(g) have been revised to remove the language regarding the Department’s burden of proof upon appeal of a condition necessary to protect a public resource. Section 3215(e) of the Oil and Gas Act states that the Department has the burden of proving that a well permit condition imposed to protect a public resource is necessary to protect against a probable harmful impact of the public resource. This rulemaking is consistent with the Pennsylvania Constitution and applicable statutes and does provide reasonable and appropriate protections for public health and safety and the environment.

The Department disagrees with the commentator’s interpretation of applicable case law, please see response to comment 262.

457. Comment: Where DEP finds that a proposed well will likely have a harmful impact on a school common area or playground, the draft final rule does *not* require that DEP impose conditions to mitigate the harms. Instead, the rule states only that DEP “may” impose conditions on the permit. This is untenable. DEP must be required to impose conditions on a well permit where the well is found to pose a threat to school common areas and playgrounds. The rule as written allows for an absurd result: DEP finds that there is a probable harmful impact on a public resource but does nothing about it. (221)

Response: Sections 78.15(g) and 78a.15(g) have been amended to clarify the criteria the Department will consider when deciding whether to condition an oil or gas well permit based on impacts to public resources. Where probable harmful impacts warrant mitigation, DEP has adequate authority to include appropriate conditions. To the extent any person is adversely affected by DEP’s decision on whether to condition the permit based on the criteria, that person may seek review of the Department’s decision through appeal to the Pennsylvania Environmental Hearing Board.

458. Comment: Section 78a.15(g) proposes to impose the burden of proof on the Department when an operator appeals permit conditions. Section 3215(e)(2) of Act 13 of 2012, which attempted to shift that burden to the Department, was struck down as unconstitutional by the Pennsylvania Supreme Court in *Robinson Township. v. Commonwealth*, 83 A.3d 901 (Pa. 2013) (plurality opinion). In light of the *Robinson Township* decision, the burden of proof should remain on an applicant challenging a permit condition or decision, under the standard routinely applied in a

permit appeal. The burden proposed in the draft final rulemaking will be almost impossible to carry and must be revised if the Department is to have effective regulatory and enforcement powers.

The key points to remember in considering the implications of the Robinson Township decision are that the rights of the people are inherent and inalienable and that the obligation of the governmental trustee is to preserve public natural resources (the corpus of the trust). See Robinson Tp., 83 A.3d at 948, 956. PADEP has both the power and the duty to regulate oil and gas operations in defense of clean air, pure water, and the natural, scenic, historic and esthetic values of the environment. By invalidating section 3215(e)(2) of Act 13, the Supreme Court restored the burden of proof required for the Department's fulfillment of its constitutional duties as public trustee. In revising Chapter 78a, PADEP is constrained by Section 27—and the stated purpose of Act 13 to protect the environmental rights and values secured by the Constitution of Pennsylvania—to ensure that the people's rights are not infringed and that public natural resources are protected for current and future generations. Section 78a.15(g) therefore should be revised in accordance with our comments. (211)

Response: Please see response to comment 456.

- 459.** Comment: (g) Mitigation does not protect as shown by Act 54. Avoidance through alternatives is necessary. The burden of proof should not be with the Department but with the operators to show that no probably harmful impact will be done to a public resource. Bonding funds should be collected that are adequate to mitigate any damages that might occur over time. (161)

Response: Please see response to comment 456. Issues pertaining to bonding are outside the scope of this rulemaking.

- 460.** Comment: § 78.15 (g) & § 78a.15 (g)

Act 13—if the relevant sections had not been invalidated under Robinson—expressly requires EQB to develop criteria by regulation for PADEP to use if it imposes permit conditions based on impacts to any public resources, including habitats of critical communities. Such criteria must ensure the “optimal development of oil and gas resources” and respect “property rights of oil and gas owners.” The draft final rules do not create any criteria for the PADEP to utilize in conditioning well permits to protect against harmful impacts to public resources, further compounding the uncertainties created by the proposed definitions and new reviewing agencies. By this omission, PADEP has failed to comply with one of the very few express commands of Act 13. (213)

Response: Please see response to comments 262 and 456. This rulemaking is consistent with the Pennsylvania Constitution and applicable statutes and does provide reasonable and appropriate protections for public health and safety and the environment.

- 461.** Comment: § 78a.15 (g) Define “probable harmful impact”? An impact is either harmful or not harmful; “probable harmful” is subjective and is dependent upon an individual's interpretation of a specific circumstance. Again, setbacks and permit conditions should not be different than those required for a member of the general public or resident of the Commonwealth. (209)

Response: Please see response to comment 264.

462. Comment: We support the Department’s addition of § 78a.15(h), which requires projects of a certain size located in special protection watersheds to submit an erosion and sedimentation (“E&S”) control plan consistent with the Chapter 102 regulations. The Chapter 102 regulations are designed to protect water resources from E&S pollution. It is appropriate to incorporate those protections into the Chapter 78a regulations in an effort to protect our special protection waters. (231, 231a)

Response: The Department acknowledges the comment.

463. Comment: **78.15(h) Erosion & Sediment Control Plan** - In 2015, PADEP proposed a new requirement (§ 78a.15(h)) for an applicant to submit an erosion and sediment control plan if the well disturbance involved one to five acres of earth disturbance over the life of the project and is located in a high quality or exceptional value watershed.

We support PADEP’s proposal to require an erosion and sediment control plan. However, we recommend this requirement apply to all Oil and Gas Operations (not just new wells); apply to all disturbances over one acre (not limited to 1-5 acres because this would not apply to projects exceeding 5 acres). Moreover, the requirement should apply in all watersheds, not just high quality or exceptional value watersheds.

We recommend the following proposed revision to § 78a.15(h).

(h) AN APPLICANT PROPOSING TO ~~DRILL A WELL~~ CONSTRUCT A NEW OIL AND GAS OPERATION OR EXPAND AN EXISTING OIL AND GAS OPERATION THAT INVOLVES ~~1 TO 5 ACRES~~ ONE ACRE OR MORE OF EARTH DISTURBANCE OVER THE LIFE OF THE PROJECT ~~AND IS LOCATED IN A WATERSHED THAT HAS A DESIGNATED OR EXISTING USE OF HIGH QUALITY OR EXCEPTIONAL VALUE PURSUANT TO 25 PA. CODE CHAPTER 93 (RELATING TO WATER QUALITY STANDARDS)~~ SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN CONSISTENT WITH CHAPTER 102 (RELATING TO EROSION AND SEDIMENT CONTROL) WITH THE WELL PERMIT APPLICATION FOR REVIEW AND APPROVAL. (211)

Response: The comment proposes an expansion of the regulation that the Department has considered but declines to include in this rulemaking. All earth disturbance activities must comply with Chapter 102 and must utilize best management practices in accordance with the Chapter regardless of whether the operator is required to submit a written erosion and sediment control plan to DEP. It is a violation of the Pennsylvania Clean Streams Law and the Chapter 102 regulations for oil and gas operators to fail to employ adequate Chapter 102 best management practices. Further, where the project involves earth disturbances of 5 acres or more over the life of the project, the operator must obtain a permit under Chapter 102. A written erosion and sediment control plan is required to be submitted when a permit is required.

464. Comment: (78a.15(h)) The “approval” requirement in the final sentence should be deleted. Pursuant to 25 Pa. Code Chapter 102 a well project involving 1 to 5 acres of earth disturbance is subject only to rules requiring the preparation of an erosion and sedimentation control plan. In this situation, operators are not required to obtain approval from PADEP.

Commentator’s suggested amendatory language:

(h) An applicant proposing to drill a well that involves 1 to 5 acres of earth disturbance over the life of the project and is located in a watershed that has a designated or existing use of high quality or exceptional value pursuant to Chapter 93 (relating to water quality standards) shall submit an erosion and sediment control plan consistent with Chapter 102 with the well permit application for review. (210)

Response: This approval is necessary for the Department to meet with antidegradation requirements in Chapter 93.

465. Comment: § 78a.15 (h) Commenter strongly objects to a new well permit requirement that would include the review and approval of erosion and sedimentation plans for sites with less than five acres of earth disturbance. Pennsylvania Clean Streams Law and Chapter 102 provide for erosion and sedimentation plans but do not require permits or approvals for oil and gas activities less than five acres. The Department should not expand Chapter 78, especially in a subsection related to well permits, to create new earth disturbance obligations, which are already addressed under existing law. Oil and gas operators are well aware of environmental obligations that exist outside Act 13 and the oil and gas program – there is no need for the Department to recreate every other program inside the oil and gas program. (213)

Response: §§ 78.15(h) and 78a.15(h) seek to codify an existing component of the well permit application. These provisions are necessary to ensure that the Department meets its antidegradation requirements in Chapter 93.

466. Comment: §78.15(h) We fully support erosion and sediment plans consistent with Chapter 102 for high quality and exceptional value streams. Our region has many designated streams. It is imperative to provide adequate protection to our water resources. Only a small fraction of the estimated wells have been drilled. We are expecting many more wells and well pads to be constructed. Considering the current regional share 54% violation rate, (of the state total) improved safeguards are necessary to adequately protect our water resources. (170)

Response: The Department acknowledges this comment.

467. Comment: Section 78a.15 (h) - DEP still allowing Drilling near EV and high quality watersheds...!? See DEP reg 78a.15 (h). DEP should not be allowed at ALL. DEP do not risk our EV and HQ watersheds with this toxic gas drilling; don't take such risks....protect our watersheds... Section 78a.15(h) allows drilling near EV Watersheds and they simply ask for an erosion and sediment plan; are you kidding; should not be near any such watersheds; one mistake, and it's over... (3)

Response: To extent that the commentator suggests that additional protections are needed to protect waters of the Commonwealth, protection of these waters is achieved through other provisions in Chapters 78 and 78a, as well as implementation of other water permitting programs administered by the Department through other environmental laws and regulations. Specifically, § 78.15(b.1) and 78a.15(b.1) require additional consideration during the well permit application review process for any watercourse or any high quality or exceptional value body of water or any wetland one acre or greater in size. Importantly, Chapters 78 and 78a contain many provisions, including the requirements related to erosion and sediment control, surface water discharges, waste management, onsite processing, protection of water supplies, water management planning, secondary containment, well construction, and site restoration that ensure protection of waters of the Commonwealth.

§§ 78.17 and 78a.17 Permit expiration and renewal

468. Comment: 78.17 Permit renewal. The 15 calendar day window for the applicant to provide a permit renewal prior to the expiration of the original permit seems extremely short for the Department to be able to accurately assess if their renewal is complete and able to be processed. The permit renewal also do not reference notification requirements by the applicant to seek comment from the public resource again, nor conduct a new PNHP investigation, nor does it address if there were previous compliance issues for the permit or applicant; all which should be taken into account on if a permit is renewed. (9)

Response: The 15-day timeframe is the minimum amount of time prior to permit expiration that an applicant can submit a renewal application. Any pre-submission steps that must be taken prior to permit issuance, such as providing notice to appropriate parties and discussions with appropriate public resource agencies, must be completed prior to submission of the permit renewal application. The Department considers PNDI searches and clearances conducted within two years of a permit application to remain valid, so given the one-year permit term, a new PNDI search would not be required. Compliance issues under section 3215 of the 2012 Oil and Gas Act apply to initial permit issuance and renewals.

469. Comment: There should only be a one year renewal possible on an unexpired but unused well permit instead of two. (160)

Response: The Department believes that three years from initial permit issuance is an appropriate timeframe for drilling a well without a new permit. Clarifying language was added to subsection (b) indicating that only a single two-year renewal is available.

470. Comment: §78a.17 We recommend that should the permit period be extended that the Department increase the corresponding permit fee in order to adequately fund the Oil & Gas Program. No extension of the permit should come at the expense of adequate funding. (170)

Response: In accordance with 58 Pa.C.S. § 3211(i), well permits issued for drilling wells under this chapter shall expire one year after issuance unless operations for drilling the well are commenced within the period and pursued with due diligence or unless the permit is renewed in accordance with the regulations of the Department. The Department does not have authority to extend the initial permit beyond the one year statutory limit without a permit renewal application filed by the applicant. Although a single two-year renewal is available, subsection (b) requires submission of a new permit fee with the renewal application. The Department does not anticipate any revenue losses due to the availability of the renewal.

471. Comment: § 78a.17 (a) and (b) - A well permit should expire two years after issuance if drilling has not commenced. Many operators are drilling multiple wells on a pad and a two year expiration will allow more operational flexibility. Permits expiring at one year only add administrative burden for both the operator and the department. Suggest changing due diligence of completion of a well to total depth within 16 months to 28 months to be consistent with the suggested 2-year expiration of permit. (187, 209)

Response: In accordance with 58 Pa.C.S. § 3211(i), well permits issued for drilling wells under this chapter shall expire one year after issuance unless operations for drilling the well are commenced within the period and pursued with due diligence or unless the permit is

renewed in accordance with the regulations of the Department. The Department does not have authority to extend the initial permit beyond the one year statutory limit without a permit renewal application filed by the applicant. Therefore, the proposed one-year initial permit term followed by a potential two-year permit renewal term is retained in the final-form rulemaking. The Department believes that three years from the time of permit issuance is an adequate time limit for drilling a well.

The concept of drilling being “pursued with due diligence” only comes into play if drilling has commenced within the one-year limit established by section 3211(i). Because of this initial limit, the Department believes that 16-months after permit issuance is the appropriate timeframe for drilling to be completed without a permit renewal. It seems unlikely that an operator would commence drilling but not complete drilling the well over a longer timeframe given the capital costs associated with drill rig mobilization for extended periods of time.

- 472.** Comment: It is recommended that the Department make the following changes to proposed expiration periods to allow for reasonable certainty in project planning as it relates to the duration and validity of well permits. That is, given the limited well pad construction window due to seasonality, coupled with the requirement to have a valid well permit prior to commencing well pad construction, a longer initial duration and shorter extension duration is proposed as follows:

§ 78a.17.(a) – “A well permit expires two (2) years after issuance if drilling has not...”

§ 78a.17.(b) – “An operator may request a one (1) year renewal of an unexpired...” (195)

Response: In accordance with 58 Pa.C.S. § 3211(i), well permits issued for drilling wells under this chapter shall expire one year after issuance unless operations for drilling the well are commenced within the period and pursued with due diligence or unless the permit is renewed in accordance with the regulations of the Department. The Department does not have authority to extend the initial permit beyond the one year statutory limit without a permit renewal application filed by the applicant. Therefore, the proposed one-year initial permit term followed by a potential two-year permit renewal term is retained in the final-form rulemaking. The Department believes that three years from the time of permit issuance is an adequate time limit for drilling a well, but cannot reverse the “initial and renewal” timeframes under the 2012 Oil and Gas Act.

- 473.** Comment: § 78a.17(a) – Commentator is concerned that the one year expiration date for a well permit is too short. It often currently takes 60 days or more to obtain a well permit, and operators, particularly in the southwest portion of the state, frequently experience significant additional delays in obtaining the Erosion and Sediment Control General Permit (ESCGP-2) that is required for well pad construction. Operators are often six to eight months into their well permits before they can begin clearing land or constructing the pad. Because of these delays when dealing with a multi-well pad, completions schedules are also delayed. For these reasons, a well permit should remain valid for 2 years before expiration to allow the permit holder adequate time to proceed with due diligence given the many other challenges of the oil and gas regulatory program. Commentator also requests that the Department clarify that the reference to “completion of drilling” does not include, and should not be confused with, “well completions,” which is a subsequent stage that takes place after drilling has ended to ready a drilled well for production.(199)

Response: Well permits do not have to be obtained prior to obtaining ESCGP-2 coverage. The well permit must only be “kept at the well site during preparation and construction of the well site or access road...”

In accordance with 58 Pa.C.S. § 3211(i), well permits issued for drilling wells under this chapter shall expire one year after issuance unless operations for drilling the well are commenced within the period and pursued with due diligence or unless the permit is renewed in accordance with the regulations of the Department. The Department does not have authority to extend the initial permit beyond the one year statutory limit without a permit renewal application filed by the applicant. Therefore, the proposed one-year initial permit term followed by a potential two-year permit renewal term is retained in the final-form rulemaking. The Department believes that three years from the time of permit issuance is an adequate time limit for drilling a well, but cannot reverse the “initial and renewal” timeframes under the 2012 Oil and Gas Act.

Finally, the Department believes that the definitions of the terms: “completion of a well” and “drilling” in 58 Pa.C.S. § 3203 make it clear that drilling the well and completing the well are two separate processes. Because section 78a.17 only refers to completion of drilling, and not completion of the well, the Department believes that the regulation clearly only refers to the drilling portion of constructing a well.

- 474.** Comment: § 78a.17 (b) An operator may request a [1-year] 2-YEAR renewal of [a] AN UNEXPIRED well permit. The request shall be accompanied by a permit fee, the surcharge required [in section 601 of the act (58 P.S. § 601.601),] under section 3271 of the act (relating to well plugging funds) and an affidavit affirming that the information on the original application is still accurate and complete, that the well location restrictions are still met and that the [surface owners, coal owners and operators, gas storage operators, where the permit renewal is for a proposed well location within an underground gas storage reservoir or the reservoir protective area, and water supply owners within 1,000 feet,] entities required to be notified under section 3211(b)(2) of the act (relating to well permits) have been notified of this request for renewal. IF NEW WATER WELLS OR BUILDINGS ARE CONSTRUCTED THAT ARE NOT INDICATED ON THE PLAT AS ORIGINALLY SUBMITTED, THE ATTESTATION MUST BE UPDATED AS PART OF THE RENEWAL REQUEST. ANY NEW WATER WELL OR BUILDING OWNERS SHALL BE NOTIFIED OF THE RENEWAL REQUEST; HOWEVER, THE SETBACKS OUTLINED IN SECTION 3215 OF THE ACT (RELATING TO WELL LOCATION RESTRICTIONS) DO NOT APPLY PROVIDED THAT THE ORIGINAL PERMIT WAS ISSUED PRIOR TO THE CONSTRUCTION OF THE BUILDING OR WATER WELL. The request shall be received by the Department at least 15 calendar days prior to the expiration of the original permit.

Commentator supports the Department’s change to a 2-year renewal process for an expiring permit. Operators trying to demonstrate due diligence are often subject to delays for reasons outside of their control, such as ESCGP-2 permit processing timelines or seasonal mitigations for an endangered species. These challenges will be exacerbated by the number and variety of regulatory approvals required under Chapter 78a as described elsewhere in these comments. As such, having a process that allows for operators to extend permits to a workable timeframe where appropriate is critically important, particularly for multi-well operations. (199)

Response: The Department acknowledges the comment. Well permits do not have to be obtained prior to obtaining ESCGP-2 coverage. The well permit must only be “kept at the well site during preparation and construction of the well site or access road...”

475. Comment: 78a.17. Permit expiration and renewal - Subsection (a) defines “due diligence” as drilling a well to total depth within 16 months of issuance of the well permit. Since unconventional drilling operations typically involves multiple rigs drilling multiple wells on a single pad, a more reasonable timeframe is “within 24 months of issuance of the well permit.” (193)

Response: The Department continues to believe that 16 months from the time of permit issuance is an appropriate and reasonable timeframe to establish drilling with due diligence but has included a provision in §§ 78.17(a) and 78a.17(a) to allow an extension of the time period for good cause.

476. Comment: 78a.17 (a) and (b) Permit Expiration and Renewal - In 2015, PADEP added a new requirement (§ 78a.17(a)) clarifying a well permit expires one year after issuance if drilling has not commenced. In 2015, PADEP proposed a modification to § 78a.17(b) to allow an operator to request a two-year renewal of an unexpired well permit, increasing the renewal term by an additional year over what was proposed in 2013. PADEP also proposed to modify § 78a.17(b) to require new water wells and buildings (constructed since the original well permit was approved) to be included on an updated plat, and the water well and building owners be notified of the request to renew the well permit for a period of two more years. However, PADEP proposes to waive the Section 3215 setback requirements for these new wells and buildings.

We support PADEP’s proposal to limit well permits to an initial one-year period (§ 78a.17(a)). We do not support the proposal in § 78a.17(b) to allow extensions of well permits for an additional two-year period. PADEP did not provide any justification for doubling the period for a well application renewal over what the Department would originally approve. We recommend that PADEP retain the EQB’s 2013 proposal and renew permits for a period of only one year, if good justification for the extension is provided by the applicant.

We do not support PADEP’s proposal to grandfather the Section 3215 setback requirements for well application renewals. All wells should meet the Section 3215 setback requirements.

The proposed regulation needs to be clear when the renewal process cannot be used, needs to include a 30-day notification period for the new well and building owners (no time period was specified), and should provide PADEP at least 30 days to make a decision (versus the 15-day period proposed).

We recommend the following proposed revision to § 78a.17.

(b) An operator may request a [~~1-year~~] ~~2-YEAR~~ 1-YEAR renewal of [a] AN UNEXPIRED well permit. The request shall be accompanied by a permit fee, the surcharge required [in section 601 of the act (58 P.S. § 601.601),] under section 3271 of the act (relating to well plugging funds) and an affidavit affirming that the information on the original application is still accurate and complete, that the well location restrictions are still met and that the [surface owners, coal owners and operators, gas storage operators, where the permit renewal is for a proposed well location within an underground gas storage reservoir or the reservoir protective area, and water supply owners within 1,000 feet,] entities required to be notified under section 3211(b)(2) of the act (relating to well permits) have been notified of this request for renewal. IF THERE ARE ANY CHANGES TO THE ORIGINAL APPLICATION, OR THE WELL LOCATION RESTRICTIONS ARE NOT MET, THE WELL IS NOT ELIGIBLE FOR THE RENEWAL PROCESS, AND A NEW PERMIT APPLICATION MUST BE SUBMITTED. IF NEW

WATER WELLS OR BUILDINGS ARE CONSTRUCTED THAT ARE NOT INDICATED ON THE PLAT AS ORIGINALLY SUBMITTED, THE ATTESTATION MUST BE UPDATED AS PART OF THE RENEWAL REQUEST. ANY NEW WATER WELL OR BUILDING OWNERS SHALL BE NOTIFIED AT LEAST 30 DAYS PRIOR TO SUBMITTAL OF THE RENEWAL REQUEST TO THE DEPARTMENT.; ~~HOWEVER, THE OPERATOR'S RENEWAL APPLICATION MUST DEMONSTRATE HOW THE SETBACKS OUTLINED IN SECTION 3215 OF THE ACT (RELATING TO WELL LOCATION RESTRICTIONS) DO NOT APPLY PROVIDED THAT THE ORIGINAL PERMIT WAS ISSUED PRIOR TO THE CONSTRUCTION OF THE~~ WILL BE MET FOR ALL NEW BUILDINGS OR AND WATER WELLS. The request shall be received by the Department at least 15 30 calendar days prior to the expiration of the original permit. (211)

Response: The Department disagrees with the comment. The Department has determined that a two-year renewal of the well permit is appropriate because it will allow operators the flexibility necessary to have effective drilling operations in a time of low commodity prices. Section 3211(i) of the 2012 Oil and Gas Act does not specify the timeframe for renewals. Rather, that section provides only that renewal be done “in accordance with regulations of the department.” Under Section 3274, the Board has the authority to promulgate regulations necessary to implement the 2012 Oil and Gas Act. The Department has determined that a 2 year renewal is necessary to implement the 2012 Oil and Gas Act.

To the extent that the commentator disagrees that the setbacks in 3215(a) do not apply to renewals, the Department disagrees and declines to make the suggested amendments to the final-form rulemaking. Please refer to Section 3215(a) of the 2012 Oil and Gas Act. That sections species that the setbacks apply to only those water wells and building that existed at the time the plat is mailed as required by Section 3211(b).

477. Comment: Permit Expiration and Renewal (§ 78.17and § 78a.17) commenter is supportive of this change which allows the Operator more flexibility with minimal disruptions/impacts to business planning in an atmosphere of rapidly changing market conditions. (205)

Response: The Department acknowledges the comment.

478. Comment: 78a.17(a) – The word “attestation” is a new term and its meaning is unclear. In addition, with an extension request, the proposed language does not clearly state whether the original plat must be revised to show any wells or buildings constructed since the time of the original well plat submission. It is not clear how operators should designate these new buildings and wells in the plat to show that they are not subject to setback requirements.

Commentator’s Suggested Amendatory Language:

Replace “the attestation” with “that new information”. (210)

Response: For permit renewals, the existing regulations allow for the submission of “an affidavit affirming that the information on the original application is still accurate and complete.” Therefore, the new information would be an update to the attestation contained in the affidavit that the previous information had not changed since the initial permit application was submitted.

479. Comment: We request that the DEP provide guidance or at least clarity on acceptable extension criteria and timeframes past 16 months. (232)

Response: The Department acknowledges the comment.

480. Comment: Commentator recommends that it would be easier for the Department and permittees to administer permits that have original two-year terms with the option for one-year renewals. Operationally, a longer original term limit would allow for greater flexibility in planning the full field development of wells and would require less work and rework for the Department and permittees. (222)

Response: In accordance with 58 Pa.C.S. § 3211(i), well permits issued for drilling wells under this chapter shall expire one year after issuance unless operations for drilling the well are commenced within the period and pursued with due diligence or unless the permit is renewed in accordance with the regulations of the Department. The Department does not have authority to extend the initial permit beyond the one year statutory limit without a permit renewal application filed by the applicant. Therefore, the proposed one-year initial permit term followed by a potential two-year permit renewal term is retained in the final-form rulemaking. The Department believes that three years from the time of permit issuance is an adequate time limit for drilling a well, but cannot reverse the “initial and renewal” timeframes under the 2012 Oil and Gas Act.

481. Comment: 78a.17(a) – There is no basis in the Oil and Gas Act of 2012 for PADEP to set a hard date for the drilling of a well that is “pursued with due diligence”, per 58 P.S. § 3211((i). Commentator suggests that if an operator can otherwise demonstrate that drilling was pursued with “due diligence”, the well permit should not expire. Additionally, with such a demonstration there is no risk of environmental harm. There are multiple factors that could impact an operator’s ability to drill a well to total depth within 16 months that are often beyond an operator’s control – for instance, delays in issuance of permits by other state or federal agencies (such as the U.S. Army Corps of Engineers). The 16 month well permit expiration time frame should be deleted to reflect the Legislature’s intent in 58 P.S. § 3211((i).

In the alternative, the time frame for due diligence should be extended to 24 months, at a minimum, pursuant to the Oil and Gas Advisory Board members’ suggestion at the March 20, 2015 meeting. The criteria PADEP will use to evaluate extension requests and the duration of extensions should also be clarified. (210)

Response: The Department continues to believe that 16 months from the time of permit issuance is an appropriate and reasonable timeframe to establish drilling with due diligence but has included a provision in §§ 78.17(a) and 78a.17(a) to allow an extension of the time period for good cause. Proper planning will allow operators to ensure that they are able to meet the timeframe for drilling with due diligence. The Department will determine good cause for extensions on a case-by-case basis.

482. Comment: : § 78a.17 Due Diligence - Section 3211 (i) of Act 13 provides that well permits “shall expire one year after issuance unless operations for drilling the well are commenced within the period specified and pursued with due diligence or unless the permit is renewed in accordance with regulations of the department. If drilling is commenced during the one-year period, the well permit shall remain in force until the well is plugged in accordance with section 3220 [] or the permit is revoked.”

The Draft Final Rule would define “due diligence” as “completion of the well to total depth within 16 months of issuance,” allowing for permittees to request extension of the “16- month expiration.”

The Department is not authorized under Act 13 or elsewhere to create a new “expiration” period of 16 months and should delete this from the rule. If there is a need to develop a policy regarding the meaning of “due diligence,” such a need must be explained and justified by the Department. Commentator is unaware of the need to define due diligence in the context of rulemaking or policy at this time. The timing for the drilling and completing of wells is a matter of sound business judgment, which is informed by permit terms, market conditions, and private agreements with landowners and lessors. The Department should not intrude upon this business decision making process without a compelling need. (213)

Response: The Department is not creating a new expiration period for well permits under this rulemaking. This rulemaking seeks to clarify the Department’s interpretation of the provisions in the 2012 Oil and Gas Act which require pursuing drilling with due diligence. The Department continues to believe that 16 months from the time of permit issuance is an appropriate and reasonable timeframe to establish drilling with due diligence but has included a provision in §§ 78.17(a) and 78a.17(a) to allow an extension of the time period for good cause. The Department will determine good cause for extensions on a case-by-case basis.

§§ 78.18 and 78a.18 Disposal and enhanced recovery well permits

483. Comment: We recommend that a cross-reference be included here to alert unconventional operators to the existence of § 78.18.

Commentator’s suggested amendatory language:

§ 78a.18 Disposal and enhanced recovery well permits.

Disposal or enhanced recovery well permits shall meet the requirements of § 78.18 (relating to disposal and enhanced recovery wells). (210)

Response: The Department acknowledges the comment and has made the change to alert unconventional operators that disposal and enhanced recovery wells are regulated under Chapter 78.

484. Comment: I believe there should be stricter regulations on injection well setbacks and location limitations. Many locations are not suited for these activities and should be off limits to injection wells. Regulation should protect fresh water wells and thus people’s health and wellbeing as well as property values and air quality. (214)

Response: In Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. Underground injection control wells are subject to these same setbacks. To the extent, the commentator suggests extending these setbacks, that change should be made through an amendment to the 2012 Oil and Gas Act.

485. Comment: 78a.18 -The preamble to the ANFR does not provide an explanation as to why section 18 was deleted from Chapter 78a. What is the intent of deleting this section? (190)

Response: By definition, disposal and enhanced recovery wells are “conventional wells.” Because Chapter 78a only applies to unconventional wells, it would not be appropriate to include it in the Chapter. The Department has edited the section to include language to alert unconventional operators that disposal and enhanced recovery wells are regulated under Chapter 78.

486. Comment: § 78a.18 Disposal and Enhanced Recovery Well Permits (deleted) - Commenter understands that the Department does not intend to prohibit unconventional operators from applying for disposal or enhanced recovery well permits but has placed this section in the rule for conventional wells, as that term is defined under existing law to include such wells. To avoid confusion to assist applicants who would seek to convert unconventional wells to disposal wells, there should be cross reference in Chapter 78a to the appropriate regulations for such conversion. (213)

Response: The Department has edited the section to include language to alert unconventional operators that disposal and enhanced recovery wells are regulated under Chapter 78.

487. Comment: Fees should be quadrupled and range from \$16,800 to \$20,000. These funds are needed to pay for additional staff needed by DEP for oversight. (161)

Response: Amending the fee schedule is beyond the scope of this rulemaking. The fee schedule section is only included in the final-form rulemaking to differentiate between fees for conventional and unconventional wells and not to establish new fees or alter the fee amounts.

488. Comment: Section 78a.19. Specifies fees for permit applications. These fees are far too low to provide for adequate staff to fully review the complex permits involved, and these fees need to be multiplied by three or four times the values currently proposed. (295)

Response: Amending the fee schedule is beyond the scope of this rulemaking. The fee schedule section is only included in the final-form rulemaking to differentiate between fees for conventional and unconventional wells and not to establish new fees or alter the fee amounts.

489. Comment: This is an important process about which landowners and citizens need to be informed. (161)

Response: The Department acknowledges the comment.

§ 78a.41 Noise mitigation

The Department acknowledges the comments below relating to noise mitigation. Based on public comment to the proposed rulemaking raising concerns over noise issues at unconventional well sites, the Department developed section 78a.41 (relating to noise mitigation) to address noise issues at unconventional well sites and published that provision as part of the Advance Notice of Final Rulemaking (ANFR) on April 4, 2015.

Since that time, the Department has determined that the consideration of noise and possible mitigation is a concern not only with regard to unconventional gas production, but is an issue raised by other activities regulated by the Department (for example, mining). Because of this, additional cross-program collaboration and coordination will be required. In addition, there are a number of extremely complex technical issues that have to be resolved in order to develop a reasonable but effective noise mitigation program. This complexity is demonstrated in the scope and breadth of the comments submitted on the ANFR, both supporting and opposing these draft regulatory provisions. Finally, the science surrounding noise issues is continuing to develop, particularly with regards to impacts to human health and sensitive wildlife populations. Any reasonable and effective regulation relating to noise issues will need to take those developments into account.

For these reasons, the Department has removed section 78a.41 from the final rulemaking in order to consider standards and enforcement that will maximize consistency and efficiency, where possible, among Department programs, while addressing the complex technical issues presented by noise at well sites. In its place, the Office of Oil and Gas Management intends to develop a noise mitigation “best practices manual” with input from a wide range of experts on noise issues as well as the public. If the rulemaking is appropriate to address noise issues at well sites, the Department will develop such regulations at a later date.

- 490.** Comment: (78) API-PA is a division of the American Petroleum Institute (API), a national trade association that represents all segments of America's technology-driven oil and natural gas industry. Its more than 625 members - including large integrated companies, exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply firms - provide most of the nation's energy and are backed by a growing grassroots movement of over 25 million Americans. The industry also supports 9.8 million U.S. jobs and 8 percent of the U.S. economy, and, since 2000, has invested over \$3 trillion in U.S. capital projects to advance all forms of energy, including alternatives. Many of our members, who own and operate conventional and unconventional wells in Pennsylvania, have a direct interest in this notice of proposed rulemaking.

The commenter is also a standard setting organization. For 90 years, the commenter has led the development of petroleum and petrochemical equipment and operating standards. These standards represent the industry's collective wisdom on everything from drill bits to environmental protection and embrace proven, sound, engineering and operating practices and safe, interchangeable equipment and materials for delivery of this important resource to our nation. The commenter maintains more than 650 standards and recommended practices. Many of these are incorporated into state, federal, and international regulations. The commenter encourages and participates in the development of state regulations that provide environmental safeguards and stewardship, and commends DEP on their regulatory oversight program; however we have concerns with several provisions contained in the draft final rulemaking. As such, we are providing comments on the Advance Notice of Final Rulemaking for 25 PA Code Chapters 78 and 78a at the three public hearings. My comment tonight applies to Chapter 78a. The commenter has numerous additional comments beyond those presented during these public hearings. They will be presented in writing.

Section 78a.41 Noise mitigation- the commenter has many questions and concerns regarding this section. If this section were to ultimately take effect, questions regarding preemption of local noise control ordinances need to be specifically addressed in the Comment Response Document. As DEP is aware, noise control is already regulated through county and local ordinances. We are unaware of the specific statutory authority upon which DEP relies to trump county or local

ordinances, especially in such a subjective manner that singles out one particular industry for noise mitigation oversight. We believe citing the specific statutory authority likewise should be specifically annotated in the Comment Response Document.

DEP has stated publically that this section will not be removed from the regulation, and that it requests recommendations from the public on how to implement it in terms of how to measure noise, length of time impacts can occur, and how to determine background noise quality. In light of those statements and in light of the subjective nature of the draft final regulation, we offer the following recommendations. First, DEP should develop, with the input of stakeholders, a manual of best management practices (BMPs) for noise mitigation and example descriptions of situations under which they could be applied. Second, program Technical Guidance should be developed and vetted through the public comment process to assure that all parties are aware of the nature and intent of DEP in program implementation. Third, DEP should develop and implement an educational outreach program to assist DEP field staff and operators to recognize situations where the BMPs should be applied. And fourth, only after the program is shown to be necessary and effective should it be included in the regulations.

The commenter will be submitting additional questions and concerns regarding this section in our written comments. We believe that DEP reviews both testimony and written public comments in a serious manner; nevertheless, we request that DEP pay particularly close attention to our written comments regarding this section and respond to our concerns with specific detail in the Comment Response Document and we urge DEP to take our concerns into account when finalizing its submission to IRRC.

Thank you for the opportunity to testify this evening. The commenter and its member companies stand ready to continue to work with DEP on striking a balance between environmental protection and economic development. (296)

- 491.** Comment: I would like to express my support for the proposed addition of a noise standard in the rule, and also seek to clarify that standard by adding a quantitative standard of 45dBA or lower. Noise complaints from drilling operations and production have been some of the most pervasive concerns among residents living near gas wells, and a quantitative standard is a good step toward addressing such concerns. (24, 25, 31, 40, 41, 45, 48, 50, 51, 53, 54, 55, 59, 60, 62, 63, 64, 65, 66, 67, 68, 70, 73, 91, 92, 93, 94, 206, 268, 270, 345, 381)
- 492.** Comment: We agree that noise mitigation is an important concern for those affected by the fracking operations. We would like to see compressor stations and all aspects of the gas operations included in the final regulations. (220)
- 493.** Comment: 78a.41 We readily support the addition of noise mitigation for well pad locations and other gas related installations. It is important the language would include such places as compressor stations and gas fired electrical generation plants. Both of these facilities are a mile or less from our home. The sound varies around our home depending on such factors as the topography, wind direction, and well activity affecting our sleep. It also threatens the wildlife that lives near us. (233)
- 494.** Comment: I own woodland acreage in Mehoopany Township, Wyoming County and reside in downtown Tunkhannock, PA. There are three operating Compressor Stations within several miles of my unleased acreage. During regular blow-downs, and occasional emergencies, the noise level there is like standing at the end of the runway next to a 747 aircraft during take-off. How far from your bedroom, or a sickroom, would you want those Compressor Stations located? I'd

recommend at least one mile. (274)

495. Comment: Implement and enforce more stringent noise control measures. (Drilling, pipeline, truck traffic. (273)
496. Comment: We believe that noise mitigation is an appropriate and necessary addition to the Proposed Rulemaking. While we support the concept advanced in this new section, we are concerned about the lack of objective criteria and believe compliance will be difficult for the Department to enforce, and for operators to comply with the section as written. We encourage the Department to revise the section to provide predictable and clear noise enforcement standards. (225)
497. Comment: We also encourage the Department to consider mitigation measures related to permanent noise sources that threaten wildlife habitats; especially birds during the breeding and nesting season. (225)
498. Comment: In addition, the Department should include a provision requiring the operator to identify in the permit application a responsible point of contact for any landowner complaints. Too often, we have heard that landowner attempts to reasonably deal with noise or other issues at well sites go unaddressed by operators and/or their contractors. There should be a clear point of contact as the identified responsible party in the permit application for landowners and even the Department to contact in the event of a nuisance or pollution issue. (225)
499. Comment: 78a.41 Noise Mitigation - In 2015, PADEP proposed a new regulatory section § 78a.41 for noise mitigation, requiring well operators to propose and implement a PADEP-approved noise mitigation plan.

We support EQB's proposal to require a noise mitigation plan. However, we recommend the noise mitigation plan be required for all new Oil and Gas Operations and expansions to existing Oil and Gas Operations, and not just be limited to wells. We also recommend that specific permissible sound levels be established.

PADEP proposes a noise mitigation plan be submitted prior to the preparation and construction of a well site or access road. We recommend that the noise mitigation plan be submitted as part of each Oil and Gas Operation application and that noise abatement be approved as part of the application. The noise abatement plan should cover noise made during all Oil and Gas Operations, not just well construction, stimulation and servicing.

We recommend the following proposed revision to § 78a.41.

§ 78a.41 NOISE MITIGATION.

(a) AS PART OF EACH NEW OIL AND GAS OPERATION APPLICATION OR EXPANSION OF AN EXISTING OIL AND GAS OPERATION, ~~PRIOR TO PREPARATION AND CONSTRUCTION OF THE WELL SITE OR ACCESS ROAD,~~ THE OPERATOR SHALL PREPARE AND IMPLEMENT A SITE SPECIFIC NOISE MITIGATION PLAN TO MINIMIZE NOISE DURING ~~DRILLING, STIMULATION AND SERVICING ACTIVITIES~~ ALL OIL AND GAS OPERATIONS.

(b) THE PLAN SHALL INCLUDE THE FOLLOWING:

(1) AN ASSESSMENT OF BACKGROUND NOISE IN THE AREA OF THE ~~WELL SITE~~ OIL AND GAS OPERATION.

(2) AN ASSESSMENT OF KNOWN AND POTENTIAL NOISE FROM ~~DRILLING, STIMULATION AND SERVICING~~ THE OIL AND GAS OPERATION ACTIVITIES, TAKING INTO CONSIDERATION THE INTERESTS OF NEARBY RESIDENTS, INCLUDING THE EFFECTS ON INDOOR NOISE LEVELS FOR RESIDENTS NEAR THE WELL SITE.

(3) A DESCRIPTION OF THE OPERATOR'S PLANS TO MITIGATE NOISE. PERATORS

MUST ADOPT AND INCORPORATE A BEST PRACTICES APPROACH TO NOISE MANAGEMENT INTO THEIR ~~DRILLING, STIMULATION AND SERVICING~~ ACTIVITIES-OIL AND GAS OPERATION PROCEDURES. MITIGATED SOUND LEVELS AT THE RECEPTOR MUST MEET THE PERMISSIBLE SOUND LEVELS ESTABLISHED BY THE DEPARTMENT.

(c) IF THE DEPARTMENT DETERMINES DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES THAT THE PLAN IS INADEQUATE TO ~~MINIMIZE~~ NOISEMEET THE PERMISSIBLE SOUND LIMITS ESTABLISHED BY THE DEPARTMENT, THE DEPARTMENT MAY ORDER THE OPERATOR TO SUSPEND OPERATIONS AND TO MODIFY THE PLAN AND OBTAIN DEPARTMENT APPROVAL.

(d) THE OPERATOR SHALL PERFORM REGULAR, FREQUENT AND COMPREHENSIVE SITE INSPECTIONS TO EVALUATE THE EFFECTIVENESS OF ANY NOISE MITIGATION MEASURES AND TO ENSURE THAT OIL AND GAS OPERATION NOISE DOES NOT EXCEED THE PERMISSIBLE SOUND LEVEL ESTABLISHED BY THE DEPARTMENT.

(e) AN OPERATOR SHALL PROMPTLY ADDRESS AND CORRECT VIOLATIONS OF THE PERMISSIBLE SOUND LEVEL ESTABLISHED BY THE DEPARTMENT ~~AND PROBLEMS AND DEFICIENCIES~~ DISCOVERED IN THE COURSE OF INSPECTIONS PERFORMED UNDER PARAGRAPH (d).

(f) THE NOISE MITIGATION PLAN SHALL BE MAINTAINED BY THE OPERATOR AT THE ~~WELL SITE WHILE DRILLING, STIMULATION AND SERVICING~~ OIL AND GAS OPERATION WHILE ACTIVITIES ARE BEING CONDUCTED AND SHALL BE MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. (211)

500. Comment: Section: 78a.41 Noise Mitigation. Operators will likely try to claim that a DEP role in noise mitigation would preempt local efforts to address noise impacts. The regulations should be amended to note that nothing contained in the regulations are intended to expand the scope of any state preemption of local ordinances. (182)

501. Comment: Noise Mitigation (78.a41) -Noise has been an issue discussed for some time by both the department and the general public living close to active well sites and compressor stations. The Occupational Health and Safety Administration (OSHA) and the National Institute of Occupational Safety and Health (NIOSH) can provide needed guidance in these matters as I do not believe the expertise is available from any Commonwealth employees. (150)

502. Comment: The noise mitigation proposals are very good but should include previously permitted operation sites. This is especially true since the operators are drilling multiple boreholes from the same well pad sometimes years after the first well. (165)

503. Comment: Noise Mitigation (§ 78a.41) While I applaud the Department for addressing a potential nuisance issue, as written these standards are extraordinarily vague. While the Department cites noise mitigation guidance from Alberta, Canada, the Department should be consulting with the Occupational Health and Safety Administration (OSHA) and the National Institute of Occupational Safety and Health (NIOSH) regarding available guidance, direction and potential mitigation measures. In short, the Department is stretching for guidance in all the wrong places. (227)

504. Comment: It is helpful that DEP has finally at long long last discovered that noise is an environmental problem associated with drilling, and is incorporating noise into its regulations of Oil & Gas wells. However, the requirement to submit a noise mitigation plan is well intentioned but meaningless.

The summary notice in the Pennsylvania Bulletin concerning § 78a.41 advertised: “This new section of the draft final rulemaking establishes health-based standards for noise control and mitigation from unconventional operations.” Standards? What standards? What is the standard in decibels for sound pressure level?

Section 78a.41 is silent about this. What is the standard in terms of low frequency noise? How are the supposedly mandated “best practices” asserted in § 78a.41(3) to be determined?

The blunt truth of the matter is that as written, draft final rule § 78a.41 contains absolutely nothing that might be described as a standard. It is simply an instruction to the operator to “mitigate” noise. DEP must promulgate actual measurable standards in order for § 78a.41 to have any actual impact. (216)

505. Comment: I am extremely concerned about PA's Chapter 78 oil and gas regulations. We are experiencing far too much toxic pollution to our air, water, private land, and neighborhoods. We need noise controls to protect those who live near drill sites, and much stronger air quality monitoring and management. (24)

506. Comment: Comment: Sleeping at night was disrupted by the constant noise and the light. I found myself falling asleep at the wheel driving into work. Thank God for rumble strips keeping me awake. (90)

507. Comment: Provisions must be updated to result in meaningful noise reduction. This is a human health issue because the sustained noise impairs sleep, increases blood pressure, etc. The provisions will not result in meaningful noise reduction or control at well sites. The noise requirement is vaguely worded and fails to set an objective standard for evaluating problems, making it difficult, if not impossible, to assess compliance. (382)

508. Comment: § 78a.41. (d) states “the operator shall perform regular, frequent and comprehensive site inspections to evaluate the effectiveness of any noise mitigation measures.” What incentive does the operator have to accurately evaluate the effectiveness of noise mitigation? My family lives about a thousand feet from an active Marcellus well pad. They've been drilling at the pad for the last 2 months. The noise has been loud, even with the windows all closed. You can feel vibrations when you put your hand on the counter tops. Have you even been on a cruise ship?

When you go to bed, you feel the throbbing of the engines. That's what it's been like sleeping in our house during the drilling. As a common courtesy, operators should be required to notify residents when they are preparing to drill and the length of time that the drilling will occur. They are bringing a noisy industry into an area where people live. If they would at least apologize for disturbing the residents and acknowledge that the residents are not living in an industrial area by choice the residents might be willing to put up with the inconvenience. (377)

- 509.** Comment: Section 78a.41 – I strongly support the addition of noise mitigation for well pad locations. I have friends that have been dealing with a very difficult situation during drilling and tracking events next to their home. Indoor noise levels from the pad have caused sleeping difficulty for them. Please extend these provisions to existing well pads so my friends may be relieved of this situation. As a township supervisor, if one of our families had this incredible situation, I would be at a complete loss to help them. Our township is very rural having a small population of less than 400 residents. We also have many people that own cabins here who have a variety of opinions regarding gas drilling activity. Lacking local regulations, there is really not much we can do. Considering our rural population and that most of our township is SGL57, we really lack the ability to take on zoning. There needs to be a way to measure Indoor noise levels at a home being affected especially at night when the DEP is unable to quickly respond to a complaint. I suggest the operator be required to install a meter to record indoor decibel levels during operations. The levels need to be recorded at all times and available to both the DEP and the family. The device needs to be properly calibrated. (278)
- 510.** Comment: The site inspections required by § 78a.41(d) should require quantitative measurement of noise levels during operation. (231a)
- 511.** Comment: **78a.41** – Regarding noise mitigation, these provisions are a good starting point. However, these provisions should cover current locations as well. (230)
- 512.** Comment: Section 78a.41 I strongly support the addition of noise mitigation for well pad locations. I have a daughter that lives near a well pad and both her and my experience with noise has been unpredictable. Indoor noise levels from the pad have caused sleeping difficulty and on two separate occasions caused a family gathering to be cancelled because of the noise. This is unacceptable. Please extend these provisions to existing well pads so that all may benefit. Please note that not all Operators are model companies and care about the surrounding residences. They need to do a better job of not impacting our quality of life to the extent that we cannot sleep or host functions in our homes during their drilling operations. (242)
- 513.** Comment: In revising Chapter 78, the PA DEP needs to protect Pennsylvania's natural resources by; implementing noise controls to protect the quality of life of people living near well pads. (19, 22, 26, 28, 35, 38, 52, 57, 106)
- 514.** Comment: Commentator strongly supports the DEP's efforts to establish noise mitigation performance standards. However, the DEP should strengthen the proposed rules to reflect the evidence on unconventional natural gas development's threats to the public health and the environment. (221)
- 515.** Comment: The proposed noise standard is a welcome start, but it should be clarified with a specific standard such as 405dbA or lower, so as to address concerns regarding noise from drilling operations. (58)
- 516.** Comment: A noise standard rule is really needed now and I would love to see that be at

45dBA. Less would be an added bonus!!! People have suffered at the hands of the drilling companies with noise pollution and this would be at least a step in the right direction. Thank you for hearing my concerns. (34)

- 517.** Comment: I live in Marcellus drilling area having a well pad 1800 feet from my home. From my experience noise levels at this distance are tolerable, but at distances of 500 feet to 1000 ft are much less so and can affect the health and quality of life of residents as well as property values. There need to be criteria established to insure the standards established by the Noise Control Act of 1972 are measured and enforced. Not only for noise directly from the well production have site, but also construction trafficked in its relation to residences on county and township roads. Furthermore, in addition to noise levels, health and quality of life can and are affected by night time construction lighting and this too should be measured and mitigated to the extent if they exceed standards. When the construction initially starts, the noise to the 500 ft minimum setback standard should be measured and if in excess, the operator should be required to mitigate to a point where it is below the threshold. (6)
- 518.** Comment: Have noise levels be within reason. (21)
- 519.** Comment: High noise levels should be controlled. (75)
- 520.** Comment: Commentator strongly supports the addition of performance standards for noise mitigation. However, the proposed noise mitigation performance standards must be more specific and include due process mechanisms for residents living near proposed unconventional natural gas development. These changes will help to ensure that the permittee has addressed any potential negative public health and quality of life impacts of increased noise from a proposed well site before site development begins. Unconventional natural gas development operations that produce potentially harmful noise are “large truck traffic; road and well pad construction machinery; diesel engines used during drilling; fracking and completion stages; and drill rig brakes.” The DEP should reference and draw from regulations promulgated by other states and territories that have addressed the issue of noise created by unconventional natural gas development. There are several regulatory features adopted in other jurisdictions, which are supported by public health studies, that the DEP should consider before finalizing the Chapter 78a unconventional natural gas development regulations. Two recommendations that will make the Chapter 78a noise mitigation more specific are (1) setting permissible sound level standards and (2) requiring mandatory direct communication between operators and residents who may be impacted by unconventional natural gas development noise to improve transparency and due process. (221)
- 521.** Comment: Noise is a “general biological stressor.” A health impact assessment completed for area of Battlement Mesa, Colorado determined that of anticipated impacts from noise, vibration, and light exposure associated with unconventional natural gas development, noise is likely to have the most substantial negative impact on health. The health impacts associated with noise are most likely to manifest as “annoyance due to noise above background and may cause sleep disturbance, displeasure, fatigue, etc.” However, excessive exposure to noise can pose more serious health risks in that “noise may contribute to the development and aggravation of stress related conditions such as high blood pressure, coronary disease, ulcers, colitis, and migraine headaches.” The WHO lists the following negative outcomes associated with environmental noise: cardiovascular disease, cognitive impairment, sleep disturbance, tinnitus, and annoyance. More generally, environmental noise “disturbs and interferes with activities of the individual, including concentration, communication, relaxation, and sleep.”

Studies have been conducted to determine the decibel level at which humans begin to experience these negative impacts of environmental noise. The EPA's "limit for protecting against all health effects of noise" is a 24-hour average of 55 dBA. Studies have shown that cardiovascular health risk factors begin to be implicated by noise levels between 51-70 dB, when a person is exposed for several years. The Colorado School of Public Health Study completed for the Battlement Mesa area notes that sleep can be impacted by "as little as 35-60 dB." Maintaining decibel levels at or below 55 and 45 dB, for outdoors and indoors, respectively, has been identified as "preventing activity interference and annoyance." The EPA also sets noise guidelines for long-term exposure (40 year period) for preventing "activity interference and annoyance" at 55 dB and 45 dB, for outdoors and indoors, respectively. EPA recognizes that "sound levels inside stores, offices, and residences with normal conversation or television listening normally fall within the 40-65 dB range." Given that public health organizations have established recommended decibel levels for preventing negative human health impacts from noise, the Council believes that the DEP should subject noise created by unconventional natural gas development to specific Permissible Sound Level (PSL) standards. (221)

522. Comment: The level of noise that causes public health impacts are not necessarily very high. Professor McCawley from the West Virginia University School of Public Health performed a study for the West Virginia Department of Environmental Protection and found that noise levels above 55 dBA occurred frequently throughout unconventional natural gas development operations, rather than being associated with specific or isolated type of operation. New York State conducted a Supplemental Generic Environmental Impact Statement (SGEIS) that modeled the noise levels associated with unconventional natural gas development using industry information about the construction equipment that would be used. The study found that noise levels at a distance of 250-2000 feet would range from 75-57 during access road construction, 70-52 dBA during well pad construction, 64-45 dBA during rotary air well drilling, and 76-44 dBA during horizontal drilling, and between 104-72 for high-volume hydraulic fracturing. The West Virginia and New York studies support each other. Additionally, measuring from a setback distance of 625 feet, McCawley found that noise exceeded 85 dBA a number of times. Comparing these noise levels with the decibel level ranges associated with an absence of negative health impacts supports the conclusion of the study by the Maryland School of Public Health study that there is a "moderately high likelihood" that unconventional natural gas development will create noise exposure that will have negative impacts on public health. The EPA sets an average of 55 dBA over 24-hours as the level that protects against all health effects of noise. (221)

523. Comment: The Alberta Energy Resources and Conservation Board regulates noise from unconventional natural gas development under Directive 038: Noise Control (Alberta Directive), last revised in 2007. The Alberta Directive sets noise mitigation and control requirements for energy and utility projects. The Alberta Directive contains PSL requirements that the commenter believes the DEP should adopt and require of unconventional natural gas development operators to ensure public health standards inform the DEP's intention in Chapter 78a to protect Pennsylvanians from unconventional natural gas development noise.

It should be noted that the Alberta Directive only requires drilling and servicing activities of well sites to comply with a PSL if a complaint is filed about noise created at the well site. The commenter, however, believes that the DEP should require unconventional natural gas development operators to demonstrate their ability to maintain a PSL before being granted a permit to begin development. This requirement would dovetail with the proposed Chapter 78a requirements that operators provide the DEP with an "assessment of background noise in the area of the well site" and an "assessment of known and potential noise from drilling, stimulation and

servicing activities” as a part of the required noise mitigation plan. For the following reasons that distinguish the province of Alberta from Pennsylvania, the commenter believes that an operator of a unconventional natural gas development must include proof that it can attain a specific PSL in a pre-development noise mitigation plan required by 25 Pa. Code 78a.41(a).

The Alberta Directive was promulgated in 2007, several years before the public health studies cited in subsections II.A and B were completed. Today, a larger body of existing research on the impacts of noise created by unconventional natural gas development informs the commenter’s proposal that unconventional natural gas development operators must comply with set permissible sound levels. Another factor that supports the application of PSLs to unconventional natural gas development is the difference in average population density between Alberta Province and Pennsylvania. The population density in Pennsylvania is 277.6 people per square mile, while the population density in Alberta is 14.7 people per square mile. Since Pennsylvania is greater than eighteen times more densely populated than Alberta, there is a greater chance that residents will be impacted by noise from unconventional natural gas development and, therefore, DEP has more reason to require operators to demonstrate PSLs at the pre-development, noise mitigation plan stage. Despite the Alberta Directive only regulating unconventional natural gas development on a “complaint basis,” the preceding facts demonstrate the reasoning behind the commenter’s belief the DEP must demonstrate compliance with PSLs at the pre-development, noise mitigation plan stage. (221)

- 524.** Comment: An important feature of the Alberta Directive is its inclusion of Permissible Sound Level (PSL) requirements. The PSL formula developed in the Alberta Directive is PSL equals a pre-established basic sound level (BSL) plus the ability to apply several adjustments to accommodate differences in population density, proximity to transportation noise, and time of day. The BSL is equal to a scientifically measured ambient sound level plus a 5dBA allowance. Research conducted by the Environmental Council of Alberta established that the “average rural ambient sound level” in Alberta was 35 dBA (Leq) at night, adding the 5 dBA allowance establishes a PSL baseline standard for regulated entities. The Alberta Directive applies this baseline standard of 40 dBA as the required PSL for energy facilities that do not have a dwelling closer than 1.5 km from the facility fence line. The Alberta Directive provides an adjustments formula in order to create more specific required PSLs for energy projects in areas with varying population density, proximity to transportation noise. The Alberta Directive sets different PSL levels for day time and night time. Finally, the Alberta regulations use a “receptor-oriented” approach to noise mitigation. This means that testing for a PSL violation occurs at the site of the dwelling or structure that has filed a noise complaint, rather than from the property line.

The details of the Alberta Directive requirements should be compared to other government regulation addressing unconventional natural gas development. The Maryland School of Health study notes that the Maryland Department of Environment has set “maximum allowable noise levels for receiving land categories.” Those standards are 65 and 55 dBA in residential areas during the daytime and nighttime, respectively. The study also notes that those dBA standards “are relatively high considering the literature on health effects associated with noise exposure and may not adequately protect public health.” Unlike the Alberta Directive, the Colorado Oil and Gas Conservation Commission (COGCC) considers unconventional natural gas development well pad development to be an industrial activity and a complaint is not necessary to trigger COGCC’s noise standards. COGCC sets its residential noise standard at 55 dBA in the day and 50 dBA at night. (221)

- 525.** Comment: The DEP must set a permissible sound level (PSL) for unconventional natural gas development of 55 dBA during the day and 50 dBA during the night. The PSL cannot be

exceeded at any receptor within 3,500 feet of the limit of disturbance of the well site. Receptors include all occupied structures, school common areas, playgrounds, parks, and recreational areas. Should baseline testing reveal that noise in the area already exceeds the PSL, operators may not cause a noise increase of more than 6 dBA.

The specific recommended PSLs are based on the thresholds for avoiding negative public health impacts established by the EPA and WHO, the experience of other jurisdictions, and the studies completed by various schools of public health.

Unconventional natural gas development activities in Pennsylvania have a high probability of exceeding 55 dBA. The Pennsylvania Oil and Gas Act imposes a setback of only 500 feet from a well site to a protected structure. Troublingly, the New York SGEIS found that noise from unconventional natural gas development far exceeded health standards at 2,000 feet from the well site. The Colorado School of Public Health study found that, assuming 500 feet setback from residences, unconventional natural gas development would produce noise above background and possibly above Colorado Oil and Gas Conservation Commission (COGCC) levels without “ancillary noise abatement.” The COGCC requires unconventional natural gas development activities being conducted in residential/agricultural/rural areas to satisfy the PSLs the commenter recommends: 55 dBA during the day and 50 dBA during the night. In the Maryland School of Public Health, the authors found that occupied structures more than 3,500 feet from unconventional natural gas development compressor stations are unlikely to experience noise levels that will negatively impact health. The commenter’s suggested 3,500 foot perimeter draws from the West Virginia finding, but it should be noted that noise at unconventional natural gas development sites may greatly exceed noise from compressor stations. The Council encourages the DEP to revisit the 3,500 scope as it develops experience regulating noise in Pennsylvania and expand the protection to a greater distance should the evidence support it.

The commenter understands that in some locations background noise may exceed the PSLs prior to unconventional natural gas development, which is why the Council recommends a small allowance of 6 dBA. The 6 dBA allowance is based on the NY Supplemental Generic Environmental Impact Statement finding that “sound pressure increases of more than 6 dB may require a closer analysis of impact potential, depending on existing SPLs and the character of surrounding land use and receptors, and an increase of 6 dBA may cause complaints. Therefore, mitigation measures would be required if increases of this nature would be experienced at a receptor location.” (221)

526. Comment: The best mechanism for addressing the public health issues associated with noise from unconventional natural gas development is to set specific permissible sound levels (PSL). The purpose of setting a PSL, however, is not to guarantee that a resident will not hear any noises from a unconventional natural gas development facility. Setting a specific PSL will, most importantly, help ensure that the performance standards are protective of public health. Specificity will also ensure more transparency in the relationship between operators of unconventional natural gas development and citizens that reside in close proximity to well sites. The DEP has stated that the rules “focus on performance over process.” The success of the proposed noise mitigation performance standards should be measured by their ability to protect the public health and quality of life of the communities surrounded by unconventional natural gas development, as well their ability to facilitate resolution of noise complaints by improving understanding of the operation of the law between unconventional natural gas development operators and citizens impacted by their development. (221)

527. Comment: DEP must require that operators conduct noise modeling to demonstrate that the

permissible sound level (PSL) will also not exceeded at any of the receptors within 3,500 feet of the limit of disturbance of the well site. The noise modeling should note all receptors within the 3,500 feet, including all occupied structures, school common areas, playgrounds, parks, and recreational areas.

The Alberta Directive uses a “receptor-oriented” approach to noise mitigation. For enforcement purposes, the receptor-oriented approach measures the noise levels at the actual receptor site, usually a dwelling, rather than at the property line. Under the Alberta Directive, if a valid noise complaint is received for a facility, compliance with the directive is established if a comprehensive sound survey indicates that the PSL is exceeded.⁶³ The commenter believes if a complaint is received, the DEP should apply this test for compliance with the PSL at the receptor site, rather than the property line.

Even if an operator has demonstrated via the noise mitigation plan that it will not violate the proposed baseline 55/50 PSL within the 3,500 feet radius from the well site, the unconventional natural gas development operator must also be prepared to respond to residents’ noise complaints. Residents living near proposed unconventional natural gas development sites should have an objective mechanism for verifying whether or not noise entering their home is a violation of the law and potentially impacting their health. (221)

- 528.** Comment: The Alberta Directive includes a requirement that, “A licensee must discuss a proposed noise management plan with all affected persons, such as nearby residents, operators of energy-related facilities, other industries and local government.” The Alberta noise regulations also include a requirement that if a noise complaint is registered against a licensee then the licensee must take concrete steps to resolve the issue. Those steps are (1) make direct contact with the complainant “to understand the concerns and to establish a dialogue to set reasonable expectations and a time frame to resolve the issue,” (2) explain carefully the licensee’s duties under directive 038 and the time line the licensee intends to follow in addressing the matter, (3) complete the requirements of the Noise Complaint Investigation form.

DEP must adopt similar mechanisms that allow residents within one mile of the limit of disturbance of an unconventional natural gas development (UNGD) site to have access to the noise mitigation plan. Residents who wish to view the noise mitigation plan should have the expectation that the information included within it will provide them specific information on the noise generating equipment at each UNGD. The Alberta Directive requires UNGD operators to provide “sound source identification.” In other words UNGD operators must “Identify major sources of noise...from the facility and their associated sound power/pressure levels.” (221)

- 529.** Comment: DEP must require that the operator offer to meet with all residents within one mile. This requirement is a common-sense, pro-active measure that will both act to prevent conflict and to promote quick dispute resolution if receptors of noise from unconventional natural gas development need to file complaints. (221)

- 530.** Comment: The DEP should not place a restriction on who can file a formal noise complaint for sound created by unconventional natural gas development (UNGD). 25 Pa.Code Section 78a.41(b)(2) states that “nearby residents” should be taken into account. The Alberta Directive contains no such limiting language. By limiting who can lodge a complaint, the DEP would deprive aggrieved residents from accessing a low cost dispute resolution mechanism. Moreover, by failing to gather complaints from all impacted residents, the DEP would not gather the information needed to understand the full impact of noise from UNGD. The qualifier “nearby” must be deleted, so as to allow all residents who may be impacted by the noise from UNGD to

make complaints. (221)

- 531.** Comment: The same statutory authority that enables DEP to promulgate its Chapter 78 regulations also empowers the DEP to promulgate its Chapter 78a regulations for unconventional wells, the Oil and Gas Act of 2012 (Act). The DEP has stated that new development practices associated with unconventional natural gas development (UNGD) require “additional oversight of applicable standards and controls.” Chapter 78a contains the new UNGD regulations.

The specific bases for adopting noise mitigation standards are found in the language of the Act and case law interpreting the Act. The Act’s stated purposes include the protection of the “safety and property rights of persons residing in areas” where oil and gas development occurs and the protection of “the natural resources, environmental rights and values secured by the Constitution of Pennsylvania.” Protecting the safety and property rights of Pennsylvanians includes the power to protect residents from the threats posed by noise from UNGD. These threats include negative public health impacts and intrusions on the right of quiet enjoyment of property. The Act “regulates nearly every aspect” of oil and gas drilling and exploration activities. The Act empowers the Department to regulate the “features” of oil and gas development. Case law describes a “feature” of oil and gas development as “a characteristic of the manner or process by which the well is created, functions, is maintained, ceases to function, or is ultimately destroyed or capped.”

The “creation and functioning stages” of UNGD include drilling and fracking procedures of UNGD. Significant noise occurs in the creation and functioning stages of UNGD. Such stages processes fall under the purview of DEP regulation as characteristics of the process by which wells are created and function. Since these activities produce significant noise that can negatively affect the safety and property rights of Pennsylvanians, the DEP may promulgate performance standards for the mitigation of noise associated with UNGD. (Therefore, the DEP has two bases for promulgating Chapter 78a). (221)

- 532.** Comment: I’m concerned about noise levels and light pollution at drill sites in my and neighboring townships. These are disturbing impacts to residents and wildlife alike that no one seems to regard. Specifically, it ought to be mandated that industry trucks be prohibited from using engine brakes on highways, state or township. Why should some residents get reprieve from this unnecessary over-the-top noise (certain boroughs) while all the rest of us don’t get this reprieve? Townships could enact some of this, but we all know they won’t; it needs state action. Also, cumulative ambient noise levels are rarely if ever considered when projects are evaluated. E.g., FERC only requires compressor stations to come in below 54 dB at a certain distance from facility, but no consideration is given to ever increasing environmental noise (such as truck traffic, railroad switching, etc.) in the area. (121)

- 533.** Comment: I am writing this as over the past year I have made over 100 phone calls to complain about the compressor station in my back yard only to run into so much red tape. I have attended many of my township commission meetings to express my issues with the noise coming from the compressor station, which is closer than the 2500 feet of any residential area. I have had the DEP come to listen, at my home, to the noise and still to no avail any help. According to them the gas well or compressor is far enough away but why should I have to look at an industrial site. The regulation states that if it is closer than 2500 feet of a residential area should be offer to buy out at 200% minimum. So I have a gas well 850 feet with the compressor another 250 feet. I was told that a noise reduction wall would be in place and that was over a year. I have asked EQT to buy me out as my home’s value has declined. My family and I have had to deal with construction 24/7. At times, we are unable to sleep in our bed rooms as it is facing toward the gas well and

compressor station.

The noise occurs on a daily bases and I can feel the vibration daily. I moved to this area for the farmlands and beauty of the Butler area. It is sad that for the love of money, Butler County will be polluted with nothing but gas wells and noise. It is my understanding that no Township Commissioner cannot own land with a gas well or compressor stations as it is conflict of interest. Here in my township there is one Township Commissioner who does own land with a gas well and compressor station on it. Where are my rights as a resident of Pennsylvania and tax payer?

The law needs to change the regulation of 850 feet to that of over 2500 feet from any residential area. No construction should start before 7 am or after 5 pm. I would like anyone in government to come and live in the industrial site that I have to deal with. (156)

534. Comment: 78a.41 Noise Mitigation is critical. Limits, in terms of decibels, duration, and frequency of sound must be specified according to standards based on scientific and medical studies. Monitoring must be done by others in addition to the operator with averages being unacceptable as a standard. (d) Terms such as “regular, frequent, and comprehensive inspections” need to be further defined. Could remote sensing devices be required to monitor noise from natural gas operations? (161)

535. Comment: We strongly support the addition of noise mitigation for well pad locations. Association and community members residing within the watershed have had to live with dramatic impacts beyond what is reasonable. We encourage DEP to regulate noise such that those impacted would not have extreme indoor noise levels that prohibit normal living within their homes. (171)

536. Comment: § 78a.41 Noise Mitigation. During the recent March and April TAB meetings industry voting members attempted to purport that the only reason for this section was anecdotal. During the April TAB meeting, as an advisor I spoke about my personal experience concerning intolerable indoor noise levels that have resulted during several drilling and fracturing experiences. These experiences are intermittent, they are anything but temporary over the five years the well pad has next to my home. Once I concluded my remarks an industry voting TAB member noted that “Emily what you have just described here is not temporary.” Since I elaborated my personal experience during the TAB meeting, I’m not going to repeat it here. However, many folks who deal with these intolerable noise levels in non-zoned municipalities feel helpless. The operators may not respond. There is no one at either the municipal or county level with any jurisdiction to assist and neither is there is anyone at DEP who may assist, so often their misery goes without any governmental contact. Families have to grin and bear it which is much easier said than done. Often, those living nearby are elderly or sickly and are just unable to cope with advocating on their own behalf and may not even know where or who to call. And, really, presently there is no one to call when the operator fails to respond or respond with a real solution. Thus, we strongly support this section and recommend the Department moves forward to regulate noise via mitigation at well pads.

With that in mind, our first suggestion revolves around the Department crafting a technical guidance document which is made available for public comment. Secondly, we recommend the Department create a fact sheet that is made available on the internet and is included in the packet mailed to landowners and municipalities when the operator is applying for a well permit. Folks are going to need to know they have the ability to file a complaint when intolerable indoor noise issues exist and what they may expect in steps to resolution. (170)

537. Comment: §78a.41 (c) We recommend the below noted language change.

*If the Department determines during drilling, stimulation and servicing activities that the plan is inadequate to minimize noise, the Department **shall** order the operator to suspend operations and to modify the plan and obtain Department approval.*

We've got experience with operators, and not all are created equal. We do not want to see some determined drilling or fracturing crew continue head-on once a complaint has been filed. Generally, folks are probably going to have already put up with a significant amount of noise before they file the complaint. The activity may well be underway, and the operator may say, we only need a few more days. The Department should in no way subject the neighbors to a "few more days" of intolerable levels. These are for all intents and purposes construction sites and construction sites are regularly subject to change and are not prone to be on schedule. So, it is easy for a "few more days" to be a week or longer. The operator needs to stop and appropriately mitigate as they should've been doing for years. The only flexibility we see is for the operator to cease intolerable noise levels from the hours of 9:00 p.m. to 7:00 a.m. In other words, once a complaint has been filed, well pad activity must cease during those hours until appropriate and effective mitigation is in place.

The Department also needs to be aware that in our rural areas, bedtime is earlier due to folks working on their farms or longer commutes to work. Thus folks will retire earlier in our region than say, our suburban counterparts who may have only a ten minute commute to work.

The provisions noted in the draft document are broad in scope. Therefore, we offer the following suggestions.

- A provision needs to be added to ensure that this section includes all existing well pads and wells. (g) This section applies to all wells and well sites permitted prior to the effective date of the rulemaking. Noise has been an on-going problem across the development area when homes are near sites where the topography provides opportunities for homes to 'catch' or 'attract' very loud noise from drilling and fracturing operations. We are not referring to traffic, but rather actual operational noises that result in indoor noise levels which create very difficult living and sleeping environments. These folks also deserve the benefits of the noise mitigation performance standard. Development is not sustainable when nearby families are not able to function in their homes normally. There is a need for balance.
- A provision needs to be added clarifying that this section only pertains to municipalities that lack zoning, or local/county zoning ordinances that choose to regulate it through referencing this section in their zoning ordinance.
- There needs to be a performance template as to what is a reasonable and unreasonable indoor noise level. This is much different from determining outdoor noise levels, and may even be a little more complex. An operator may choose as part of their site specific noise mitigation plan to take pre-activity readings at locations near homes. There needs to be a study rather than a snapshot. We'd suggest a 3 day, 24 hour study. Indoor noise levels also need to be ascertained at a minimum for 3 days period for nighttime levels. Indoor noise levels are going to vary depending on regular, non-industry road traffic, refrigerators, furnaces and other appliances intermittently running. It is important to note, most of these will be less likely to contribute to indoor noise levels at night. A loud, intermittent refrigerator could increase indoor noise levels to 50dB for a few minutes when normal indoor noise levels may be at 40dB while in rural areas, the outdoor ambient noise level may be at 35dB or even less. So, this can become pretty complicated. Alberta's Directive 38, takes into account present background levels and indicates a buffer of 5dB with the industry needing to meet that increased level. Thus, while they are doing the study, nightly

indoor noise levels need to be monitored in a similar fashion to come up with that typical indoor noise level at that home. Homes are going to vary, so that also needs to be considered. The industry must then meet that ambient level +5 which would be reasonable for folks trying to sleep.

- During the day the indoor noise levels may be higher, nevertheless OSHA has requirements for 8 hour noise levels and levels that would require hearing protection. The Department needs to be mindful these are our homes. We are at home for more than 8 hours and should not have to wear hearing protection while inside our homes. The Department needs to regulate noise so folks are comfortable within their homes and are able to enjoy normal activities such as watching TV, conversation, using the telephone and sleeping without the interference of intolerable industrial noise levels. Thus, we are hesitant to prescribe a decibel level. In some homes 55-60 dB is going to be too loud, while in other homes, it is not.
- The Department also needs to be mindful that noise is very fluid when there is activity on-site. There are clangs, bangs, horns, beeps, roars, revving, and more. So, the practically constant changing sounds and varying loudness makes it difficult to become accustomed to the noise such as one would with say, just traffic for example. Another aspect is that one may be able to cope with the present noise level for an hour and fall asleep only for that noise level to abruptly change when they are awakened by something similar to a loud thunderbolt, which is essentially a bang at the well pad. Instead of it being for a flash of a few seconds, rather it continues all night long and there is no more sleeping.
- The Department needs to determine/define permissible sound level similar to what is defined in Alberta's Directive 38. The Department needs to determine/define basic sound level similar to what is defined in Alberta's Directive 38. The Department actively determining/defining PSL and BSL will aid the industry in knowing what parameters are reasonable to meet adequate performance of noise mitigation and best management practices. This will also aid in creating a predictable performance standard. In conjunction with this process, we recognize that there needs to be an adjustment between daytime and nighttime established levels. There may also be the need to establish a seasonal adjustment. Seasons, weather, wind speed, temperature all have effects on noise. We suggest Alberta's Directive 38 as a good resource with application on these levels be replicated here in the Department's effort to regulate noise mitigation at well pads.
- We recommend the Department review Directive 38 (2) Determining Sound Levels and Adjustments and (3) Noise Impact Assessments for opportunities to replicate provisions into Chapter 78a §78a.41.
- We recommend the Department define the duration of drilling, stimulation and servicing activities. Our experience is those activities begin when the first truck appears on-site delivering materials, equipment or personnel and ends once all materials, equipment and personnel have vacated the site. Generally, one of the first loads to reach the pad and the last to leave are the mobile light plants. Once the light plants are delivered, generally the site is bright that evening. Work is seriously underway and remains that way until the light plants are removed. We would suggest as a helpful parameter as an example that activity occurs corresponding to light plants being brought to the site which allows them to work 24/7. Even though the site may not yet be seriously engaged with a downhole drill bit or fracturing stage, as they are erecting and placing equipment they also begin to idle equipment. Thus, the noise time table extends beyond the downhole efforts.
- We agree with the regulation being complaint driven. It is unlikely that every home near a well pad is going to have intolerable indoor noise levels, and it is likely that there will be

pads where there are no nearby homes and this is a non-issue. However, it is important that the Department regulate noise at well pads in non-zoned municipalities in order that families are able to be comfortable within their homes and function normally.

- All sound level results obtained by the operator on a complainants property whether indoors or out need to be furnished to the Department and the property owner within ten days.
- The operator must contract third party bona fide, certified professionals that monitor noise once the Department notifies the operator of a complaint.
- The operator needs to maintain contact with the complainant in order to be aware of any intolerable noise levels being experienced.
- The Department needs to determine how they will be able to respond to complaints for intolerable noise levels during sleeping hours. There needs to be clear guidelines so the complainant knows what the process entails, what to expect and what their rights are.
- The operator needs to advise both the Department and the complainant what measures they are taking to mitigate noise. They need to communicate when they have completed making these alterations and when activity is anticipated to restart with the lower noise levels.
- The Alberta Directive 38 provides that noise impacts from heavy truck traffic and vibration impacts may require corrective action in the case of a complaint. Operators on occasion may stage trucks at well pads near homes during drilling and fracturing events at nearby well pads. This staging may go on for months during multi-well development. This situation may present problems for those whose homes are too close. Trucks that meet the California emission standards are allowed to idle all night long. A quantity of trucks idling may increase indoor noise levels and vibration impacts for neighbors and cause sleep disruption. We recommend that the Department provide for measures regarding well pads used as truck staging sites.
- Prior to Act 13, homes were setback 300' from the well head. There are also situations in which we are aware that unknowing landowners signed waivers and their homes are sited less than 300' from the well head. Act 13 provided for a 500' setback from the well head. Operators shall not be obligated to implement noise mitigations at well pads for new dwellings built disregarding the 500' setback after the effective date of this section.
- There are phases of drilling, fracturing and servicing that are much noisier which the operator could choose to do between the hours of 7:00 a.m. and 9:00 p.m. which would help to reduce the potential impact of noise upon the neighbors.
- The operator needs to advise the nearby residents of significant noise-causing activities and schedule these events to reduce disruption to them. It would be very beneficial for the operator to robo call the residents within 1,000' of the well pad the week before they are planning to move into drill, fracture or service a well. Currently there is a 24 hour activity notice provided to the municipality and landowner, but a 24 hour activity notice is a no-brainer when the neighbors have been seeing the equipment hauled in over the past week.
- Operators need to comply with a requirement that all internal and external combustion engines are fitted with appropriate muffler systems.
- The regulation needs to be explicit that the operator is responsible for noise control regardless of who the subcontractor is and what methods they may or may not choose to employ.
- The cost/benefit of implementing this section is not as tangible as the industry would suggest. Cost/benefit needs to include the difficult living situations that nearby residents have had to endure this past eight years of drilling within the Northern Tier Region. This would extend to vehicle accidents, work absence, medical appointments, and undue stress and recuperation periods for residents who have been terribly affected by lengthy periods of intolerable noise. Many of these situations have been unreported or operators have

poorly dealt with them. We anticipate a regulation that is not a premier concern at all well pads. There are many well pads in state forest lands (where animals are able to roam freely away from the noise) and on private lands that may be well over 1,000' from the nearest home with no negligible noise impact. This regulation would be most applicable to sites that have been poorly sited with no regards to the neighbors and future sites where hopefully, operators will choose more balanced locations that will fit within the scope of adequate noise mitigation. We see these as a minimal number of the total established and future well pads.

- There needs to be a firm guideline as to how a complaint is filed; who to call, what kind of information to provide.
 - The regulation needs a provision to indicate how soon the Department will respond and how they will respond. We recommend the Department respond immediately. Unlike a water complaint, the noise situation is a very fluid situation. It is likely that folks will not phone immediately. It is likely they will question whether they are being reasonable, or they may think it may improve, or they may be reluctant to phone for a variety of reasons. Thus, the family could be dealing with a few weeks of intolerable noise levels before they call. Thus, the Department needs to swiftly respond. Once a report has been filed, the Department needs to make a site visit and subsequently, when necessary contact the operator.
 - The regulation needs a provision to indicate what exactly the operators responsibility is, how soon they need to respond and in what manner. We recommend that once the Department has contacted the operator, the operator respond immediately. Once the operator receives a complaint, that is top priority and no site activity is as important as solving the intolerable noise issue. They must make direct contact with the complainant in order to understand the concerns and to establish dialogue to set reasonable expectations and a time frame for action to resolve the issue. The operator must carefully explain the requirements they must meet including the time lines they intend to follow in addressing the intolerable indoor noise problem.
 - The operator needs to provide correspondence to the DEP and the complainant explaining exactly what the operator did to successfully mitigate for the intolerable indoor noise. This record will prove valuable to all parties the next time the well pad has activity. It will serve as a record of what was effective in reducing intolerable indoor noise levels; mitigation which may be repeated next time there is activity at the well pad.
 - The regulation needs to specify the maximum length of time the operator has to resolve the complaint.
 - Any instruments used by the contracted third party/operator to record sound levels must have a certificate of calibration. Calibrations must be done within the guidelines recommended by the manufacturer.
- Above all, we request that as the Department fine tunes this new section that they are most mindful of the quiet environs of our rural areas and our basic need to be comfortable within our homes. These two items should be the drivers of establishing template parameters, ASL, BSL and what is considered reasonable and unreasonable levels of noise. What may be considered reasonable in more populated suburban and urban areas is not comparable to our rural settings. That fact is noted in virtually every study and existing regulation, greater populated areas have inherently higher background ambient noise levels. So, please be mindful of our unique circumstances of a very quiet area with an influx of extreme industrial noise, and how to balance that within the scope of what is reasonable – that at the very least, we must be comfortable within our homes. (170)

538. Comment: 78a.41 Noise Mitigation- I strongly support the addition of noise mitigation for well pad locations. I live near a well pad and my experience with noise has been unpredictable. Indoor noise levels from the pad have caused sleeping difficulty and inability to perform certain tasks relating to my telecommuting job. The vibration from drilling and the accompanying reverberating sound is at times insufferable. I am not exaggerating and I am not a person who complains about much. I dealt with intermittent drilling sounds and vibrations for over a year- during the Wyoming County Plushanski well pad drilling. On this particular site the Operator, Carrizzo, was drilling 9 horizontal wells. The drilling lasted for over a year. That is a very long time. Yes, I had noise during that entire year. I had to cancel some conference calls for my job, to move some family gatherings I had planned, and sleeping was difficult. I also had vibrations in my house where my area rugs would “walk” across the floor from the vibrations. Once the drilling was complete- the rugs stopped “walking” and all was quiet again. Noise is a big issue to Pennsylvania residents living in the Shale fields and should be addressed in these regulations. Please extend these provisions to existing well pads so that all may benefit. (168)

539. Comment: REGARDING 78a.41: NOISE MITIGATION – The commenter agrees with the necessity of mitigating the noise pollution of gas development. We find the current wording of this section limiting, as it refers only to “drilling, stimulation, and servicing activities”. We ask DEP to additionally include the term “gas operations”, which by definition set forth in this document would include compressor stations. The commenter is concerned and commenter members have experienced diminished quality of life and property value when living in proximity to compressor stations. The noise of site preparation, drilling, and fracking operations is frequently egregious to nearby residents; their only solace is the somewhat temporary nature of these operations. Such is not the case for those living near compressor stations, the noise of which is 24/7. Here in Lycoming County, the zoning setback for compressor stations is a mere 25 feet. No one should be forced to live with that level of continual noise, and mitigation of that noise should be included in this proposed rulemaking.

It is clear that DEP has the authority and experience to address the full spectrum of noise control. Precedent for such regulatory power has been established via 283.108 governing resources recovery and other processing facilities, 281.17 – which regulates composting facilities, and 289.136 which addresses noise mitigation at residual waste disposal impoundments.

The commenter asks that the language of 78a.41 be expanded to include noise mitigation at compressor stations, odorizing stations and all gas operations where noise is a factor. (176)

540. Comment: Noise Mitigation (78.a41) – while I applaud the Department for addressing a nuisance issue frequently brought up by the general public, as written, these standards are very vague with little to no details that are shared regarding standards or definition in the ANFR. While the Department cites utilizing noise mitigation guidance from Alberta, Canada, the Department should be consulting with the Occupational Health and Safety Administration (OSHA) and the National Institute of Occupational Safety and Health (NIOSH) regarding available guidance, direction and potential mitigation measures. In short, the Department is reaching for guidance in the wrong places in order to address a non-environmental concern. (169)

541. Comment: Commentator is pleased to have the opportunity to comment on the revised proposed changes to Chapter 78, which are now bifurcated into Chapter 78 – Conventional Oil and Gas Wells, and Chapter 78a – Unconventional Oil and Gas Wells. Overall, Commentator is pleased with the bifurcation of the rules and with the additional proposed changes set forth in the March 2015 version of the proposed rules. Specifically, Commentator would like to commend the Wolf Administration for making the following improvements in the rules proposed in March 2015:

1. The addition of a requirement for noise mitigation planning for unconventional wells; The noise mitigation planning requirement could benefit national parks by reducing the aural impacts to park visitors, in those unfortunate cases where unconventional wells are being drilled close enough to be heard in national parks and other public lands. Commentator raised the issue of noise in its March 2014 comments in the context of asking for a larger setback than the current 200 feet required in Pennsylvania. While our setback concerns remain, the noise mitigation plan is a good first step. Additionally, the visitor's experience of these places is threatened by the noise, lights and pollution of industrial facilities, jeopardizing the robust tourist economies parks support. The need for setbacks from national parks and public lands is evident, and the proposed two hundred feet setback is simply not enough to protect the outstanding natural and cultural values, and the visitor experience at Pennsylvania's national parks and other public lands. (175)

542. Comment: Noise mitigation must be adequate to protect nearby residents and must include compliance oversight by the DEP.

Commentator is pleased to see noise addressed in these regulations and believes site specific noise mitigation plans are an essential idea. We are strongly supportive of the mention that the Department would suspend operations if necessary. Our concern is whether the DEP's limits for noise and enforcement of those limits are adequate to protect residents and students. The information provided by the industry to the communities relative to noise levels is inconsistent with the levels necessary to protect individuals residing near drill sites, compressors, and processing plants. Additionally, Commentator does not believe that operator self-monitoring of noise (or air or water), is sufficient. It appears that the DEP is relying on the operator to detect and remedy noise problems without adequate oversight. There is also no mention of citizen complaints about noise and how that community information is factored in to both the operator's assessment or, more importantly, the DEP's consideration of those complaints.

§ 78a.41. NOISE MITIGATION

(a) PRIOR TO PREPARATION AND CONSTRUCTION OF THE WELL SITE OR ACCESS ROAD, THE OPERATOR SHALL PREPARE AND IMPLEMENT A SITE SPECIFIC NOISE MITIGATION PLAN TO MINIMIZE NOISE DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES.

(c) IF THE DEPARTMENT DETERMINES DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES THAT THE PLAN IS INADEQUATE TO MINIMIZE NOISE, THE DEPARTMENT MAY ORDER THE OPERATOR TO SUSPEND (27) OPERATIONS AND TO MODIFY THE PLAN AND OBTAIN DEPARTMENT APPROVAL.

Research shows that noise exposure is associated with an array of psychological and physical effects. A review article on noise exposure and health risk published in *Noise and Health* concludes that there is sufficient evidence to support a causal relationship between community or transportation noise and cardiovascular risk. The evidence is strong for ischaemic heart disease and evidence for a causal relationship between noise and hypertension continues to grow. There is only limited empirical support for a causal relationship between noise exposure and biochemical effects, such as increased cortisol (Babisch 2006).

According to a World Health Organization assessment of research, excessive noise can also increase risk of cognitive impairment in children, sleep disturbance, tinnitus, and high levels of annoyance (WHO 2011). Researchers have found associations between elevated sound levels –

including community sounds levels – and hearing loss, reduced performance and aggressive behavior (Moudon 2009). Additionally some attention is being paid to the health effects of vibration exposure which is connected with but distinct from noise itself (Alves-Pereira 1999).

Noise exposures are associated with construction activities and blowdown episodes. We believe the effects of these exposures (as well as vibration exposures) should be evaluated by outside experts in the field. As with air exposures, the periods of extreme exposures (in this case noise exposures) can cause different and sometimes more serious effects than low-level exposures. (186)

543. Comment: Noise from drilling operations is among the most common complaints from people living near well pads. Quantifiable noise levels and limits should be established. Noise controls can make a big difference in one's quality of life. Required state-of-the-art noise controls. (183, 290, 291, 292, 4870-4914)

544. Comment: Regarding noise mitigation: I ask that noise mitigation requirements be expanded to apply to all gas operations, including compressor stations. (194)

545. Comment: 78a.41: I am extremely concerned about noise pollution from both the fracking operations at the well pads and the compressor stations in our area. We have been awakened at night by a continual droning, annoying background noise from these operations. Where once we had a quiet rural environment, we are now plagued by industrial noise that disrupts our sleep and causes anxiety.

Because of my experience, I strongly support the addition of noise mitigation for well pad locations. Please extend these provisions to existing well pads so that all may benefit. (158)

546. Comment: We commend the Department for proposing that operators develop and implement noise mitigation plans for well drilling, stimulation, and servicing activities. We urge DEP to extend the requirement to all oil and gas operations and to develop an objective standard that operators must meet. We recommend that the Department adopt an outdoor daytime permissible sound level of 55 dBA and an outdoor nighttime permissible sound level of 50 dBA. In areas already with noise levels above those limits, the oil and gas operation should not be permitted to increase existing levels by more than 6 dBA. (211)

547. Comment: Commentator strongly supports the Department's efforts to minimize noise pollution from unconventional oil and gas operations.

We are concerned, however, about the lack of specificity in the Department's proposed regulation. It does not establish a quantitative limit on allowable noise levels or explain how the Department will determine whether a noise mitigation plan is "inadequate." Although we understand that different environments may have different noise requirements and that it may be beneficial for the Department to have some flexibility in implementing the program, we are concerned that without more guidance, the proposed regulation could either become ineffective or, alternatively, become the target of litigation from oil and gas operators. At a minimum, we suggest that the Department publish a guidance document articulating how it plans to determine whether a noise mitigation plan is "inadequate to mitigate noise." We suggest that the guidance take into account the following considerations:

- Proximity to occupied buildings or residences
- Local background environmental noise levels in the absence of any oil and gas operations

- Sensitivity of any endangered or threatened species, or other critical communities reasonably expected to be within hearing distance
 - Expected seasonal variations on propagation of sound waves
- (231a)

548. Comment: Section 78a.41 needs to clarify the compliance tools to implement Noise mitigation. As currently written, the proposed §78a.41 states that operators must implement a “site specific noise mitigation plan to minimize noise during drilling . . .” It further provides the DEP discretion to suspend operations should the DEP determine that the plan is inadequate to minimize noise. The phrase “minimize noise” is narrative and does not act as an effective compliance tool. Noise mitigation, by definition, is the action of reducing the intensity of noise. In order for a mitigation plan to be effective in minimizing noise, there must be a mitigation objective (i.e., an established limit on intensity permitted).

We recommend that the DEP work with industry to establish such a uniform limitation and that the mitigation plan only be necessary if sounds in excess of the established limit are present. Results from a sound impact assessment should be used preliminarily to determine whether the proposed operations will exceed the established sound limit. A plan to mitigate sounds which exceed the established limit should be prepared and implemented. We welcome the opportunity to work with the DEP to perform the necessary further analysis on this issue. Given that this language was added to the April 4, 2015 publication of the amendments, it is our opinion that the public has not had sufficient time and opportunity to address the details of this significant new area of regulation. (383)

549. Comment: The regulations would create an overreach by the PA DEP into areas where it is not authorized to regulate, such as noise monitoring and placing restrictions around wildlife species. Both of these areas are within jurisdictions at levels different than the PA DEP. (3094-3121)

550. Comment: The DEP must add language to the noise mitigation performance standards in Chapter 78a that make clear that DEP does not occupy the field with regard to noise mitigation regulations. Local municipalities must be able to set their own noise standards in order to fulfill their police power under the Municipalities Planning Code. The DEP’s noise mitigation performance standards should represent a regulatory floor that allows local municipalities to establish stricter noise mitigation requirements. If it is impossible to comply with both a municipality’s noise mitigation standards and the Chapter 78a standards, an operator must be required to comply with the more stringent standard. (221)

551. Comment: § 78a.41 Noise Mitigation. The inclusion of new standards pertaining to noise mitigation far exceeds the authority and capacity of PADEP to regulate and enforce. This section is vague and approaches noise from a qualitative perspective that is subjective in nature for assessment and enforcement. Inclusion of this new requirement poses potential conflicts with municipal zoning ordinances that have noise emission standards. This language appears to usurp authority from those who are best equipped to respond to local concerns of such matters. Finally, the PADEP does not have the expertise or equipment needed to enforce matters pertaining to the science of acoustics. (113)

552. Comment: **78a41** – The ANOFR includes an entirely new section to Chapter 78a regarding noise mitigation. What is the DEP/EQB’s statutory authority for imposing regulations regarding noise? Does the DEP regulate noise for any other activities in the Commonwealth of Pennsylvania? For example, is noise regulated for forestry/timber activities, mining activities, or road construction or new housing development that may involve significant earth moving with heavy equipment and

months or years of activity? If it does not, it seems quite arbitrary and capricious for the DEP/EQB to single out unconventional oil and gas activity for purposes of regulating noise.

Assuming arguendo that the DEP has statutory authority to regulate noise, the draft provision is horribly vague and unclear. No benchmarks are provided as to what acceptable noise ranges are. No standards are established for where and how noise is to be measured. The generic undefined term “servicing activities” is introduced. An operator's plan requires an assessment of impacts on indoor noise levels, however, the proposed rule fails to explain how operators are expected to evaluate indoor noise levels. What is considered a “nearby resident” for purposes of this regulation? The regulation does not explain what DEP's standards will be for determining that a noise mitigation plan is adequate or inadequate. The regulation does not explain the standards for inspections. For example, inspections appear to be required at the “site”, but is this meant to be the defined term “well site” or something else? What is meant by “regular, frequent and comprehensive” inspections?

Rather than attempting to initiate a new unfamiliar area of regulation for DEP, Commentator suggests that this entire section be revised to require operators to adopt and incorporate best practices regarding noise management into their procedures for drilling and stimulation activities. This will obligate operators to address noise concerns in their operating procedures and it will preserve the flexibility and balance needed to address noise issues in the field which can vary significantly based on atmospheric conditions, time of year, wind direction, etc. (190)

553. Comment: The provisions will not result in meaningful noise reduction or control at well sites. the noise requirement is vaguely worded and fails to set an objective standard for evaluating problems, making it difficult, if not impossible, to assess compliance. (134)

554. Comment: This entire section regarding Noise Mitigation is overreaching. Currently the department does not regulate other industries in regards to noise. The heavy construction portion (site construction, drilling and hydraulic fracturing) are temporary activities and such the regulation of noise associated with those activities should be to already established municipal ordinances.

The department has not identified a metric and standard at which to regulate noise, which would lead to inconsistent implementation across the commonwealth.

Assessing the impacts on indoor noise levels is inconsistent with existing municipal noise ordinances which are normally set at the fence or property line. (187, 209)

555. Comment: The incorporation of the provisions in this section were not included in previous drafts of this proposed rulemaking. Therefore, we encourage the Department to remove this section from consideration in this rulemaking and include these provisions in a future rulemaking whereby all interested parties would be given the opportunity to aid in developing meaningful provisions. (195)

556. As these provisions have not previously been included in the context of this rulemaking, the following language should be incorporated in lieu of what is currently proposed:

“The Operator shall consider implementing sound attenuation controls to minimize impacts to sensitive receptors located within 500 feet from the edge of the well pad during well drilling and completion operations.” (195)

- 557.** Comment: § 78a.41. In Commentator’s experience, noise mitigation requirements are generally driven by the potential for noise impacts, and therefore they are typically promulgated by a local community under their zoning authority as opposed to the state. Commentator has concerns about a blanket statewide requirement for multiple reasons. Many of our operations occur in remote areas where noise impacts on a community are not a concern, particularly as they are temporal in nature. In these situations, noise assessments and mitigation plans provide no benefit and add unnecessary costs to the operation. (199)
- 558.** Comment: Both the Department’s authority for these requirements and the standards an operator must meet remain undefined. In proposing these new requirements as part of a final regulation, none of the requirements of the Regulatory Review Act have been followed. For example, the proposal is missing a statement of need, estimates of cost have and neither the Independent Regulatory Review Commission (IRRC) nor the standing committees have had an opportunity to review and comment on this provision. Neither Act 13 of 2012 nor any other statute we are aware of authorizes the Department to regulate noise and it does not regulate noise for any other industry. (199)
- 559.** Comment: The language in § 78a.41 lacks the clarity needed for a regulatory standard. To effectively implement noise requirements, an operator needs to know what is considered an acceptable noise level as well as how effectiveness in meeting this standard will be gauged. The ability of the Department to order a suspension of operations, coupled with the breadth and ambiguity of the “inadequate to minimize noise” standard, presents an unreasonable risk to operators. (199)
- 560.** Comment: An operator may not be able to immediately cease some active phases of a drilling or completion operation without compromising safety or permanently damaging the well. Accordingly, Commentator suggests that the Department strike this section 78a.41. (199)
- 561.** Comment: The Department should develop, with the input of stakeholders, a manual of best management practices (BMPs) for noise mitigation and example descriptions of situations under which they could be applied. The commenter is in the process of finalizing general guidance on noise mitigation as a part of new Recommended Practice. Once finalized, this guidance could serve as the starting point for discussions within the stakeholder group recommended above. (193)
- 562.** Comment: As these provisions were not included in the rulemaking process prior to March 2015, the proposed regulation and all associated guidance (technical or otherwise) should be developed and vetted through the appropriate rulemaking process and include opportunity for public comment. (193)
- 563.** Comment: The Department should develop and implement an educational outreach program to assist DEP field staff and operators to recognize situations where the noise mitigation BMPs should be applied. (193)
- 564.** Comment: Only after the program is shown to be necessary and effective should it be included in the regulations. (193)
- 565.** Comment: Noise Mitigation, Section 78a.41: This brand new section represents a prime example of the defects in this rulemaking noted in the Introduction. First, DEP is proposing an entirely new requirement as a final regulation without complying with the RRA. None of the requirements of the RRA, such as statement of need or estimate of cost have been followed. Nor have the IRRC

or standing committees had an opportunity to review and comment on this provision. Secondly, we question DEP’s authority to regulate noise, a matter usually regulated under local zoning ordinances. Neither Act 13 nor any other statute we are aware of authorizes DEP to regulate noise, and it does not regulate noise for any other industry. Thirdly, the language in Section 78a.41 is so vague and arbitrary that it fails as a regulatory standard. What does it mean to have a plan to “minimize” noise? Minimize from what level to what level? Must noise always be minimized even if there are no receptors? If so, why? Lastly, the language gives DEP the ability to require the cessation of operations if it “determines” that the plan is inadequate to “minimize” noise, without providing any standard or criteria for such determination or how inadequacy will be determined. Inserting this provision at this stage of the rulemaking violates the RRA, lacks legal authority and is arbitrary and capricious on its face. It should be eliminated. (210)

566. Comment: 78a.41 The proposed regulation does not consider the occupancy level and establishment of occupancy zones, time frames, and decibel (dB) level for compliance. Commentator recommends developing occupancy zones, operating time zones, and compliance levels for operations. These levels are recommended below, and are based on existing HUD Regulations and in-place zoning ordinances

Occupancy Zone	Operating Time Frames	
	7:00am-7:00pm	7:00pm-7:00am
Residential	55 dB	50 dB
Commercial	60 dB	55 dB
Light Industrial	70 dB	65 dB
Industrial	80 dB	75 dB

(189)

567. Comment: Noise Mitigation (§ 78a.41) • It has been stated by the Department that the proposed requirements for § 78a.41 for a site-specific noise mitigation plan are based on a similar requirements from Alberta, Canada. However, specific standards to be included have not been presented by the Department, nor has specific data been presented showing the need for this requirement. Furthermore, the Department has not justified the cost of such a blanket regulation across Pennsylvania. Commentator has site specific data collected in Pennsylvania which shows that a noise mitigation plan requirement is unwarranted.

- Based on data collected on individual PA unconventional well pads at more than one location during well installation activities data indicated levels only just above the OSHA time weighted average (TWA) of 85 dBA per 1910.95(c)(1), which then requires a hearing protection program and the permissible exposure limit for noise of 90 dBA as a TWA. This data is also below both the maximum continuous noise standard of 115 dBA and the impulse noise standard of 140 dB peak sound pressure level. Even so, Commentator does utilize engineering and administrative controls as a best management practice (BMP) to ensure employee and contactor hearing safety.
- Offsite data sets for noise sampling collected by Commentator, in Pennsylvania at the perimeter of well pad and at distances ranging between approximately 1,180 feet and 1,640 from the perimeter of the well pad indicate noise levels well below the OSHA TWA of 85 dBA per 1910.95(c)(1) which then requires a hearing protection program. This is less sound than would be made by a hand pushed lawnmower or normal vehicular truck traffic in an urban setting.

Based on data collected at locations in Pennsylvania and also taking into account the 500 foot setback under Act 13 for well pads from existing structures in Pennsylvania, Commentator does not believe the Department is justified in the requirement for a site specific noise mitigation plan and urges the department to remove this section of the proposed rule.

The requirement for regular, continued, frequent, and comprehensive noise evaluation seems counterintuitive. As long as properly designed BMPs are maintained at the well pads then these burdensome monitoring requirements are not needed. To require continued noise monitoring for every well site is not justified for operations that are temporary in nature and at varying distances from occupied areas. (205)

568. Comment: § 78a.41 This brand new section represents a prime example of the defects in this rulemaking noted in our cover letter. First, the Department is proposing an entirely new requirement as a final regulation without complying with the Regulatory Review Act. None of the requirements of the RRA, such as statement of need or estimate of cost have been followed. Nor have the IRRC or standing committees had an opportunity to review and comment on this provision. Secondly, we question the Department's authority to regulate noise, a matter usually regulated under local zoning ordinances. Neither Act 13 of 2012 nor any other statute we are aware of authorizes the Department to regulate noise, and it does not regulate noise for any other industry. Thirdly, the language in § 78a.41 is so vague and arbitrary that it fails as a regulatory standard. What does it mean to have a plan to "minimize" noise? Minimize from what level to what level? Must noise always be minimized even if there are no receptors? If so, why? Lastly, the language gives the Department the ability to require the cessation of operations if it "determines" that the plan is inadequate to "minimize" noise, without providing any standard or criteria for such determination or how inadequacy will be determined. Inserting this provision at this stage of the rulemaking violates the RRA, lacks legal authority and is arbitrary and capricious on its face. It should be eliminated.

If PADEP intends to promulgate oil and gas regulations related to noise, we strongly recommend that this section be removed from the ANFR and a separate proposed rulemaking be initiated in accordance with the procedures in the RRA. The proposed regulation in § 78a.41 does not establish a clear or coherent standard for operators. The lack of specificity prevents us from providing meaningful comments. Starting the rulemaking process from the beginning and preparing an RAF would allow for full consideration of the overall structure of the regulation, the specific proposed language, and the cost of compliance with the proposed regulation could easily be in the hundreds of thousands of dollars per well site. The Department is likely to develop additional forms, guidance, and/or policy related to noise mitigation. These proposed forms and other documents have not been provided as required by Section 5(a)(5) of the Regulatory Review Act, so we are unable to review and comment on the details what the documents will require.

As stated above, it is not clear that PADEP has the authority to regulate noise, nor is it clear that the agency has the internal expertise to properly administer the proposed noise program at this time. No other industry is subject to an industry-specific noise regulation in Pennsylvania. PADEP has not demonstrated a need for state-level noise regulations for oil and gas operations. It is unclear how the proposed regulation is intended to interact with existing local noise ordinances. Noise is typically regulated at the local level, as contemplated by Act 13 of 2012, and local governments may not impose conditions or requirements on noise relating to permanent oil and gas operations that are more stringent than the conditions or requirements imposed on other industrial uses in a zoning district. 58 Pa. C.S. § 3304(b)(3). The proposed § 78a.41 is contrary to the intent of Act 13 of 2012, because it imposes state-level noise regulations solely on the oil and

gas industry, more stringent than generally applicable rules, for both permanent and non-permanent operations.

If the Department chooses to retain § 78a.41 in the ANFR, have several recommendations with respect to the proposed language. For example, use of the term “minimize” should be avoided. The language does not specify any objective standard, criteria or method for determining when noise would be sufficiently minimized so as to avoid a violation and subsequent enforcement by PADEP. It is impossible for an operator (or PADEP) to ascertain compliance with such a vague standard. Only the Department, in its sole and unfettered discretion, would have the ability to determine when a violation has occurred. The point of evaluation for the noise standard (e.g., the receptor, the location generating the noise, the property line, etc.) is also unclear. The term “servicing activities” is vague and undefined. See our general comments on § 78a.1. Additional comments related to the proposed regulation are provided beneath each subsection below.

Lastly, the commentator notes that the Department will receive a variety of comments from our membership regarding this proposed noise mitigation section. These membership comments will provide varying opinions on appropriate standards or practices for noise mitigation, which further supports our position that the proposed regulation in § 78a.41 is unclear and therefore prevents the regulated community from providing meaningful comments on the proposed section.

The commentator’s suggested amendatory language:

Remove § 78a.41 from the ANFR. (210)

- 569.** Comment: § 78a.41(a) As noted above, the term “minimize” does not provide industry with a workable standard to evaluate compliance with this regulation. Requiring “minimization” also suggests a stricter standard than is necessary or appropriate; requiring the reduction of noise to the lowest possible level in all situations is unwarranted. The terms “servicing activities” and “preparation” similarly fail to provide operators with fair notice about their obligations. “Preparation” of a well site is an entirely new term that is not used elsewhere in the ANFR.

In addition, if the site specific noise mitigation plan is intended to be implemented during drilling, stimulation and servicing activities, as indicated by the ANFR language, the proposed deadline for plan completion is unnecessarily early. A more reasonable deadline for plan preparation may be commencement of drilling (or a specified period of time prior to commencement of drilling). (210)

- 570.** Comment: § 78a.41(b)(1) Without additional information about the proposed methods, parameters and objectives for the proposed background noise assessment, PADEP’s enforcement of this requirement will be entirely subjective. Operators cannot estimate the costs and other burdens associated with a background noise assessment based on the proposed language. Furthermore, PADEP has not analyzed the costs associated with the preparation of a background noise assessment.

The commentator acknowledges that background noise may be an important consideration with respect to noise mitigation, but a background noise assessment should not be mandatory for all well sites. Rather, a background noise assessment should be an optional step, to be conducted when appropriate or necessary based on site-specific conditions. For example, in a remote location known to be quiet, a background assessment would add unnecessary time and expense without commensurate benefit. (210)

571. Comment: § 78a.41(b)(2) The requirement to take “into consideration the interests of nearby residents” is highly subjective and provides no cogent standard for operator compliance. Again, “servicing activities” is undefined. The “affects” (sic) on indoor noise levels may depend in significant part on existing sources of indoor noise, which vary considerably. (210)

572. Comment: § 78a.41(b)(3) The commentator objects to incorporating unknown and unspecified “best practices” into the regulation. Without additional information about these practices, we are unable to evaluate the potential cost and impact of this requirement. In addition, once adequate noise reduction is achieved, there is no legal justification for requiring best practices to further reduce noise levels. PADEP’s objective standard for noise reduction must be more clearly established to provide regulatory certainty to operators. (210)

573. Comment: § 78a.41(c) Consistent with the commentator’s recommendation to remove § 78a.41 from the ANFR, the commentator recommends that this paragraph be deleted. As drafted, PADEP would have the unilateral authority to suspend operations state-wide based on an inadequate minimization of noise at one well site.

If this subsection is retained, the proposed language must be revised and clarified. Again, “minimization” does not provide operators with a clear standard for compliance, and reducing noise below the level determined to be an acceptable threshold is not efficient or necessary. PADEP should not be granted the authority to shut down operations based on a completely subjective requirement to “minimize” noise. If the standard is not clarified, any PADEP order to suspend operations (or a decision not to suspend operations) is likely to be administratively challenged. Such challenges would require significant expenditures of time and resources by PADEP to defend its decision.

At a minimum, the provision should be clarified to provide that only operations at the well site generating the objectionable noise may be suspended. (210)

574. Comment: § 78a.41(d) The term “comprehensive” is vague and unnecessary, and as used could lead to differing interpretations. The commentator recommends that “comprehensive” be deleted from this subsection. Moreover, this proposed requirement as a whole is lacking in specificity, such that any determination by the Department regarding compliance with this provision would be entirely subjective. (210)

575. Comment: § 78a.41(e) The terms “problems” and “deficiencies” are vague, undefined, and likely duplicative. At a minimum, we recommend that the term “problem” be deleted from this provision. (210)

576. Comment: § 78a.41(e) Maintaining a noise mitigation plan at the well site may be difficult or impossible, particularly after drilling and completion activities are done. We recommend that the provision be modified to require only that the mitigation plan be maintained by the operator, and made available to PADEP upon request. (210)

577. Comment: 78a.41 Noise Mitigation – Noise control is already regulated by local authority through public nuisance ordinances and does not need to be further regulated. Requiring operators to develop a well pad specific program with the only stated requirement being “to minimize noise” to the Department’s satisfaction introduces an arbitrary requirement that cannot be complied with and will result in uneven enforcement from site to site and operator to operator. In addition it is recommended that this newly added section be tabled until more scientific evaluation and recommended standards are established. (232)

578. Comment: There is no standard or limit to the agency's discretion on this issue. In addition, it would require an assessment of background noise in the area of the well site AND regular, frequent and comprehensive site inspections to evaluate the effectiveness of any noise mitigation measures. The proposed regulation would increase cost at every well site and could be used as a basis for suspension of activities at a well site upon landowner complaints to the Department.

This section is very arbitrary in its lack of objective standards to be used by the agency in assessing noise levels and asserting its right to suspend oil and gas activities based on noise issues.

If this section were to ultimately take effect, the commenter believes that questions regarding preemption of local noise control ordinances needs to be specifically addressed in the Comment Response Document. As the Department is aware, noise control is already regulated through local municipal nuisance ordinances. We are unaware of the specific statutory authority upon which DEP relies to trump local nuisance ordinances, especially in such a subjective manner, which singles out a particular industry for noise mitigation regulatory oversight. We believe citing the specific statutory authority likewise should be specifically annotated in the Comment Response Document.

API is in the process of finalizing general guidance on noise mitigation as a part of new Recommended Practice. First, the Department should develop, with the input of stakeholders, a manual of best management practices (BMPs) for noise mitigation and example descriptions of situations under which they could be applied. Once finalized, this guidance could serve as the starting point for discussions within the stakeholder group recommended above. Second, as these provisions were not included in the rulemaking process prior to March 2015, the proposed regulation and all associated guidance (technical or otherwise) should be developed and vetted through the appropriate rulemaking process and include opportunity for public comment. Third, the Department should develop and implement an educational outreach program to assist DEP field staff and operators to recognize situations where the BMPs should be applied. Lastly, only after the program is shown to be necessary and effective should it be included in the regulations. (232)

579. Comment: We recognize that some of the issues raised above need to be addressed in the rule, and others may be best addressed in official guidance. We look forward to working with the Department on any guidance documents that are developed under this section. (225)

580. Comment: Section 78a.41 - Noise Mitigation

Commentator does not believe that the Department has the legal jurisdiction or authority to implement or enforce a noise standard. In most cases, the Department regulations are rooted in an underlying statute, but in this case, there is no underlying Act 13 statute to form the basis for a proposed rule. As a matter of law and administrative procedure, Commentator strongly objects to the adoption of a noise mitigation regulation absent an authorizing statute on this subject.

However, if the Department is unwilling to forego adoption of a noise mitigation standard, Commentator encourages the Department to postpone development of this rule under a separate rulemaking rather than introducing this new subject matter at the last stage of Chapter 78a rule development. The current rule is too vague and allows for too much subjective implementation and enforcement. In order to develop a rule that is predictable for operators, enforceable by the Department, and responsive to citizen concerns (as the Department cites for the justification for this rule), this subject should be addressed separately.

For example, the rule should take into account the surrounding terrain and ability for sound to carry, proximity to residential areas, ambient noise levels, etc. The current version of the rule does not communicate the Department's expectations nor does it provide any specificity to allow for operators or communities to know what constitutes compliance. Commentator urges the Department to delete the proposed noise mitigation standard for this rulemaking. (222)

581. Comment: § 78A.41 NOISE MITIGATION Commentator recommends that this section with entirely withdrawn because it is a new proposed regulation that has not been accompanied by regulatory analysis required under the Regulatory Review Act and was never submitted to TAB, EQB or IRRC as a proposed rulemaking. These procedural flaws cannot be remedied through this notice and comment period, and the comments below are only provided to illustrate additional flaws with the proposal. Commentator is aware that individual members of the oil and gas industry may submit comments that recommend specific changes to the Draft Final Rule according to what that particular company may find to be acceptable. The variation in such comments further supports the conclusion that the rule is premature and should be withdrawn for discussion and analysis. (213)

582. Comment: Proposed § 78a.41, If Promulgated, Would be Deemed Void for Vagueness

Under Pennsylvania law, a statute or regulation will be deemed void for vagueness, “if it a) traps the innocent by failing to give a person of ordinary intelligence reasonable opportunity to know what it prohibits so that he may act accordingly or b) results in arbitrary or discriminatory enforcement in the absence of explicit guidelines for its application”. *Krichmar v. State Bd. of Veh. Mfgs.* 850 A.2d 861, 865 (Pa. Commwlth. 2004); *Toms v. Borough of Prof'l. and Occupational Affairs*, 800 A.2d 342 (Pa. Commwlth. 2002). It should also be noted that in interpreting a statute to determine if it is so void, the language, “may be interpreted in the context of the common knowledge and understanding of members of a particular profession”. *Stephens v. State Bd. of Nursing*, 657 A.2d 71 (Pa. Commwlth. 1995).

Applying these principles to the instant situation leads to the conclusion that if § 78a.41 were promulgated it would likely be deemed void for vagueness in any legal challenge.

- § 78a.41(a) would require an operator to prepare and implement a site specific noise mitigation plan, “to minimize noise during drilling, stimulation, and servicing activities” without specifying any objective standard, criteria or method for determining when noise would be sufficiently minimized so as to avoid violation.
- § 78a.41(c) would grant the Department the extraordinary remedy of suspending an operator’s operations if during the course of drilling, stimulation or servicing activities, the Department determines (again without statement of any objective basis or standard for such determination) that the operator’s noise mitigation plan is not adequate, in the Department’s sole discretion, to minimize noise.
- § 78a.41(b) would require the specified noise mitigation plan to include, “an assessment of background noise in the area of the well site”, with no details as to how the assessment is to be performed, what would constitute an acceptable assessment, the time period over which the assessment would have to be performed or how large an area would have to be assessed.

- § 78a.41(b)(3) would require operators to, “adopt and incorporate a best practices approach to noise management” without specifying any best practices to so include.

Proposed § 78a.41 would not pass muster under either of the prongs of the vagueness test aforementioned.

First, by failing to specify any objective method for determining whether noise is sufficiently minimized to avoid violation and possible suspension of operations, proposed § 78a.41 would trap the innocent by failing to give a person of ordinary intelligence reasonable notice of what it prohibits so that the person may plan his behavior accordingly and avoid violation or worse yet suspension of operations. For the same reason, proposed § 78a.41 would result in arbitrary enforcement. Without having an objective standard as to how much noise is permitted, an operator would have no way of knowing if its operations were in violation or not.

Proposed § 78a.41 would not be saved by the fact that its language may be interpreted in the context, “of the common knowledge and understanding of members of a particular profession”. No matter how much expertise an expert might have in noise mitigation such expert would not be able to determine from the language of proposed § 78a.41 what level of noise mitigation would be sufficient to avoid violation. Only the Department, in its sole and unfettered discretion, would be deemed to have the ability to do so.

Likewise proposed § 78a.41 would not be spared by the fact that the Department might in the future issue technical guidance providing standards or criteria for noise mitigation. As the Department is well aware, it is not bound by its technical guidance and may deviate from such guidance if it determines it appropriate to do so, leaving operators subject to potential arbitrary enforcement. See for example the Department’s technical guidance entitled “Guidance for Performing Single Stationary Source Determinations for Oil and Gas” on page 1. “DEP reserves the discretion to deviate from this policy statement if circumstances warrant.”

For the above reasons, Commentator respectfully requests that the Department withdraw proposed § 78a.41 in its entirety. (213)

583. Comment: Proposed § 78a.41 fails to give fair notice to a person of ordinary intelligence of what it regulates such that such person may adjust his behavior accordingly; fails to give any specifics as to the required noise mitigation plan including how it is to be prepared, what standards are to be used and over what time period it is to be evaluated; and would require an operator in preparing the required noise mitigation plan to “incorporate a best practices approach to noise management” without giving any indication of what best practices the Department might consider acceptable. Not only do those failings subject proposed § 78a.41 to a likely successful challenge on constitutional grounds if promulgated, they also prevent Commentator from providing meaningful comments on the potential costs or burden of such proposed regulations. The Department should withdraw proposed § 78a.41 in its entirety. (213)

584. Comment: Proposed § 78a.41 does not recognize drilling, stimulation and servicing activities as temporary activities. Instead, as noted, proposed § 78a.41 would require the operator of every well to prepare a site specific noise mitigation plan, prior to preparation or construction to minimize noise during drilling, stimulation and servicing activities regardless of noise level or complaints by nearby property owners, if there are any. Such requirement for temporary activities such as drilling, stimulation and servicing activities would clearly be inappropriate. (213)

585. Comment: The Department should withdraw § 78a.41 in its entirety and recognize that noise

from drilling, stimulating and servicing activities is temporary and should be regulated on a complaint only basis. (213)

- 586.** Comment: Commentator believes that proposed § 78a.41 should be withdrawn because: (i) it fails to give fair notice to a person of ordinary intelligence of what it regulates so as to enable such person to plan his behavior and avoid enforcement including the extraordinary remedy of having his operations suspended; (ii) impairs the Commentator's right to comment due to its lack of specificity and fails to recognize drilling, stimulation and servicing activities are temporary activities not warranting comprehensive noise regulation. (213)
- 587.** Comment: The noise provisions of § 78a.41 are proposed to apply during "drilling, stimulation, and servicing activities," so the mitigation plan timing requirement should be prior to drilling, not prior to site preparation and construction. There is no need to have it "prepared and implemented" prior to site construction. There may be a long period of time between site construction and the initiation of drilling, so the mitigation plan would serve no purpose in that interim period. Also, as proposed it's unclear what the difference is between "preparation" and "construction" of the site. If DEP insists on staying with the pre-site construction timing, at a minimum the word "preparation" should be deleted. (213)
- 588.** Comment: Requiring the plan to "minimize" noise is a much stricter standard than is necessary. "Minimize" suggests a requirement that noise be reduced to the lowest level possible, when in fact that is often unnecessary and unwarranted, as long as there is compliance with the applicable sections of the OSHA noise standards in 29 CFR 1910.95 for worker protection and operators adequately take into consideration nearby residents. If those parameters are being adequately addressed, then requiring additional controls (which can be at very significant expense) to further "minimize" the noise is not justified. (213)
- 589.** Comment: § 78a.41(b)(3) would essentially elevate unspecified "best practices" to regulatory requirements by use of the terminology "must adopt." Without knowing what best practices DEP is referring to, Commentator cannot properly evaluate the potential impact. Once adequate noise levels are achieved, there is no regulatory justifications for requiring best practices that may further reduce those levels. (213)
- 590.** Comment: The language of proposed § 78a.41(c) authorizing the Department to determine the adequacy of a plan to minimize noise and suspend operator's operations should be deleted from the section. (213)
- 591.** Comment: Commentator requests that the regular inspections called for by proposed § 78a.41(d) be performed no more frequently than weekly and that the word comprehensive be deleted. Site inspections to evaluate the effectiveness of any noise mitigation measures as is already required should be sufficient. (213)
- 592.** Comment: Commentator requests that the word "problems" be deleted from the language of proposed § 78a.41(e). The requirement that the operator promptly address and correct deficiencies identified in the course of inspections is sufficient. (213)
- 593.** Comment: This brand new section represents a prime example of the deficiencies of the ANFR. DEP is proposing an entirely new requirement as a final regulation without complying with the RRA. None of the requirements of the RRA, such as statement of need or estimate of cost have been followed. Nor has the IRRC or standing committees had an opportunity to review and comment on this provision. This section should be withdrawn from the Draft Final Regulation. As

currently written, the proposed § 78a.41 states that operators must implement a “site specific noise mitigation plan to minimize noise during drilling.” It further provides the DEP discretion to suspend operations should the DEP determine that the plan is inadequate to minimize noise. The phrase “minimize noise” is narrative and does not act as an effective compliance tool. Noise mitigation, by definition, is the action of reducing the intensity of noise. In order for a mitigation plan to be effective in minimizing noise, there must be a mitigation objective (i.e., an established limit on intensity permitted). The current version of § 78a.41 should be eliminated. We recommend that the DEP work with industry to establish a uniform limitation and that the mitigation plan only be necessary if sounds in excess of the established limit are present. Results from a sound impact assessment should be used preliminarily to determine whether the proposed operations will exceed the established sound limit. A plan to mitigate sounds which exceed the established limit should be prepared and implemented. We welcome the opportunity to work with the DEP to perform the necessary further analysis on this issue. As an example of a more appropriate approach, we have included more extensive comments and suggestions in the Addendum attached to this letter. Finally, the Department needs to be clear how any standard it develops will interrelate with municipal noise ordinances. If DEP is not prepared to occupy the field and preempt local noise ordinances relating to noise at oil and gas operations, then it should not proceed with any noise standard and should leave that matter to municipal ordinances. Unlike DEP’s approach, municipal noise ordinances are of general applicability and do not single out only oil and gas operations. New noise standards applicable only to oil and gas operations should not be added on top of those municipal requirements. (191)

594. Comment: Well development operations make sound. This fact is independent of the proximity to a sound receiver (i.e., listener). The difference between sound and noise depends upon the receiver and the circumstances. Since ‘noise’ can be defined simply as ‘unwanted sound’, there is a subjective element to determining whether well development sounds should be classified as noise. (191)

595. Comment: (a) PRIOR TO PREPARATION AND CONSTRUCTION OF THE WELL SITE OR ACCESS ROAD, THE OPERATOR SHALL PREPARE AND IMPLEMENT A SITE SPECIFIC NOISE MITIGATION PLAN TO MINIMIZE NOISE DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES. Since the definition of ‘noise’ is relative to a receiver, any mitigation plan must first demonstrate what needs to be mitigated. This can be done by establishing an objective not to exceed sound limit, measured at a residential receiver (i.e. residential structure). Commentator recommends establishing a limit of 60dBA. Noise mitigation, by definition, is the action of reducing the intensity of noise. In order for a mitigation plan to be fully successful, there must be a mitigation objective (i.e., the established limit). A mitigation plan should only be necessary if sounds in excess of the established limit are present. This regulation seems to require a mitigation plan for all wells. Results from a sound impact assessment should be used preliminarily to determine whether the proposed operations will exceed the established sound limit. A plan to mitigate sounds which exceed the established limit should be prepared and implemented. In many instances, it may not be possible to prepare a mitigation plan prior to construction of the well site. The specific equipment used to drill and complete the well may be unknown at that time. The language should be changed to “prior to drilling.”

Suggested language: (a) PRIOR TO DRILLING, THE OPERATOR SHALL PREPARE A SITE SPECIFIC SOUND IMPACT ASSESSMENT (SIA). IF RESULTS OF THE SIA PREDICT SOUND LEVELS IN EXCESS OF THE ESTABLISHED LIMIT, THE OPERATOR SHALL PREPARE AND IMPLEMENT A SITE SPECIFIC SOUND

MITIGATION PLAN TO MINIMIZE SOUNDS AT NEARBY RESIDENTIAL RECEIVERS DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES. (191)

- 596.** Comment: (b)THE PLAN SHALL INCLUDE THE FOLLOWING: (1) AN ASSESSMENT OF BACKGROUND NOISE IN THE AREA OF THE WELL SITE. It is necessary to define methods, parameters and objectives for the “background noise assessment”.

Suggested Language: (1) AN AMBIENT SOUND LEVEL SURVEY (72-HOUR) IN THE AREA OF THE WELL SITE; IN LIEU OF ESTABLISHING THE 72-HOUR AMBIENT SOUND LEVEL, THE OPERATOR MAY ASSUME A DEFAULT AMBIENT SOUND LEVEL OF 55 dBA; (191)

- 597.** Comment: (2) AN ASSESSMENT OF KNOWN AND POTENTIAL NOISE FROM DRILLING, STIMULATION AND SERVICING ACTIVITIES, TAKING INTO CONSIDERATION THE INTERESTS OF NEARBY RESIDENTS, INCLUDING THE AFFECTS ON INDOOR NOISE LEVELS FOR RESIDENTS NEAR THE WELL SITE. Operational sound data, gathered during live operational sound surveys, can be used to predict site specific sound levels at nearby residential receivers. How are the interests of nearby residents considered? Interests vary on an individual basis. Residential indoor sound levels can vary considerably.

Suggested Language: (2) AN EVALUATION OF THE PREDICTED SOUND LEVELS AT ALL RESIDENCES WITHIN A 2000' RADIUS OF THE PROPOSED WELL. THE ASSESSMENT SHOULD PROVIDE AN EVALUATION OF THE PREDICTED SOUND LEVELS WITH RESPECT TO THE ALLOWABLE LIMIT. IF THE ALLOWABLE LIMIT IS EXCEEDED, THE OPERATOR SHOULD PREPARE AND IMPLEMENT A SITE SPECIFIC SOUND MITIGATION PLAN. (191)

- 598.** Comment: (3) A DESCRIPTION OF THE OPERATOR'S PLANS TO MITIGATE NOISE. OPERATORS MUST ADOPT AND INCORPORATE A BEST PRACTICES APPROACH TO NOISE MANAGEMENT INTO THEIR DRILLING, STIMULATION AND SERVICING ACTIVITIES PROCEDURES. A sound mitigation plan should only be necessary if sounds in excess of the established limit are present. Results from the sound impact assessment should be used preliminarily to determine whether the proposed operations will exceed the established sound limit. A plan to mitigate sounds which exceed the established limit should be prepared.

Suggested Language: (3) IF NECESSARY, A DESCRIPTION OF THE OPERATOR'S PLANS TO MITIGATE SOUND. (191)

- 599.** Comment: (c) IF THE DEPARTMENT DETERMINES DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES THAT THE PLAN IS INADEQUATE TO MINIMIZE NOISE, THE DEPARTMENT MAY ORDER THE OPERATOR TO SUSPEND OPERATIONS AND TO MODIFY THE PLAN AND OBTAIN DEPARTMENT APPROVAL. Plan adequacy can only be measured by demonstrating that the allowable limit has not been exceeded. There are times during drilling, stimulation and servicing activities when it would not be safe to “suspend operations”. This term should be deleted or defined to allow for continued operations in order to maintain a safe operation.

Suggested Language: (c) IF THE DEPARTMENT DETERMINES DURING DRILLING, STIMULATION AND SERVICING ACTIVITIES THAT THE ALLOWABLE SOUND LIMITS ARE EXCEEDED, THE DEPARTMENT MAY ORDER THE OPERATOR TO

DEVELOP AND IMPLEMENT A REVISED SOUND MITIGATION PLAN WHICH RESULTS IN THE REQUIRED SOUND LEVEL REDUCTIONS. (191)

- 600.** Comment: (d) THE OPERATOR SHALL PERFORM REGULAR, FREQUENT AND COMPREHENSIVE SITE INSPECTIONS TO EVALUATE THE EFFECTIVENESS OF ANY NOISE MITIGATION MEASURES. An effective mitigation measure is one that achieves its objectives. If objective reductions of mitigation are not clearly defined, the effectiveness of the mitigation cannot be measured. If an allowable sound limit (i.e. an objective) is established, periodic sound checks to demonstrate compliance with the limit can be readily performed.

Suggested Language: (d) THE OPERATOR SHALL PERFORM REGULAR, FREQUENT AND COMPREHENSIVE SITE INSPECTIONS TO EVALUATE THE EFFECTIVENESS OF ANY SOUND MITIGATION MEASURES. (191)

- 601.** Comment: (e) AN OPERATOR SHALL PROMPTLY ADDRESS AND CORRECT PROBLEMS AND DEFICIENCIES DISCOVERED IN THE COURSE OF INSPECTIONS PERFORMED UNDER PARAGRAPH (d). What are deficiencies defined as? A deficiency of a mitigation measured can only be defined if the mitigation measure fails to achieve its objective reductions.

Suggested Language: (e) IF DURING THE COURSE OF INSPECTIONS PERFORMED UNDER PARAGRAPH (d), IT IS DETERMINED THAT ALLOWABLE SOUND LEVELS ARE EXCEEDED AT RESIDENTIAL RECEIVERS, THE OPERATOR SHALL PROMPTLY ADDRESS AND CORRECT THE MITIGATION PLAN DEFICIENCY. (191)

- 602.** Comment: (f) THE NOISE MITIGATION PLAN SHALL BE MAINTAINED BY THE OPERATOR AT THE WELL SITE WHILE DRILLING, STIMULATION AND SERVICING ACTIVITIES ARE BEING CONDUCTED AND SHALL BE MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. A sound mitigation plan should only be developed and implemented if the sound impact assessment determines that it is necessary.

Suggested Language: (f) IF APPLICABLE, THE SOUND MITIGATION PLAN SHALL BE MAINTAINED BY THE OPERATOR AT THE WELL SITE WHILE DRILLING , STIMULATION AND SERVICING ACTIVITIES ARE BEING CONDUCTED AND SHALL BE MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. (191)

- 603.** Comment: Suggested additional language:

(g) SOUND MITIGATION REQUIREMENTS DESCRIBED IN CHAPTER 78a.41(a)-78a.41(f) MAY BE WAIVED IF THE OWNER OF THE AFFECTED RESIDENCE PROVIDES WRITTEN CONSENT, ACKNOWLEDGING THAT SOUND LEVELS IN EXCESS OF THE ALLOWABLE SOUND LIMIT MAY BE OBSERVED FROM THE RESIDENTIAL RECEIVER. (191)

- 604.** Comment: Section 78a.41 addresses noise mitigation from the standpoint of having an operator prepare a “specific noise mitigation plan.” Although well intended, one has to question how a mitigation plan can be prepared when the requirement does not stipulate what is the frequency or decibels of the noise. Municipalities that adopt ordinances to control noise have to have parameters from which an individual can determine whether they are in or out of compliance with the ordinance’s regulations. Courts have constantly indicated that just by stating something is “noisy” is not a scale that can be regulated. The issue is that the noise level from drilling activities

that are similar to other activities (non-drilling activities) would have to be treated the same. The regulations need to be more specific on what they are attempting to control and not let it up to the discretion of the department to determine “that during drilling, etc. that the plan is inadequate to minimize noise, the department may order the operator to suspend operations.” Finally, we need to ask if these requirements are to supersede local regulations on noise, and if they are to supersede local regulation, we question the authority and would argue that it would be better that this requirement be a partnership with the municipalities? (253)

- 605.** Comment: In § 78a.41, operators would be required to submit for approval and comply with a noise mitigation plan. It is unclear under which statute the General Assembly delegated to the Department the obligation to regulate noise from oil and gas operations. Act 13 of 2012 spoke to noise but only for compressor stations and processing facilities and even then it was only in the context of municipal ordinances. The requirements in this section would authorize the Department to order the suspension of drilling activities if noise mitigation measures are not sufficient. The commenter seriously questions whether the Department has the ability to take an action by the Department without express statutory authority.

Finally, and most importantly, IRRC has not had a chance to formally review and comment on this section, DEP has not expressed to IRRC a demonstration of need for the regulations, and DEP has also not provided a cost estimate for this section. As such, the commenter urges that § 78a.41 and any other component of the regulatory package concerning noise mitigation be deleted. (236)

§§ 78.51 and 78a.51 Protection of water supplies

- 606.** Comment: In regard to §78.51 and §78a.51, under subsections (d) (2) of both, the proposed rule states, in part, that

IF, PRIOR TO POLLUTION, A WATER SUPPLY WAS OF A HIGHER QUALITY THAN REQUIRED UNDER PENNSYLVANIA SAFE DRINKING WATER ACT STANDARDS, THE RESTORED OR REPLACED WATER SUPPLY SHALL MEET THE PRE-POLLUTION QUALITY OF THE WATER.

This proposed change may be a litigation lawyer's dream. One may assume that “Higher Quality” is construed here as meaning to have lower dissolved constituents and higher purity. But to a consumer, “higher quality” is a condition that is “beauty in the eye of the beholder”.

As an example, there was classic 1972 paper by the renowned geologist Wayne Pettijohn, entitled “Good Coffee Water Needs Body”. In that, he related the story of a particular water well in a small town in North Dakota widely known as yielding the best water for making coffee. People would drive tens of miles to fill jugs from that well for making their coffee. Dr. Pettijohn investigated the well and its history. He found it to be a shallow well, sunk on the prior site of a livery stable. The water indeed had plenty of “body”. As in that case, “higher quality” for a user, perhaps with a particular taste, may not be able to be met with a replacement source that is fully adequate and meets Pennsylvania Safe Drinking Water standards.

The commenter believes that the Department is trying to assure water users that they will get back their same “good” water. I think this is unwise in that, from the water user's perspective, such never happens. It has been my experience that even if an alternate water supply of equal, or even better, volume and quality is provided, it will never be “the same as our old water”. I have seen

that to be the case even if the disruption is temporary and their aquifer source fully recovers to its previous volume and quality.

Pettijohn, W. A., 1972, Good coffee water needs body: Groundwater 10(5)47-49, published online 6 JUL 2006, <http://onlinelibrary.wiley.com>, DOI: 10.1111/j.1745-6584.1972.tbo3594.x. (348)

Response: The Department acknowledges the comment. The final rulemaking requires water supplies to be restored to Pennsylvania Safe Drinking Water Act standards or better. The Pennsylvania Safe Drinking Water Act standards are based on scientific fact as far as what is, and is not in a water supply to determine if it is safe for human consumption. If the water quality has been documented prior to being affected by oil and gas operations, that documented water quality, even if it is of a higher quality than Pennsylvania Safe Drinking Water Act standards, must be re-established by the operator. The Department disagrees with the commentator that the language in the final rulemaking presents an opportunity for litigation.

607. Comment: 78.51-78a.51 requires drillers to restore impacted drinking water to pre-drilling quality. Who is responsible for determining pre-drilling quality. The driller... who will point at any possible trace amount of an undesirable substance and then call this a “preexisting condition” when the relevant levels are elevated? The property-owner... who would then need to spend thousands of dollars annually to maintain seasonal water quality records? This part of the proposed regulatory framework appears to be realistically meaningless. (118)

Response: Drillers will have pre-drill water quality sampling done by an independent third party laboratory to preserve its defense under Section 3218(d) (2)(i) of the 2012 Oil and Gas Act. The property owner should at least conduct basic water quality sampling to alert them if their water supply has been contaminated.

608. Comment: 78.51-78a.51 requires drillers to restore impacted drinking water to pre-drilling quality

A. Holding drillers responsible for contamination of drinking water has never been successfully done. Drillers and DEP has a historic record of blaming contaminated water on something other than the drilling/fracking process

B. While drillers do offer a “pre-drill” water test, it is only one test and a snapshot of the water quality for that day. DEP and drillers often disregard the snapshot pre-drill test because water quality may vary due to the time of year. Former DEP Secretary John Hanger stated that at least 4 test should be performed at least every 3 months for 1 year prior to any drilling activity to establish a true water quality base line and every 3 months after drilling activity begins.

C. Act 13 holds drillers responsible for only 1 year after a well is plugged. Who is responsible after the 1 year date? Well casing failure is a long term KNOWN problem by the industry.

D. In instances where drillers were required to restore “impacted drinking water to pre-drilling quality” it involved water filtration systems, water buffaloes and/or delivery of potable water. This is NOT restoration of drinking water to pre-drilling quality and the homeowner is now responsible for maintenance of the system and the expense. Once the water has been contaminated it contaminated forever - there is NO restoration to “pre-drill” quality. (119)

Response: The Department disagrees with the comment. Section 78.58(d)(1-4) established the requirements for the restoration of a contaminated water supply.

- 609.** Comment: In the proposed rule, protection of water supplies requires an oil and gas operator to restore impacted drinking water supplies to Safe Drinking Water Act standards or to pre-drill quality, whichever is better. This regulation is unreasonable. Pennsylvania does not have construction standards for drinking water wells and because of this there are many existing drinking water sources in the Commonwealth that do not meet or are incapable of meeting the Safe Drinking Water Act standards. It is unfair to impose upon the oil and gas industry the burden and expense of addressing water contamination that existed prior to and is unrelated to oil and gas operations. (251)

Response: If a water supply's quality was better than Pennsylvania Safe Drinking Water Act standards prior to oil and gas operations, then it needs to be returned to its previous state if it was negatively impacted by oil and gas operations. Otherwise, the Department will be allowing operators to degrade a natural resource relied upon as a water supply source. In regards to water supplies that did not meet Pennsylvania Safe Drinking Water Act standards prior to being impacted by oil and gas operations, the Department would be derelict in its duties if it allowed operators to provide replacement drinking water that by its own standards is not fit to drink simply because the pre-existing water supply was poor. Given the need to provide replacement water based on the positive impact determination, the additional cost borne by operators is limited to the incremental cost of providing water that meets Pennsylvania Safe Drinking Water Act standards water as compared to the previous poor quality, not the difference between providing no water at all and meeting the previous poor quality.

- 610.** Comment: 78a.51(d)(2) Quality – The proposed rule can require an operator to improve upon preexisting water quality conditions. In that drinking water well construction is unregulated and the pre-drill water sampling is a snapshot in time of data known to include seasonal variations, this places an unfair burden on oil and gas operators and requires decisions to be made based on incomplete data sets. (232)

Response: The operator may choose the size and scope of their pre-drill water supply survey to help bolster their defense of what the preexisting water quality truly was. The Department will require water supplies impacted by oil and gas operations to be restored to Pennsylvania Safe Drinking Water Act standards or better, based upon the pre-drill water supply survey results.

- 611.** Comment: Section 78.51 -Protection of water supplies. If an operator causes a change to the water quality of a private water supply the water must be replaced with like quality water or to the standards established under the PA Safe Drinking Water Act, whichever is better. My objection is that the replaced water must meet municipal drinking water standards even if the water did not meet those standards prior to drilling. Further, no domestic water supplies are subjected to this standard throughout the State. There is lots of room for misuse of this provision, particularly in Pennsylvania where there are no domestic water well construction standards. (335)

Response: See response to comment 609.

- 612.** Comment: § 78a.51(d) (2) Quality

Pre-drill sampling programs analyze for analytical constituents based on specific generator knowledge. Sampling for constituents listed in the Safe Drinking Water Act would be burdensome and unnecessary. For example, water obtained from a water purveyor would be chlorinated and therefore would not meet proposed regulations without further treatment for chlorides, which would not have existed prior to the alleged impact.

The pre-drill parameter suite should only be based on potential industry marker parameters. Typically only one pre-drill sample is collected to determine baseline conditions; however this does not take into account natural variability in natural parameters such as metals. Safe Drinking Water Act criteria are risk based and are established to provide adequate protection.

Recommended Language:

The Department should establish a standardized “oil and gas short-list” of parameters to evaluate water supplies that could potentially be impacted by oil and gas operations, much like the “diesel short-list” in the UST Program. By way of further example, the Department currently uses their “946 suite of parameters” to evaluate potential impacts caused by the oil and gas industry.

The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the PA Safe Drinking Water Act for parameters of concern associated with the oil and gas industry. (209)

Response: See response to comment 609.

- 613.** Comment: 78a.51(d)(2) and 78.51(d)(2) - Under these subparagraphs, an operator is required to restore an impacted water supply to its pre-impact condition if the water quality of the sources was higher than minimum standards required under the *Pennsylvania Safe Drinking Water Act*. This standard reasonably requires operators to restore the source to its pre-existing condition. However, this provision does not separately address the situation where the pre-existing condition of the water source failed to meet minimum *Pennsylvania Safe Drinking Water Act* standards. In that scenario, the operator is obligated to bring the water quality of the source up to minimum *Pennsylvania Safe Drinking Water Act* standards, effectively resulting in a windfall to the owner of the water source. The standard should not be punitive as to the operator and should simply require the operator to restore the water quality to its pre-existing condition. (190)

Response: See response to comment 609.

- 614.** Comment: 78.51 Protection of water supplies – there are two significant issues in this section – the investigation process and quality of restoration.

With regards to diminution, it has been explained by the Department that there is no quantifiable method for determining a decrease in supply. How does the Department determine if a water purveyor is suffering from a reduction in supply? How does the Department determine that the suspected diminution was caused by oil and gas operations and not by other environmental factors including seasonal changes? There is no definition for diminution provided hence, this part of the regulation is not clear.

In the latter portion of section (c), “... the Department will issue orders to the well operator...”, the details of the investigative process are vague. One suggestion might read that “...the Department will issue written orders detailing the complaint and the basis for the determination within 5 (or other appropriate time frame) days of the determination to the well operator...”

Adding these additional details to the regulation allows for a clear understanding of the problem and appropriate solutions and promotes a quicker resolution.

With regards to the restoration, the regulation should remain that any affected water supply should be restored to pre-drill sampling standards. Under (2) Quality, it would be almost impossible due to the many variables that could possibly affect a private water supply, that the conventional operator would be able to bring a water supply to meet the standards established under the PA Safe Drinking Water Act. For example, we have pre-drill results for water supplies in Venango County that would currently not meet this standard. There are active farms and unclaimed strip mines within a ¼ mile from some of these supplies, not to mention the possibility of industrial waste. These pre-drill samples are not atypical of many water supplies in western PA and have reflected this poor quality for decades. (204)

Response: Professional Geologists employed by the Department investigate water diminution claims and use their professional judgment to determine whether an operator is responsible for the diminution or if other factors are the responsible. Operators receive copies of inspection reports and determination letters, making them aware of the Department's findings. Orders are an administrative measure, issued by the Department, compelling the operator to take immediate action to remedy a situation they are deemed responsible for causing, as determined during the investigative process. The rulemaking requires water supplies to be restored to the quality and quantity as it existed prior to being affected by the operator or PA Safe Drinking standards, whichever is better in accordance with Section 3218(a) of the 2012 Oil and Gas Act. Finally, see response to comment 609.

615. Comment: The Protection of water supplies (78.51 and 78a.51) - as a State Regulator (13 years as a Regional Hydrogeologist in the Water Supply Program, followed by 8 years as a Supervisor), 4 additional years as Compliance Chief for Oil & Gas, I have overseen hundreds of water supplies developed for both use as industrial and community water supplies, and investigations into possible contaminations of residential supplies. Pennsylvania is one of only two states in the United States that has no construction standards for new residential water supplies. Previous proposed legislation in Pennsylvania was not successful in providing guidance on proper water well installation and siting practices to minimize the risk of drinking water contamination. Without these regulations it is impossible for the Department to expect the oil/gas industry to be obligated to restore water supplies back to the safe drinking water standards if the supplies never met these standards or any standard. There are many regions in the Commonwealth where background concentrations especially of secondary standards in groundwater do not meet drinking water levels. The proposed restoration standards should be made to meet “pre-drill” or “baseline” water quality and water quantity. Currently quantity is also a very subjective standard and areas of the state have very limited resources to provide adequate supply even for residential use. There are many cistern systems in use still today. (150)

Response: In accordance with Section 3218(a) of the 2012 Oil and Gas Act, the Department must ensure that the quality of a restored or replaced water supply meets the standards established under the PA Safe Drinking Water Act, at a minimum. Under this subsection of the 2012 Oil and Gas Act, the EQB is required to promulgate regulations necessary to meet the requirements of this subsection, which EQB has done through the promulgation of Chapters 78 and 78a.

616. Comment: § 78a.51 (d) A restored or replaced water supply includes any well, spring, public water system or other water supply approved by the Department, which meets the criteria for adequacy as follows (2) Quality. The quality of a restored or replaced water supply will be

deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1 – 721.17). IF, PRIOR TO POLLUTION, A WATER SUPPLY WAS OF A HIGHER QUALITY THAN REQUIRED UNDER PENNSYLVANIA SAFE DRINKING WATER ACT STANDARDS, THE RESTORED OR REPLACED WATER SUPPLY SHALL MEET THE PRE-POLLUTION QUALITY OF THE WATER [, or is comparable to the quality of the water supply before it was affected by the operator if that water supply [did not meet these] [exceeded those standards]. We have concerns about this section which would unfairly impose an obligation on oil and gas operators that is neither legally required under Act 13 nor practically achievable under certain circumstances in Pennsylvania. The cost to install treatment technology to achieve predrilling conditions for individual parameters better than Safe Drinking Water Standards, or to achieve better than pre-drilling conditions for parameters that were worse than Safe Drinking Water Standards, even if possible, may be prohibitively expensive. No such requirement is imposed on any other industry. As stated in our general comments, regulatory programs should be fair and not impose disparate requirements or disproportionate costs on one particular economic or extractive sector. We suggest the changes be stricken and that the standing requirements remain as follows: “(2) Quality. The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1 – 721.17) or is comparable to the quality of the water supply before it was affected by the operator if that water supply did not meet these those standards.” (199)

Response: See response to comment 609.

617. Comment: § 78.51 Water Restoration

§78.51(d)(2) has been revised to state:

(2) Quality. The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1 - 721.17). IF, PRIOR TO POLLUTION, A WATER SUPPLY WAS OF A HIGHER QUALITY THAN REQUIRED UNDER PENNSYLVANIA SAFE DRINKING WATER ACT STANDARDS, THE RESTORED OR REPLACED WATER SUPPLY SHALL MEET THE PRE-POLLUTION QUALITY OF THE WATER [, or is comparable to the quality of the water supply before it was affected by the operator if that water supply (did not meet these] [exceeded those standards].

We commented on the 2013 Proposal, stricken here, that PADEP that would impose an obligation on oil and gas operators that is neither legally required under Act 13 nor practically achievable under certain circumstances. Act 13 requires impacted water supplies to be restored for the purposes served by those supplies. Chapter 78 defines water supplies to include commercial, industrial and agricultural supplies, all of which may include impaired water of varying qualities and none of which necessarily require drinking water standards. Restoring such supplies to Safe Drinking Water Act standards could be an act of sheer futility, with excessive cost and absolutely no underlying rationale. This result is neither authorized nor required under Act 13 or elsewhere. The revised language in the Draft Final Rule would likewise impose obligations on oil and gas operators that are neither legally required nor practically feasible, and, in fact, PADEP has increased the level of practical infeasibility with the revision.

First, requiring the restoration of water supplies to SDWA standards or better exceeds PADEP's legal authority to implement and enforce environmental laws and would alter well established principles of both property and contract law. PADEP is authorized to enforce environmental law,

which is fully satisfied by the existing language of Section 78.51(d)(2) and should not enter an arena where it determines whether parties are “made whole” in the process of water replacement.

Second, requiring a restored supply to “meet” the pre-pollution quality of water creates a standard that invites prolonged debate and increases costs, chasing a standard that is effectively meaningless in the overall quality of water. For example, if a water supply sample taken prior to drilling showed 50 ppm of some constituent, and the SDWA standard is 250 ppm, would a replaced supply of 80 ppm satisfy the rule as stated? In effect, the 80 ppm is comparable to the 50 ppm where a standard is 250 ppm and it would be unreasonable to require continued efforts to “meet” the 50 ppm pre-drill result.

This section should not be revised at all from the existing rule. (212)

Response: See response to comment 609.

- 618.** Comment: I do support the addition to the regulations in section 78.51 that if prior to pollution, the water supply was of a higher quality than required under PA SDWA standards, the restored or replaced water supply shall meet the pre-pollution quality of the water. (165)

Response: The Department acknowledges the comment.

- 619.** Comment: Any affected drinking water supplies must be restored either to Safe Drinking Water Act (SDWA) standards or, if pre-existing water quality was higher than SDWA standards, to the better pre-existing condition. (130)

Response: The rulemaking requires water supplies impacted by oil and gas operations to be restored to Pennsylvania Safe Drinking Water Act standards, at a minimum. If the quality of the water supply was better than Pennsylvania Safe Drinking Water Act standards prior to being affected by the operator, it needs to be returned to the pre-pollution quality of the water.

- 620.** Comment: Other suggestions: Homes that are compromised from this leakage should be restored to the level outlined in the Safe Drinking Water Act standards minimally, or to the higher quality level if that existed pre drilling. (34)

Response: The Department agrees with the comment. See response to comment 619.

- 621.** Comment: Living in an area of the state where there were a multitude of these orphaned wells and individuals where many including myself receive their drinking water from a well I am genuinely concerned of contamination from these methods of oil and gas extraction. I believe absolutely no safeguards should be lifted at all, I also want to note that before this present push for drilling especially Marcellus shale type extraction much of the topography of land and streams had begun to return to a more natural state, but some sins of the past will never go away—especially a water table that has been destroyed by contamination from this type of industry. (42)

Response: The Department acknowledges the comment.

- 622.** Comment: In revising Chapter 78, the PA DEP needs to protect Pennsylvania's natural resources by restoring potable, clean water to those whose water supplies have been affected by drilling. (19, 22 26, 28, 35, 38, 52, 57, 106)

Response: See response to comment number 619.

623. Comment: DEP has the duty to determine whether a drilling operation has affected a homeowner's water supply. Once that has been determined, I support the requirement that operator restore drinking water supplies to state Safe Drinking Water Act standards or better if the pre-drilling survey shows better quality. (24, 25, 31, 40, 41, 45, 48, 51, 53, 54, 55, 58, 59, 60, 62, 63, 64, 65, 66, 67, 70, 73, 91, 92, 93, 94, 206, 230, 268, 270, 345, 381)

Response: The Department will investigate requests for a water supply investigation by a water supply user/owner or water purveyor to determine if an impact from oil and gas operations has occurred. The final rulemaking does require water supplies to be restored to Pennsylvania Safe Drinking Water Act standards or better, if the pre-drilling survey shows the water had better water quality prior to the start of oil and gas operations.

624. Comment: I am extremely concerned about PA's Chapter 78 oil and gas regulations. We are experiencing far too much toxic pollution to our air, water, private land, and neighborhoods. I strongly request that much stronger regulations be put in place to require the restoration of truly clean, safe drinking water in areas where drilling has contaminated water. (24)

Response: See response to comment number 619.

625. Comment: Commentator supports the Department's effort to clarify the water supply restoration standard in subsection (d)(2). Commentator supports the Department's revision to §§ 78.51(d)(2) and 78a.51(d)(2), which require that water supplies be restored either to Pennsylvania Safe Drinking Water Act standards, or if applicable, to a higher quality if such higher quality existed prior to oil and gas operations. If oil and gas operations degrade a public or private water supply, the companies that profit from the resource extraction that led to the pollution are properly responsible for ensuring that all residents who were harmed by the diminished water quality have water that meets government safety standards. Consequently, commentator supports the Department's application of Safe Drinking Water Act standards to water supplies adversely affected by oil and gas operations. Commentator also supports, as a matter of policy and fundamental fairness, the Department's position that persons who had water supplies of better quality than drinking water standards have a right to expect that water quality will be maintained and not adversely affected by oil and gas operations. Among other things, such a policy recognizes the economic value of a high quality water supply, and the importance of readily-available clean water to the value of property for residential, agricultural, manufacturing, recreational, and other productive uses. The Department's revision to the proposed regulation should help to ensure that the regulation is properly and consistently interpreted. (231, 231a)

Response: The Department acknowledges the comment.

626. Comment: DEP must require all contaminated water supplies to be restored to either pre-drilling or safe drinking water act standards, whichever is better. (85, 179)

Response: See response to comment number 619.

627. Comment: Please restore contaminated water supplies to pre-drilling or safe drinking water act standards. (128)

Response: See response to comment number 619.

628. Comment: Any affected drinking water supplies must be restored either to Safe Drinking Water Act standards or, if pre-existing water quality was higher than SDWA standards, to the better pre-existing condition. (129)

Response: See response to comment number 619.

629. Comment: DEP must require all contaminated water supplies be restored to either pre-drilling or safe drinking water act standards, no exceptions. (325)

Response: See response to comment number 619.

630. Comment: Water replacement should be of equal or greater quality and quantity as was lost. There should be pre and post drilling water testing to include heavy metals. Water replacement should not be terminated at the discretion of the operator. (208)

Response: The final rulemaking requires water supplies to be restored or replaced to quantity as it existed prior to being affected by the operator and the quality must be returned to at least the Pennsylvania Safe Drinking Water Act standards. Pre drilling water testing is usually conducted by the operator so they may preserve a defense against presumption. Post drilling water testing would only be necessary if someone exercises their right to request a water supply investigation by the Department. Operators are not allowed to terminate water replacement without Department approval if ordered by the Department to provide water.

631. Comment: Contaminated water supplies should be restored to original condition or to U.S. safe drinking water standards. (155)

Response: See response to comment number 619.

632. Comment: We are encouraged by the Department's wording in:

§ 78.51.d.2. and § 78a.51.d.2, which specify that water supplies shall be restored or replaced with water equal in quality to the original water supply. (163)

Response: See response to comment number 619.

633. Comment: §§ 78.51 and 78a.51. Protection of water supplies

“The draft final rulemaking explicitly requires operators to restore drinking water supplies impacted by drilling to the better of either Safe Drinking Water Act standards or predrill quality.”

What rules will the DEP enact to protect the drinking water of private springs and wells from landowners and/or homeowners who do not have access to public drinking water but use a private well or spring for all needs? Pre-drilling water quality tests would need to be included in order to determine water quality after drilling has occurred. Water testing facilities would need to be sought out which do not favor gas/oil/drilling industries for testing. Vital rules would also need to include the use of tracers by any gas/oil operator. These tracers would verify the presence of leaks and/or spills and show exactly the source of all leaks/spills. The Government Accountability Office has also recently challenged the practices of deep injection wells only since last year (July 2014) with a report questioning the overload of the practice and the resources which the EPA uses

to regulate the activity. The entirety of the UIC program needs to be seriously reexamined, without permits being put through at every turn.

The commenter lives in a rural area where there is no public water and no access to public water. The laws under the Safe Drinking Water Act do not apply to me or to the other roughly 250 households in my township. Other townships have been asked to bear all the risks of potential harms committed by gas/oil industry while having no protection to themselves. The DEP must include provisions in these new rules to include these residents of rural communities lest these kinds of rural communities would be specifically targeted by these industries.

<http://www.epw.senate.gov/sdwa.pdf>

<http://www.gao.gov/products/GAO-14-555> (172)

Response: The rulemaking requires water supplies impacted by oil and gas operations to be restored to Pennsylvania Safe Drinking Water Act standards, at a minimum. If the quality of the water supply was better than Pennsylvania Safe Drinking Water Act standards, prior to being affected by the operator, it needs to be returned to the pre-pollution quality of the water. These regulations include private water supplies. The Pennsylvania Safe Drinking Water Act standards are being used as the benchmark for the minimum quality a responsible operator needs to restore the impacted water supply. If connection to a public water supply is not available, the operator will need to either replace the water supply with an alternate source of water or treat the existing source to restore the quality to Pennsylvania Safe Drinking Water standards or better.

634. Comment: 78a.51(d.2). We support that in the incidence of water supply contamination by oil and gas operations, replacement water must meet the standards of the Pennsylvania Safe Drinking Water Act and if, prior to pollution, the water was of higher quality, the restored or replaced water must meet the pre-pollution quality. Anything less would unfairly leave a degraded condition for those dependent on the water. (182)

Response: The Department agrees. See response to comment 609.

635. Comment: Section 78.51 d2 Protection of Water Supplies - I fully support the clarification of language "IF, PRIOR TO POLLUTION, A WATER SUPPLY WAS OF A HIGHER QUALITY THAN REQUIRED UNDER PENNSYLVANIA SAFE DRINKING WATER ACT STANDARDS, THE RESTORED OR REPLACED WATER SUPPLY SHALL MEET THE PRE-POLLUTION QUALITY OF THE WATER" This language clarifies and further protects Pennsylvanian's water supplies. (168)

Response: The Department acknowledges the comment.

636. Comment: §78a.51.(d)(2) We recommend the adoption of the language clarification. We advocated very strongly with our assembly members to have this provision included with the intention that we would have our water restored at better than SDWAS if that is what we had pre-drill or if we had less than SDWAS that water supplies would be restored to SDWAS. This language clarifies the intent of the assembly. (170)

Response: The Department acknowledges the comment.

637. Comment: REGARDING 78a.51 – PROTECTION OF WATER SUPPLIES - The EQB proposes a change to 78a.51(d)(2) to clarify that if a water supply was of a higher quality than required by Pennsylvania's Safe Drinking Water Act Standards, and that water supply is polluted, that water

supply must be restored or replaced to meet the pre-pollution water quality. Commenter fully supports this change. Given the fact that the industry continually tells us that gas development does not pollute water, and many of our elected officials echo that claim, publicly stating in campaign rhetoric that no drinking water supplies have been contaminated by “fracking”, this regulation should not be burdensome to the industry, nor should they have just cause to push back against its inclusion in the proposed rulemaking. It is a simple, common-sense regulation. (176)

Response: The Department acknowledges the comment.

- 638.** Comment: §§ 78.51 and 78a.51. Protection of water supplies
Water should be restored to predrill quality or better. (196)

Response: See response to comment 619.

- 639.** Comment: Comments on Chapter 78 and 78a - advanced notice of final rulemaking (as published in the Pennsylvania Bulletin on April 5, 2015) Restore clean water to those whose water supplies have been affected by drilling. The natural gas industry has fought to have water restored to only pre-contamination conditions—even if it is not safe to drink. We insist that DEP protect people who have been harmed from further harm. (183, 290, 291, 292, 4780-4914)

Response: See response to comment 619.

- 640.** Comment: Any affected drinking water supplies must be restored either to Safe Drinking Water Act (SDWA) standards or, if pre-existing water quality was higher than SDWA standards, to the better pre-existing condition.

All drillers to use a consistent list of parameters for pre-drill water testing, which DEP must establish before the proposed regulatory changes are adopted.

All drillers make pre-drill data available to the public, while protecting individual homeowners' privacy, through an online platform, which DEP must establish before the proposed regulatory changes are adopted. (382)

Response: Operators use pre-drill sampling results to protect themselves from unwarranted claims of well contamination and also as a defense against presumption. So the more expansive the predrill water supply survey is, the stronger the defense. For economic reasons, an operator may choose to test only for parameters that are indicative of contamination from oil and gas operations to use as their defense. Operators are aware that absence of predrill water supply data is not a defense against claims of contamination. If an operator impacts a water supply, the water supply will need to be restored to all the contaminate standards listed in the Pennsylvania Safe Drinking Water Act, regardless if some parameters were not tested for as part of the predrill water sample. The Department does not make public pre-drill sampling results in order to respect the privacy and property rights of the homeowner.

- 641.** Comment: In the case of water pollution, require industry to provide Tier 3 quality water as replacement. Industry must be required to replace water supplies in perpetuity or end replacement only with the consent of the affected residents or based on extensive water tests funded by the industry and independent of the DEP showing that water is safe to drink and use. (13)

Response: Water supplies must be restored or replaced to Pennsylvania Safe Drinking Water Act, at a minimum. § 78a.51(d) and § 78a.51(d) states what conditions have to be met when an operator restores or replaces a water supply, including providing for permanent payment of the increased operating and maintenance costs of the restored or replaced water supply. The Department takes into consideration all water sample results when making a determination, provided they are collected by a qualified person, follow strict chain-of-command protocol and are analyzed by an accredited laboratory. The Department's Bureau of Laboratories is independent of the agency and unbiased with its results.

642. Comment: Require companies to restore contaminated drinking water sources. (148)

Response: See response to comment 619.

643. Comment: Protect our drinking water from being polluted. (21)

Response: The Department acknowledges the comment.

644. Comment: The provision of potable, good quality water to all who have lost their own supply is imperative. (75)

Response: The Department acknowledges the comment.

645. Comment: I just read another study that linked foam in water wells to shale wells. In 2011, the Pennsylvania General Energy Co. was fined by the DEP because air foam HD was discharged into Pine Creek and a spring. This came from a Marcellus well bore. This caused a resident to complain of foamy, rank water. Our township is 75% wells, and the people depend on their clean water for cooking, drinking, bathing, and washing. Please keep the fracking to rural areas that are not highly populated with children until more research is obtained. Children cannot process abnormalities as efficiently as adults due to their small size, weight, and immature immune systems. Please keep our neighborhood and Mars Area School system safe. It is best to error on caution because if not, ill effects can last a lifetime on people-especially children. (87b)

Response: The Department acknowledges the comment.

646. Comment: While I do not oppose extraction of natural gas in Pennsylvania, if done responsibly, I am strongly in favor of strengthened regulation of drilling, in order to provide more protection for the environment in areas surrounding drill sites. I am particularly concerned about the negative impact of fracking on the water supply. The complex solutions used for fracking produce waste that can never be returned to the water supply. This presents a long-term (decades to centuries) problem that will be there long after the present drilling companies are gone. (127)

Response: The Department acknowledges the comment.

647. Comment: The DEP's duty to investigate water pollution should extend to all oil and gas activities. (129)

Response: The Department reserves the right to investigate water pollution from any source under many of the statues it is tasked to enforce.

648. Comment: We are writing in support of the 10 public water systems in Potter County and many

others in northern and central Pennsylvania who are calling on the Pennsylvania Department of Environmental Protection to include the location of delineated water supply recharge areas in its gas/oil permit review process, and to require that public drinking water system operators be notified when a permit is issued in close proximity to these sensitive areas. This requirement would assure that municipal water authorities are informed of pending drilling activity, while opening a line of communication between the drillers, DEP's Oil and Gas and Safe Drinking Water Programs, and the municipal water authorities.

We appreciate DEP's support of our local public water system operators' development of Source Water Protection Plans. It naturally follows that these facilities and the recharge areas that feed their sources should be afforded priority protection in DEP's consideration of applications for energy development and other permitted activities and should be incorporated into the e-Facts system, as they are mapped in electronic format.

One of the common misconceptions sometimes voiced during discussions on this issue is the assumption that it was adequately addressed in Pennsylvania Act 13 of 2012. Indeed, Act 13 increased the regulatory notification distance for drilling activities in close proximity to a Source Water Protection Zone from 1,000 feet to a new standard of 3,000 feet. However, in many cases – especially for the water systems with high-capacity water supply wells – the Zone II wellhead protection area (as defined in 25 Pa. Code Chapter 109) is larger than the 3,000-foot limit. The complicated geology of Pennsylvania requires that a standard be based on each water supply source's individual characteristics, rather than a blanket generalized distance.

The commenter's interest in this and related issues goes back to the early stages of shale gas exploration and development in Pennsylvania. Given our unique location as a headwaters region for three of the major river systems in the East, local leaders formed three organizations – the Natural Gas Task Force, the Water Quality Work Group and the Triple Divide Watershed Coalition (not to be confused with a documentary or a hiking trail system using the same 'Triple Divide' moniker).

The Task Force was dedicated to responsible public education on gas drilling and related issues and facilitation of respectful dialogue between all affected parties. It has since evolved to the Natural Gas Resource Center, dedicated to those same objectives while serving as a clearinghouse and information/referral service.

The Work Group brings together a broad cross-section of individuals directly or indirectly involved in water conservation and related topics.

The Triple Divide Watershed Coalition (TDWC), which was presented with a Governor's Award for Local Government Excellence in 2012, was formed by all of the county's public water suppliers. Each system now has a DEP-approved Source Water Protection Plan that includes mapping of the recharge areas, baseline data, identification of potential risks, and a plan to prevent contamination. TDWC has also brought greater efficiencies in operator training, networking opportunities and cost-saving bulk purchasing options for materials and equipment.

Another important component of the Triple Divide Watershed Coalition is public education and effective advocacy for government policies affecting public drinking water supplies. It is in the latter capacity that the Potter County Board of Commissioners is strongly supporting TDWC's request to include the location of delineated water supply recharge areas in DEP's gas/oil permit review process, and to require that public drinking water system operators be notified when a

permit is issued in close proximity to these sensitive areas. We would appreciate your support.
(96)

Response: To address the concerns raised in this comment, the Department has added areas designated as a wellhead protection area as part of an approved well head protection plan to the list of public resources in Sections 78.15(f) and 78a.15(f) that are required to be considered during the well permit review. Also, the Department's ePermit system will notify a subscriber of the status of any permit issued by the Department within any municipality of interest to the subscriber.

649. Comment: Comment: Whenever possible, DEP should be allowed to assist water systems and source water protection coalitions in their endeavors to protect these zones that have been deemed vital, in essence by DEP, in preventing the contamination of public drinking water sources. The proposed amendments to Chapter 78 present an opportunity to formalize this assistance. The CMCSWP respectfully requests that the Board consider these comments during their final review of the proposed amendments. (163)

Response: To address the concerns raised in this comment, the Department has added areas designated as a wellhead protection area as part of an approved well head protection plan to the list of public resources in Sections 78.15(f) and 78a.15(f) that are required to be considered during the well permit review.

650. Comment: Our water in Pennsylvania is one of our most precious resources. The present chemical contamination in Charleston, WV is one recent example of poisoned water resulting from fossil fuel procedures. This water contamination cannot be purified but only diluted in an effort to minimize health effects. Long term complications are not known. One method for protecting our water is to assure that tainted water wells are restored to meet the Safe Drinking Water Act standards. The unsafe use of frack ponds should be eliminated and spills should be minimized with safer drilling practices. Consistent, intensive pre-drill water tests should be required by all drilling companies according to requirements stringently outlined by the DEP. Pre-drill data should be made public as should the chemicals used in the gas drilling process. This would facilitate the medical community in the treatment of gas related emergency contaminations and illnesses. (104)

Response: Pits on unconventional well sites will require a permit under this rulemaking and oil and gas wastewater impoundments will be regulated under the Department's Waste Management Program. Operators use pre-drill sampling results to protect themselves from unwarranted claims of well contamination and also as a defense against presumption. So the more expansive the predrill water supply survey is, the stronger their defense. For economic reasons, an operator may choose to test only for parameters that are indicative of contamination from oil and gas operations to use as their defense. Operators are aware that absence of predrill water supply data is not a defense against claims of contamination. If an operator impacts a water supply, the water supply will need to be restored to the Pennsylvania Safe Drinking Water Act standards at a minimum, regardless if some parameters were not tested for as part of the predrill water sample. The Department does not make public pre-drill sampling results in order to respect the privacy and property rights of the homeowner. Chemicals used during the hydraulic fracturing process for each oil or gas well are reported to Frac Focus, which is accessible by the public.

651. Comment: The DEP's duty to investigate water pollution should extend to all oil and gas activities. (Section 78.51(c)). The Chapter 78 regulations require the DEP to investigate instances

of water pollution that occur near oil and gas wells. As part of its investigation, the DEP may determine that water pollution was caused by the “well site construction, drilling, alteration or operation activities.” This set of activities is much more limited than the list of activities defined as “oil and gas activities” in Act 13. To ensure maximum protection of water resources, the DEP’s investigation should extend to all oil and gas activities. (130)

Response: The Department has amended the rulemaking to include as part of the investigations, the term oil and gas operations, which is defined in Sections 78.1 and 78a.1.

652. Comment: All drillers to use a consistent list of parameters for pre-drill water testing, which DEP must establish before the proposed regulatory changes are adopted. All drillers make pre-drill data available to the public, while protecting individual homeowners’ privacy, through an online platform, which DEP must establish before the proposed regulatory changes are adopted. (130)

Response: Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey...”

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for by the operator. By failing to establish predrill water quality, the operator assumes potential liability for any failure to meet drinking water standards in any water supply located within the presumption’s radius for any substance found in the water supply.

The Department does not make public pre-drill sampling results in order to respect the privacy and property rights of the homeowner.

653. Comment: 78a.51(c) The timelines are too long given the consequences of an incident requiring investigation. The 10 calendar days should be reduced to 7 calendar days and 45 calendar days should be reduced to 25 calendar days. Pollution from well-site construction needs to be addressed with operators held accountable. (161)

Response: The Department disagrees with the comment. The timelines are consistent with timelines in Section 3218(b) of the 2012 Oil and Gas Act. The Department strives to complete investigations and determinations as expeditiously as possible. The presumption established by Section 3218(c) of Act 13 is not applicable to pollution resulting from well site construction.

654. Comment: 78a.51(c) The presumption established by Section 3218(c) of the act should apply to pollution resulting from well site construction. There is no authority under the Oil & Gas Act to limit the scope of the statutory presumption. This provision is wholly unauthorized and would be inconsistent with the clear statutory language. This provision should be deleted from the proposed regulations.

The time allotted for investigation and conclusion of 45 days is inadequate for a proper investigation. The time period of 45 calendar days barely allows time for obtaining and receipt of laboratory analytical results. In addition, water elevation data and pressure transducer data should

be collected over a several week period to compare events at the gas well to the impacted well. A proper hydrologic evaluation will take a minimum of 45 days of data collection and then analysis. A 90 day time period is the minimum for an adequate investigation. In the meantime, those whose water is affected must receive a safe source of water at no cost to the water user while determinations are ongoing. (182, 239)

Response: Section 3218(c) of the 2012 Oil and Gas Act (58 Pa.C.S. § 3218(c)) establishes the presumption of liability. The presumption encompasses situations in which the water supply is within 2,500 feet of the unconventional well bore, and the pollution takes place within twelve months of the later of several listed activities, not including well pad development. The Environmental Quality Board does not have regulatory authority to expand the scope of the statutory presumption to include well pad development.

The timelines are consistent with timelines in Section 3218(b) of the 2012 Oil and Gas Act. The Department strives to complete investigations and determinations as expeditiously as possible but reserves the right to continue an investigation after any prescribed timelines to ensure the accuracy and thoroughness of the investigation.

If the Department finds that the pollution or diminution was caused by the well site construction, drilling, alteration or other oil and gas activities or if it presumes the well operator responsible for pollution under subsection as provided in 3218(c) of the 2012 Oil and Gas Act, the Department will require the operator to provide a temporary water supply to the landowner or water purveyor.

655. Comment: 78a.51 We support the clarification to the understanding of what our assembly members had intended for replacement water supplies within the context of Act 13. (171)

Response: The Department acknowledges the comment.

656. Comment: Protection of water supplies (78.51 and 78a.51) – as a professional geologist, I have been involved in hundreds of water supply investigations relating to the development and use of residential, industrial and community water supplies within the Commonwealth of Pennsylvania and several nearby states. This state is one of the two in the United States that has no drilling and construction standards for new and existing residential water supplies. Past proposed legislation in Pennsylvania has not been successful in affording the residents of the Commonwealth assurance that proper water well installation practices and guidelines are followed to minimize the risk of drinking water contaminants. Without this legislation in place, it is unreasonable for the Department to expect the oil/gas industry to be obligated to restore water supplies back to applicable safe drinking water standards if the supply did not previously meet these standards or possibly an improved water quality. There is a great deal of potential for the misuse of this provision, given that there are many parts of the Commonwealth where background concentrations in groundwater do not meet associated drinking water standards. The proposed restoration standards should be made to meet “pre-drilling” or “baseline” water quality and water quantity. (169)

Response: See response to comment number 609.

657. Comment: § 78a.51 (d) (2) Quality - Pre-drill sampling programs only analyze for specific generator knowledge based constituents. Sampling for constituents listed in the Safe Drinking Water Act would be burdensome and unnecessary. For example water obtained from a water purveyor would be chlorinated and therefore would not be applicable without treatment for

chlorides that did not exist in pre-pollutional quality.

The pre-drill parameter suite should only be based on potential industry marker parameters. Typically only one pre-drill sample is collected to determine baseline conditions; however this does not take into account natural variability in natural parameters such as metals. Safe Drinking Water Act criteria are risk based and established to provide adequate protection.

Recommended Language: The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the PA Safe Drinking Water Act. (187)

Response: See response to comment number 609.

- 658.** Comment: § 78a.51(d)(2): The Pennsylvania Safe Drinking Water Act (PSDWA) is specific to public water supplies and purveyors and does not contemplate private water wells that may be used as a water supply. In the event a restored or replaced water supply exhibited, prior to pollution, higher quality than that required under PSDWA, will the Department then consider the restored or replaced private water supply subject to all testing and reporting requirements of a public water supply? Furthermore, in most instances where the pre-existing quality of a private water supply did not meet PSDWA standards, it will be practically impossible to attain better water quality with a restored or replacement supply due to the geological and/or hydrogeological conditions in which the subject supply is located. Lastly, it appears as though this proposed amendment is inconsistent with Chapter 32, Section 3218(a). Therefore, it is recommended that the Department remove this section from consideration. (195)

Response: Restored water supplies will need to be initially tested for all primary and secondary maximum contaminate levels listed in the Pennsylvania Safe Drinking Water Act to ensure the water quality meets those standards, plus any additional parameters the Department deems necessary to the water supply investigation. The Department believes that impacted water supplies can obtain Pennsylvania Safe Drinking Water Act standards or better through restoration, replacement or both. The additional cost borne by operators to obtain this is limited to the incremental cost of providing Pennsylvania Safe Drinking Water Act standards water as compared to the previous poor quality, not the difference between providing no water at all and meeting the previous poor quality.

- 659.** Comment: § 78a.51 (b) A landowner, water purveyor or affected person suffering pollution or diminution of a water supply as a result of well site construction, well drilling, altering or operating [an oil or gas well] activities may so notify the Department and request that an investigation be conducted. For clarification, we suggest modifying the above text so as to clarify that such an allegation is necessarily conclusory and unproven. Such as distinction could be achieved by adding the word “suspected” after the word “supply” and before the words “as a result.” (199)

Response: The fact that the landowner, water purveyor or affected person is requesting an investigation would indicate that they “suspect” the water supply pollution or diminution is a result of oil or gas well or other activities. The Department is obligated to determine if an allegation is true and the depth and scope of the Department’s investigation will be predicated on scientific analysis of the situation.

- 660.** Comment: §78a.51. Protection of Water Supplies -The current interpretation by DEP of paragraph (d)(2) regarding water quality is that the post incident/post treatment water quality must meet the complete Safe Drinking Water Act list of parameters. This list includes a large

number of constituents that are unrelated to oil and gas activities. Similar to other industries and environmental programs, PADEP should develop a specific subset of parameters from the SDWA list that must be met to deem the replacement/restoration of the water supply adequate. (193)

Response: The Department requires all of the contaminants listed in the Pennsylvania Safe Drinking Water Act are not exceeded to ensure that the restored or replaced water supply is safe to consume. The Department would be derelict in its duties if it allowed operators to provide replacement drinking water that by its own standards is not fit to drink simply because the pre-existing water supply was poor.

661. Comment: In addition, this paragraph also indicates that if the water quality is of higher quality prior to the incident then the restoration/replacement of the water supply must meet “pre-pollution” quality. The data from a water source can be highly variable and collecting one or two samples from a water source does not necessarily establish “pre-pollution” water quality for a number of reasons including:

Lack of water well construction requirements/standards creates the potential contamination due to surface water infiltration and increases in turbidity and common ions such as iron and manganese due to caving of the uncased wellbore.

Natural variability due to seasonality, variability of water use prior to sampling and variable yield from multiple and different water bearing zones

Inherent variability in sampling and analytical methods

Other man-made influences such as the use of salt from road treatment during winter months

Strict interpretation of the word “meet” would not allow for the flexibility of natural variability in a number of key constituents such as chloride, iron, manganese and methane which has been well documented through the pre-drill survey. Furthermore, trace constituent often detected at low parts per billion concentrations and well below their respective drinking water standards can vary slightly for any of the reasons noted above and therefore could result in unrealistic treatment requirements with no added protective benefit to the public. For the above reasons, it is strongly recommended that the word “meet” be changed to “is comparable to” in the last sentence of this paragraph to provide the latitude for scientific interpretation by PADEP, home owner and operator when meeting “pre-pollution” water quality conditions. (193)

Response: It is understood that water quality is not a static phenomenon and that it changes over time due to seasonal influences. It is also understood that the Commonwealth does not have standards for water well construction which leaves the wells vulnerable to contamination from multiple influences. Operators may collect water samples multiple times to build a more robust dataset in order to be better able to rebut the presumption and demonstrate the water quality of the source.

662. Comment: Based on the complexity of this regulation, it is also strongly recommended that a technical subcommittee be established to develop technical guidance. This subcommittee should include a cross section of technical experts from DEP, public water supplies and oil and gas industry. (193)

Response: The Department acknowledges the comment.

663. Comment: 78a.51 (d)(2); Water Supply Protection:
We agree with the interpretation expressed by Oil and Gas Technical Advisory Board (TAB) in its letter dated July 18, 2013 that “exceeded,” as the term is used in Section 3218(a) of Act 13 and

used by the DEP in its originally proposed Section 78.51(d)(2), refers to an operator's requirement to restore an affected water supply to its pre-drilling conditions, when that water supply did not meet Safe Drinking Water Act standards (SDWA) prior to drilling. The DEP's proposed contrary interpretation that operators would be required to improve each and every water supply, including commercial, agricultural and industrial supplies, to a minimum of SDWA standards is unreasonable since it is well documented that many of these water supplies do not, and need not, meet SDWA standards for water quality parameters. We accept their responsibility to address impacts to water supplies that they may have caused, and to restore water supplies for the purpose served, but it is unreasonable for the DEP to require that the oil and gas industry address contamination in water supplies unrelated to oil and gas operations, as no other industry in Pennsylvania has been held to such a standard.

It is also impractical to require operators to restore an affected water supply to pre-drilling conditions for individual parameters that were allegedly better than SDWA standards. In some cases the private water well will have had no pre-drilling samples taken or in other cases the pre-drilling sample may not be sufficient to reflect natural variability in water quality. Accordingly, the industry will be required to meet a degree of water quality that did not truly exist prior to drilling. Such a requirement has not been imposed upon any other industry, and it would be unfair to impose it solely upon the oil and gas industry.

The new language added to Section 78a.51(d)(2) differs from the statutory language in Section 3218(a) of Act 13. The Act does not refer to water quality to be "of a higher quality than required" nor does it state that the replaced water supply "shall meet the pre-pollution quality." Rather Act 13 requires the water to be "comparable to the quality of the water" if the water supply "exceeded those [SDWA] standards." DEP has no authority to change the wording of a statute through regulation.

Lastly, Sections 78a.51 (b) and (c) purport to implement Section 3218(b) of Act 13; however the proposed regulation adds "well site construction" to the list of activities enumerated in Act 13 that trigger the reporting and investigation activities set forth in Subsection 3218(b). DEP simply has no authority to amend the statutory language and this addition should be stricken. No one doubts that DEP can investigate complaints regarding water supplies; however, they cannot engraft new language onto the legislative language. (210)

Response: In accordance with Section 3218(a) of the 2012 Oil and Gas Act, the Department must ensure that the quality of a restored or replaced water supply meets the standards established under the Pennsylvania Safe Drinking Water Act. Under this subsection of the 2012 Oil and Gas Act, the EQB is required to promulgate regulations necessary to meet the requirements of this subsection, which EQB has done through the promulgation of Chapters 78 and 78a. The statutory language does not distinguish different water supplies based upon use. The Department does have the right to investigate water supply complaints under many statutes and included well site construction into the regulatory language to assert that right.

- 664.** Comment: PADEP proposes a change to § 78a.51(d)(2) to clarify that if a water supply was of a higher quality than required by Pennsylvania's Safe Drinking Water Act Standards, and that water supply is polluted, that water supply must be restored or replaced to meet the pre-pollution water quality. We proposed this change in our 2014 Comments, and continue to support it. (211)

Response: The Department acknowledges the comment.

665. Comment: Finally, we believe that the greatest risk to the community may be from impaired public and private water supplies that may remain permanently damaged and will not be able to successfully meet MCL's as guaranteed by the mandates of the SDWA. Therefore, we encourage the adoption of strong and precise language that unambiguously states that ALL water supplies will meet pre-drilling SDWA standards prior to completion of activities by all operators, and that strict "command & control procedures" will be put in place for the DEP to achieve this provision of the regulations. (157)

Response: The Department cannot impose "pre-drilling Safe Drinking Water Act standards" on all water supplies prior to the completion of activities by all operators. The Oil and Gas Act of 2012 requires the Department to ensure that a water supply impacted by oil and gas operations be restored to Pennsylvania Safe Drinking Water Act standards or better.

666. Comment: 78.51(b) We recommend that the Department's inclusion of well construction activities for potential impacts to landowner, purveyor, or affected person water supplies should not be included in the proposed regulation, and feels it should only be limited to well drilling, altering, or operating activities. The Department currently regulates all construction activities under the stormwater management section 78a.53. (189)

Response: Sections 78.51 and 78a.51 specifically deals with protection of water supplies. Well site construction has the potential to impact a water supply and under Sections 78.51(b) and 78a.51(b) the Department will be obligated to investigate requests to investigate water supplies affected by such activities. Sections 78.53 and 78a.53 pertains to erosion and sediment control and stormwater management.

667. Comment: Protection of Water Supplies (§ 78.51 and § 78a.51) • Proposed regulatory changes would require industry to restore impacted water supplies to higher quality standards than PA Safe Drinking Water Act (SOWA) if it was of higher quality standards prior to impacts.

- We hold strong to the position of accountability here and agrees that if drinking water is impacted by industry practices then industry should provide for replacement with quality equivalent to the water quality pre-impact.

Pennsylvania has no drilling and construction standards for new and existing residential water supplies. Without these protections in place, it is unreasonable for the Department to expect industry to be liable for the restoration of water supplies back to PA SOWA standards if the supply did not previously meet these standards.

- Given that water resources in many parts of the Pennsylvania do not meet associated drinking water standards; the proposed restoration standards should be made to meet "pre-drilling" or "baseline" water conditions. (205)

Response: See response to comment 609.

668. Comment: With regard to the RAF, it fails to address the cost and impact of the DEP's proposed interpretation with regard to Subsection 78a.51(d)(2) that operators would be required to restore a water supply to a minimum of SDWA standards. RAF (19). The estimated costs for the oil and gas industry to treat private water supplies to comply with such a stringent restoration requirement could be enormous since many private water supplies, including commercial, agricultural and industrial supplies, do not meet SDWA standards for reasons unrelated to oil and

gas industry operations. (210)

Response: See the response to question 19 in the final regulatory analysis form. The Department acknowledges that if § 3218(a) of the 2012 Oil and Gas Act is interpreted in the way oil and gas operators believe to be appropriate, costs incurred by operators are likely to be lower than the under the interpretation provided by the Department in the final rule however, the Department understands that the interpretation provided in the final rule is consistent with the legislative intent of the 2012 Oil and Gas Act. Therefore, since this section seeks only to provide clarity to existing statutory requirements, the estimated new costs incurred by conventional operators is \$0.

- 669.** Comment: Sections 78a.51 (b) and (c) implement Subsection 3218(b) of Act 13; however, the proposed regulation adds “well site construction” to the list of activities enumerated in Act 13 that trigger the reporting and investigation activities set forth in Subsection 3218(b). The Department has no authority to amend the statutory language and this addition should be stricken. No one doubts that the Department can investigate complaints regarding water supplies but this rulemaking should not engraft new language onto the legislative language.

Additionally, as this section of the draft regulations is currently written, it appears that the Department is taking a “guilty until proven innocent” approach. The section should be revised as indicated in the commentator’s suggested amendatory language below.

Commentator’s suggested amendatory language:

(b) A landowner, water purveyor or affected person claiming pollution or diminution of a water supply as a result of drilling, altering or operating an oil or gas well may so notify the Department and request that an investigation be conducted. Such notices shall be made to the appropriate Department regional office or by calling the Department’s statewide toll free number (800) 541-2050. The notice and request must include the following:

- (1) The name, address and telephone number of the person requesting the investigation.
- (2) The type, location and use of the water supply.
- (3) Available background quality and quantity data regarding the water supply, if known.
- (4) Well depth, pump setting and water level, if known.
- (5) A description of the pollution or diminution. (210)

Response: The Department has determined that well site construction needs to be included because the activity of constructing a well site may cause pollution or diminution to water supplies. The Department has the authority to investigate and require restoration or replacement of water supplies impacted by well site construction or other oil and gas activities under The Clean Streams Law (35 P.S. §§641.1-691.1001), The Hazardous Sites Cleanup Act 108 (35 P.S. §6020.101) and The Land Recycling and Environmental Remediation Standards Act 2 (35 P.S. §6026.101 et seq.). The Department disagrees with the “guilty until proven innocent” statement. The final rulemaking, in sections 78.51(b)-(c) and 78a.(b)-(c), clearly states the Department’s authority to issue orders necessary to ensure compliance when a determination has been made that an impact to a water supply has occurred as a result of oil and gas operations after an investigation was conducted by the

Department or when presumption applies. Furthermore, presumption in Section 3218(c) of the 2012 Oil and Gas Act does hold the operator responsible for pollution or diminution of a water supply under specifically defined criteria, unless the operator rebuts it in accordance to the defenses provided to the operator in Section 3218(d) of the 2012 Oil and Gas Act.

670. Comment: 78a.51 (d)(2):

There are additional practical reasons why this proposed standard is problematic. First, it is well documented that many private groundwater supplies in PA do not meet SDWA requirements due either to the natural condition of groundwater or poor water well siting or construction standards. Finding a replacement supply meeting SDWA standards from similar sources on the property may be impossible without aggressive and very expensive treatment technology. Second, if the pre-drill water quality is better than SDWA standards, it may not be possible to replace to that standard, even using public water supply. Replacing a contaminated spring water supply with a water well will rarely achieve TDS levels as low as spring water due to simple principles of hydrology and geochemistry. Third, the proposed regulation may lead to an interpretation of “higher quality” to be made on an individual constituent basis. In other words, a replacement supply would need to meet the pre-drill level for each and every constituent. Similarly, since the Department has no standard for determining impact from drilling operations, this interpretation could lead to using a line by line comparison on pre-drill and post-drill water supply samples to determine when the supply is restored. There is no possible way, given seasonal and day-to-day variation in natural groundwater quality, that analyses of two separate samples will yield the identical results, even when no contamination has occurred. Moreover, the cost to implement treatment technologies to achieve such uncertain pre-drilling conditions for individual parameters, even if possible, may be prohibitively expensive.

Commentator’s suggested amendatory language:

(2) Quality. The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P.S. Sections 721.1-721.17), or is comparable to the quality of the water supply before it was affected by the operator if that water supply did not meet those standards. (210)

Response: See response to comment 609.

671. Comment: 78a.51 (h). The commentator recommends that this provision be modified to allow for alternative methods of reporting, given the possibility of temporary web site malfunctions, particularly as new electronic notification systems are rolled out.

The commentator’s suggested amendatory language:

(h) A well operator who receives notice from a landowner, water purveyor or affected person that a water supply has been affected by pollution or diminution, shall report receipt of notice from an affected person to the Department within 24 hours of receiving the notice. Notice shall be provided electronically to the Department through its web site, or using another method of notification approved by the Department. (210)

Response: The Department’s website is reliable with very little downtime.

672. Comment: We support the restoration and replacement of drinking water quality to pre-pollution standards. Simply put if you ruin it, you replace or restore it. (78a.51(d)(2) (220)

Response: The Department acknowledges the comment.

673. Comment: The current regulation concerning the definition of a “permanent water replacement” description needs to include a “municipal water system” since drillers have begun encroaching on residential areas where citizens rely on water wells. For instance, the Hedgehog Lane area near Bradford in McKean County where wells were contaminated by methane from nearby drilling; the only sensible solution was municipal water lines were extended to serve these homes; especially where more drilling was planned. (226)

Response: All options for the restoration or replacement of a water supply should be available for consideration by the Department, property owner and the operator. If connection to a public water supply is not available, the operator will need to either replace the water supply with an alternate source of water or treat the existing source to restore the quality to Pennsylvania Safe Drinking Water standards or better.

674. Comment: DEP has expanded the reach of the presumption under Act 13 (3218 (b)) to include “well site construction.”

Arguably, this is beyond the statutory language of Act 13 which only refers to “drilling, alteration, or operation.” This change is potentially significant in that prior landowner water claims were able to be defended on the basis of timing of construction vs. drilling in connection with the alleged onset of the impacts to their water. The proposed regulation does not apply the presumption of Act 13 to pollution resulting from construction; however, it appears that the investigation requirements and supplying temporary water may be required based on allegations associated with “construction” activities. Clarification on this issue should be made. (232)

Response: The Department clearly states in Sections 78.51(c) and 78a.51(c) The presumption established by section 3218(c) of the act is not applicable to pollution resulting from well site construction.

675. Comment: A restored or replaced water supply would need to meet the better of pre-drill conditions or Pa Safe Drinking Water Standards. Because pre-drill samples are only a snapshot in time, it is possible that in some cases, an operator would need to improve the quality of a water supply as compared to its quality before drilling operations. In other cases, the landowner results could end up with diminished water quality depending on the time of year the samples are taken. Additionally the state of Pennsylvania does not have potable Water well construction requirements / standards in place. There may be many cases in which water purveyors are utilizing a water source that doesn't meet safe drinking water standards.

Requiring an operator to improve upon preexisting conditions is to penalize a party and is not consistent with due process. (232)

Response: See responses to comments 609 and 663.

676. Comment: How about regular deep sampling of Wyoming County's water aquifers? The risk of frack water ultimately migrating upward through the rock strata and soils is deemed slight, but is there any guarantee that this WON'T someday happen? By whom and how will we be warned? With earthquakes, now well documented in heavily drilled areas of other states, detection here will be automatic. Minor or major, we will know and move elsewhere should the situation become untenable. Yet, slowly poisoned by radon gas or contaminated water from our domestic

water wells, we may unknowingly drift off. (274)

Response: Such a proposal is beyond the resources of the Department. The Commonwealth's freshwater aquifer is routinely tested by private citizens, public water supplies and industry that use it as a resource. The Department is confident that any widespread abnormalities would be detected fairly quickly.

677. Comment: Implement a rapid response protocol for those whose water supply is compromised by any process used in drilling for gas and oil. (273)

Response: Within 10 calendar days of the receipt of an investigation request Sections 78.51(c) and 78a.51(c) require the Department to investigate a claim and within 45 calendar days of receipt of the request make a determination. Sections 78.51(c) and 78a.51(c) also state the Department's authority to issue orders necessary to ensure compliance when a determination has been made that an impact to a water supply has occurred as a result of oil and gas operations after an investigation was conducted by the Department or when presumption applies.

678. Comment: Regarding Protection of Water Supplies (§ 78.51) and the quality (d)(2) of a restored or replaced water supply, the requisite for restoration should never exceed the Pennsylvania Safe Drinking Water Act standards regardless of the pre-existing quality nor should it be the default restoration standard for pre-existing supplies of lower quality than SOWA. The pre-existing baseline should be the standard of restoration quality in instances of a water supply with a quality lower than SOWA. (245)

Response: See comment to response 609.

679. Comment: Section 78a.51(d)(2) - Protection of Water Supplies

The concept of a "higher quality" water supply is vague and unclear. Presumably, the state's safe drinking water standards set a floor for acceptable water quality - including aesthetic standards. If "taste" is what the Department is implying in this section, this is a highly subjective standard where one resident might prefer softer water and consider this "higher quality" and other resident might prefer harder water and consider this "higher quality." The state's drinking water standards provide an appropriate and safe standard for water supplies for all residents across the state and should be the only measure referenced in the regulations. (222)

Response: Higher quality refers to the quantifiable measurement of contaminants that were analyzed to be in a water supply prior to drilling that were lower than the maximum contaminate levels established in the Pennsylvania Safe Drinking Water Act.

680. Comment: Section § 78.51(d)(2) & § 78a.51(d)(2) has been revised to state:

(2) Quality. The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P.S. §§ 721.1 – 721.17). IF, PRIOR TO POLLUTION, A WATER SUPPLY WAS OF A HIGHER QUALITY THAN REQUIRED UNDER PENNSYLVANIA SAFE DRINKING WATER ACT STANDARDS, THE RESTORED OR REPLACED WATER SUPPLY SHALL MEET THE PRE-POLLUTION QUALITY OF THE WATER ~~[, or is comparable to the quality of the water supply before it was affected by the operator if that water supply [did not meet these] [exceeded those standards].~~

Under the 2013 Proposal, as well as this revised wording, PADEP would impose an obligation on oil and gas operators that is neither legally required under Act 13 nor practically achievable under certain circumstances in Pennsylvania.

The absurdity of a requirement to restore ALL water supplies to Safe Drinking Water Act standards or better is revealed by the definition of “water supplies” in Chapter 78, which includes “water for human consumption or use, or for agricultural, commercial, industrial or other legitimate beneficial uses” (emphasis added). Water supplies for commercial, industrial and other purposes may be impaired water, mine influenced water, or untreated water of various qualities. Act 13 recognizes the very different purposes of water supplies, and requires water to be restored “for the purposes served.” The plain language of the revision, however, requires ALL water supplies impacted by oil and gas operations to be restored to DRINKING WATER standards or better. It is not only counter to Act 13, it is unreasonable, unjustified, and often unattainable. The existing language in Chapter 78 regarding the restoration standard should not be revised in any manner that would create such a result.

In addition, as a matter of statutory construction, “exceeded” as used in the § 3218(a) means worse than, than not better than, as shown by the fact that the only other place in the Act where the General Assembly used the word “exceed” or “exceeded” in a similar context is in §§ 3304(b)(7)(ii) and (8)(ii) related to exceeding noise standards. This usage clearly meant worse than those standards. Though § 3304 is now enjoined, it provides a clear example of the General Assembly’s usage of the term to mean worse than. Also, 25 Pa. Code Chapter 109 (safe drinking water) consistently uses the term “exceed” to refer to water that does not meet, and is therefore worse than, the relevant standard. Given this predominant regulatory usage of the term, there is no legitimate basis for assuming the same word means the complete opposite in Act 13.

Unfortunately, the revised language in the Draft Final Rule would further impose obligations on oil and gas operators that are neither legally required nor practically feasible and, in fact, PADEP has increased the level of practical infeasibility with the revision. Requiring a restored supply to “meet” the pre-pollution quality of water that was of higher quality than SDWA standards prior to impact creates a standard that invites prolonged debate and increases costs chasing a standard that is effectively meaningless in the overall quality of water. For example, if a water supply sample taken prior to drilling showed 50 ppm of some constituent, and the SDWA standard is 250 ppm, would a replaced supply of 80 ppm satisfy the rule as stated? In effect, the 80 ppm is comparable to the 50 ppm where a standard is 250 ppm and it would be unreasonable to require continue efforts to “meet” the 50 ppm pre-drill result. (213)

Response: See response to comments 606 and 609.

- 681.** Comment: The proposed change in §78a.51(d)(2) again sets a standard that may be impossible to achieve. Section 3218(a) of Act 13 provides that: “The department shall ensure that the quality of a restored or replaced water supply meets the standards established under the Act of May 1, 1984 (P.L.206, No.43), known as the Pennsylvania Safe Drinking Water Act (PSDWA), or is comparable to the quality of the water supply before it was affected by the operator if that water supply exceeded those standards.” It is unclear how the term “exceeded” is to be applied in this context. The long-standing policy of the Department has been to require that a replacement water supply meet only those PSDWA quality standards that the water supply met prior to being impacted. This policy is only logical, as in many areas of the Commonwealth naturally occurring groundwater simply does not meet all secondary MCLs. Since the Department has no standard for determining impact from drilling operations, this interpretation could lead to using a line by line

comparison on pre-drill and post-drill water supply samples to determine if there has been an impact. This would be disastrous, as there is no possible way, given seasonal and day-to-day variation in natural groundwater quality, that analyses of two separate samples will yield the identical results, even when no contamination has occurred. In some cases the private water well will have had no pre-drilling samples taken or in other cases the pre-drilling sample may not be sufficient to reflect natural variability in water quality. Accordingly, the industry will be required to meet a degree of water quality that may not have truly existed prior to drilling. Such a requirement has not been imposed upon any other industry and it would be unfair to impose it solely upon the oil and gas industry. We suggest this section should read: “(2) Quality. The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P. S. § § 721.1-721.17), or is comparable to the quality of the water supply before it was affected by the operator if that water supply did not meet these standards.” This language is more consistent with the legislative language which requires replacement water to be “comparable to the quality” not to “meet” the prior quality. The Department's language improperly changes the statutory language. (191)

Response: See responses to comments 609 and 663.

- 682.** Comment: Residents also had concerns with protection of private water supplies, cost to check water sources regularly, roads, air quality, soil, loss of property values and much more. The DEP needs to review all this information collected by private citizens on potential hazards to Pennsylvania water supplies from waste disposal. Anything happening underground really is an unknown and loss of water to homes is one of the most important items to home owners and to protecting the home owners' property values. (283)

Response: The Department acknowledges the comment.

- 683.** Comment: § 78a.51(b) – The commenter is concerned that units of the National Park System may fall within a category not specifically identified in the draft regulations. Under the new definition, NPS is clearly not a water purveyor. In some instances we may not be the landowner, but are the land manager. We are also unlikely to be categorized as an “affected person.” NPS is responsible in some of our parks for supplying, or at least providing, water to our visitors and staff. We suggest that this section be revised to include all providers of “potable water supplies”, rather than limiting the definition to landowners, water purveyors and affected persons.

Additionally, we suggest that pollution or diminution of water supplies by any well site activities, including well site construction, temporary water or other fluid storage, gathering lines or pipelines be included in this section.

We have a question as to the need for the following statement in § 78a.51(c): “The presumption established by section 3218(c) of the act is not applicable to pollution resulting from well site construction.” We would like clarification as to why well site construction is not included. Certainly such construction could result in temporary and permanent impacts.

We are pleased to see that the “criteria for adequacy” that was apparently used in ACT 13 is again defined in this section in terms of Reliability, Quality, Quantity and Serviceability [(1) (i) - (v)]. This establishes a relatively high bar compared to most states.

§ 78a.51(c) -The NPS suggests that this section also include a requirement that the Department specifically notify, in turn, neighboring land owners and/or land management agencies (such as

NPS) if a claim of water pollution or diminution has been made so that area water supplies can be checked for similar issues and public health and safety can be maintained. (200)

Response: The definition of Water Purveyor has been revised to include:

- **The owner or operator of a public water system as defined in section 3 of the Pennsylvania Safe Drinking Water Act (35 P.S. § 721.3).**
- **Any person subject to the act of June 24, 1939 (P.L. 842, No. 365), known as the Water Rights Law.**

Language in sections 78.51(b) and 78a.51(b) of the final rulemaking has been revised to include well site construction and other oil and gas operations.

The Environmental Quality Board does not have regulatory authority to expand the scope of the statutory presumption to include well site construction.

The Department investigates the specific request for a water supply investigation made by the owner or user of the water supply. The Department may expand the scope of the investigation to include neighboring water supplies based upon its determination of the initial investigation. Notifying neighboring land owners and/or land management agencies of all water supply investigation requests received by the Department prior to conducting a scientific study and making a determination based upon the data generated could create unnecessary concern in the community.

684. Comment: Section 78a.51.(c) requires DEP to investigate complaints of domestic water well contamination by a gas well operator, but gives the agency 10 days to do so. This is far too much time to initiate an investigation, and I recommend that time be shortened to one or two calendar days. (295)

Response: Section 3218(b) of the 2012 Oil and Gas Act (58 Pa.C.S. § 3218(b)) establishes the time frames in which the Department must act upon a request to investigate a water supply complaint. The Environmental Quality Board does not have regulatory authority to change the scope of the statutory requirements thus the regulations must reflect what is required by law. However, the Department has developed a policy that does narrow the time frames staff should act upon once receiving notification for a water supply investigation request. The policy language can be found in the document titled “Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations” (Document number 820-4000-001 Revised January 17, 2015).

685. Comment: If an operator causes a change to the water quality of a private water supply the water must be replaced with like quality water or to the standards established under the PA Safe Drinking Water Act, whichever is better. My objection is that the replaced water must meet municipal drinking water standards even if the water did not meet those standards prior to drilling. There is lots of room for misuse of this provision, particularly in Pennsylvania where there are no domestic water well construction standards. (343)

Response: See response to comment 610.

686. Comment: Operators should not be required to restore waters that did not meet PASDWA standards as a result of testing and prior to spud to a higher standard. (367)

Response: See response to comment 610.

687. Comment: Protection of water supplies (78.51 and 78a.51). As the Department is aware, this state is one of only two that has no drilling or construction standards for new and existing residential water supply wells. Past proposed legislation has not been successful in affording the Commonwealth's residents assurance that proper water well installation practices and guidelines are followed such that the risk of drinking water contaminants may be mitigated. Without this legislation, it is not reasonable for the Department to require the oil/gas industry to restore water supplies to safe drinking water standards or potentially higher standards if the supply did not previously meet those standards. There is great potential for misuse of this provision, given the many parts of the Commonwealth where background groundwater concentrations do not meet drinking water standards. The proposed restoration standards should require compliance with "pre-drilling" or "baseline" water quality and water quantity standards. (227)

Response: See response to comment number 609.

688. Comment: I'm writing because I'm concerned that the EPA has a conflict of interest when it comes to enacting its primary charge. Specifically, I'm concerned that the corporate, political and economic pressure to become energy independent is compromising the safety and quality of our water supply. I was surprised when I moved to beautiful central Pennsylvania to experience the worst tap water I have ever had (actually, second worse-- South FL takes the 'honor' for obvious reasons). Why should a region like ours have such terrible water (compared to Denver, Portland, Greenville, SC, NYC, D.C., and a number of other areas I have lived in). Moreover, we should all agree that accidents/spills/leaks are BOUND to happen (e.g., recent multiple cases in WVA) and therefore we rely on a forward thinking progressive PROTECTION agency. (61)

Response: The Department cannot respond to the comment relative to the Federal Environmental Protection Agency (EPA).

However, relative to the poor quality status of the commentator's drinking (tap) water, it appears that the commentator is attempting to tie to Oil and Gas Operations as a causative factor for the poor quality of their drinking water. Unless the commentator has analytical proof of a direct connection between the poor water quality and an active or past Oil and Gas operation, there is a greater possibility that the poor water quality may be from a natural ambient or human-induced pre-existing condition. These ambient conditions could be the result of either dissolved minerals from the groundwater bearing formation or from the intrusion of contaminants or chemicals into an inadequately constructed drinking water well system. And without an analysis of the commentator's drinking water, the source of the drinking water problems cannot be determined as of this written response. Please note that depending on geographic location in Pennsylvania, some areas have poor quality drinking water conditions due to natural bedrock formations that can cause hard water, iron and manganese, cloudy water, bad tastes and odors. And due to influences from industrial and commercial development there can also be human-induced influences like chlorine smell and taste, the intrusion of bacteria, viruses, volatile organic compounds, total dissolved solids and a number of other contaminants that will have an effect on drinking water. Without the presence of adequate and valid information to the contrary, any of these natural or human induced influences could be the primary or contributing causative reasons for poor drinking water. The Department has a web page designed to help inform people with information they may use to ensure that water is safe to drink. Please visit: http://www.portal.state.pa.us/portal/server.pt/community/private_water_wells/21163

689. Comment: The drillers aren't doing enough to protect the drinking water the public uses and they use in their fracking fluids to extract the natural gas they drill for. They should not have the influence over the DEP and the EPA that they have now. (39)

Response: The Department disagrees with the comment. Section 78a.51 provides thorough and effective requirements to ensure continued protection of public and private water supplies against pollution and diminution caused by a well operator by requiring the restoration or replacement of the affective water supply or the provision of an alternate source of water adequate in quantity and quality.

690. Comment: [I will skip this point in my verbal remarks because of limited time for speaking.] §78.51 (b) and its parallel §78a.51 (b), concerning Protection of Water Supply, of the proposed rule state, in part, that

A landowner, water purveyor or affected person suffering pollution or diminution of a water supply as a result of well site construction, well drilling, altering or operating activities may so notify the Department and request that an investigation be conducted. Notices shall be made to the appropriate Department regional office or by calling the Department's statewide toll free number.

I would suggest, if I may, that the proposed rule state explicitly that the subject person suffering disruption of their water supply should also, perhaps first, notify, or at least attempt to notify, the holder of the well drilling permit. In practice, this is not always the case. The responsible company may be left initially unaware of the problem they are allegedly causing.

While in my experience, it has been the case that the Department is reasonably prompt in contacting the permit holder when such a case arises, but when someone's water supply is potentially being impacted, time is of the essence. All three parties need to know and communicate fully, as soon as possible, and to convey to one another knowledge of the situation and initiate responses to it. (348)

Response: The Department disagrees with the comment. The affected party generally does not know who or where to notify the permit holder. The Department is in a better position to bring all the stakeholders together to address the problem. The Department agrees that time is of the essence when it comes to a contaminated water supply and responses to complaints as soon as possible.

§§ 78.52 and 78a.52 Predrilling or prealteration survey

691. Comment: All pre-drill water quality testing should be conducted by a certified third-party professional operator, and made available to the landowner. (129)

Response: Sections 78.52(c) and 78a.52(c) require an independent accredited third party laboratory to conduct sampling and analysis of the well and provide the landowner with the testing results within 10 business days of receipt of sample results.

692. Comment: Protection of water supplies:

- a. water testing must be done by a neutral party-not in the service of the gas company.

- b. DEP must provide split samples for any testing done by the gas company. It is unacceptable that DEP relies on test results provided by the gas industry.
- c. Areas must be tested before drilling and this test must include the known contaminants produced from all aspects of gas extraction-pad preparation, drilling, fracturing, disposal, processing.
- d. In case of an accident involving failed casing, cement, spills, all homes within 2 miles must be tested.
- e. In the case of documentation that the gas company has contaminated or “changed” drinking water the gas company must be required to provide drinking water for the duration of the problem. This resolution should not be subject to “political” interpretation or be derailed by protest orchestrated by folks who gain profit from the gas company.

DEP cannot fear lawyers who represent the gas industry. HOWEVER!!!

Delivering water is not replacement of a water source. A permanent solution would be a water line to a reliable source and it would be paid for by the gas company at fault. All homes within an “affected” area would have access to this clean, reliable source of water. (244)

Response: Sampling and analysis must be conducted by an independent third party, so split samples are not required.

Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey...”

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on the backs of operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for in the samples the operator takes. By failing to establish predrill water quality, the operator opens itself up to liability for any failure to meet drinking water standards in any water supply located within the presumption’s radius for any substance found in the water supply.

The final rulemaking requires water supplies to be restored to Pennsylvania Safe Drinking Water Act standards or the comparable quality of the water supply as it existed prior to being affected by the operator, whichever is better.

- 693.** Comment: Companies should test a minimum of 3 times for water quantity and quality during low, high and average hydrological conditions; the number required in a law suit and by the changes that naturally occur in the water table and chemistry. (129)

Response: Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption

by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey” 58 Pa. C. S. § 3218(c)

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on the backs of operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for in the samples the operator takes. By failing to establish predrill water quality, the operator opens itself up to liability for any failure to meet drinking water standards in any water supply located within the presumption’s radius for any substance found in the water supply.

694. Comment: All drillers make pre-drill data available to the public, while protecting individual homeowners’ privacy (129)

Response: The Department acknowledges the comment. No changes to the final rulemaking are needed to address the comment. The Department does not provide predrill data to the public, unless all identifying information is redacted, in order to protect the privacy and rights of the property owners.

695. Comment: Testing Pre-drill Water

- a. All pre-drill water quality testing should be conducted by a certified third-party professional operator, and made available to the landowner.
- b. Testing should occur a minimum of 3 times for of water quantity and quality during low, high and average hydrological conditions
- c. A consistent list of parameters must be used, including at least the following measures:

Analyte (Inorganic) Analyte (Trace Metal) Analyte (Organic)
Alkalinity
Barium
Chloride Calcium
Conductivity Iron
Hardness Magnesium Analyte
Hydrocarbons (benzene, ethane, methane)
Microbiology (Total Coliform/E.coli)
Oil and Grease Manganese
pH
Potassium
Radionucleotides (alpha and beta)
Residue – Filterable and Non Filterable
Sulfate Sodium
Strontium
Total Dissolved Solids
Total Suspended Solids

The lists of items for the test are from the document. “PA-DEP Recommended Basic Oil & Gas Pre-Drill Parameters” (elibrary.dep.state.pa.us/dsweb/Get/Document-91717/8000-FS-DEP4300.pdf).

Note that DEP water resource specialists such as Swistock and advisors from local county and the USDA consistently recommend 3 water tests to represent high, low and average conditions because in PA, the water table and chemistry can change greatly. Also, 3 water tests are needed to

stand up in court. The short time of presumed liability makes it easy for a company to avoid responsibility for damage to a water supply because forces that impact water take time to emerge. In such cases, a court case is likely to require at least 3 sample times to prove good water quality existed prior to operations. Families have lost cases in court because they did not have 3 tests; the drilling company paid for only one test. The necessary battery of tests is too expensive for the average homeowner, but 3 water tests per home is a small cost for a multimillion-dollar well operation. (130)

Response: The Department notes that Mr. Swistock is not an employee of the Department.

Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey...”

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on the backs of operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for in the samples the operator takes. By failing to establish predrill water quality, the operator opens itself up to liability for any failure to meet drinking water standards in any water supply located within the presumption’s radius for any substance found in the water supply.

696. Comment: Does the testing include drinking water as part of a “water supply?” If not, it must test specifically for drinking water related to wells and springs as well as obtain baseline readings 500 feet or more from boundaries of the site. Hydrogeology pathways are not necessarily linear in nature. (161)

Response: “Water Supply” is defined in chapters 78 and 78a as “a supply of water for human consumption or use, or for agricultural, commercial, industrial or other legitimate beneficial uses” which does include drinking water.

697. Comment: 78a.52 (c) - Industry standard does not support the lab supporting and or validating the sampling protocol and documentation performed by third party consultants. (187)

Response: Section 3218(e) of the 2012 Oil and Gas Act requires that an operator electing to preserve a defense under §3218(d)(1) or (2) to retain an independent certified laboratory to conduct a predrilling or prealteration survey of a water supply.

698. Comment: 78a.52 (d) - Samples should be submitted within 10 days of receipt of laboratory analysis not within 10 days of assignment of the API number. Samples properly collected prior to drilling a well but submitted to the department after well API is assigned should be viable samples. Samples are often collected both prior to and after generation of the API number and may be associated with multiple well pads. The assignment of an API number occurs independent from pre-drill sampling and useable data should only be determined based on proper sampling and lab analysis. The usability and quality of the data should not be determined based on the date an API number is issued. The operator may not be aware that pre-drill data collected by other parties exists and this data should not be invalidated based on submission date to the department. Furthermore our pre-drill database, which has been supported by the department, should provide

additional usability and accessibility of the data by both industry and the department. (187)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

699. Comment: 78.52 (a) “A well operator who wishes to preserve its defense... that the pollution of a water supply existed prior to the drilling...”

Why is this still in the regulation when section 78.51(a)(2) regarding quality states that regardless of prior pollution, the water supply must be brought back to safe drinking water standards? There is no protection for an operator, if section 78.51(a)(2) is to remain. (204)

Response: If the operator can demonstrate that pollution existed prior to drilling or alteration of the well, then the requirement to replace the water supply under §78.51 would not be applicable.

700. Comment: 78a.52(d) We support that sample results and other reports be provided electronically to DEP. All results supplied to DEP should be made publicly available on an easily accessible web platform. (182)

Response: The Department acknowledges the comment. No changes to the final rulemaking are needed to address the comment.

701. Comment: 78a.52(d) and 78.52(d) - Existing and proposed §§ 78a.52(d) and 78.52(d) require that predrilling or prealteration surveys be submitted to the DEP within 10 business days of receiving the results or the survey may not be used to preserve the operator's defense that it is not responsible for the pollution. This strict bright-line rule is both arbitrary and unnecessarily punitive, especially considering that the statute does not expressly or impliedly impose such a harsh evidentiary rule. Without any rational or legal basis, DEP' s rule requires it to totally disregard valid direct evidence of pre- existing conditions. Facts are facts and they should not be deemed inadmissible before a complaint is even submitted to the DEP. This prejudicial rule is totally inconsistent with well- established rules of evidence and should be modified. (190)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well. The Department believes that this change addresses the commenter's concerns.

702. Comment: § 78a.52 (d): The defenses afforded to an operator under section 3218(d)(2)(i) of the Act hinge upon documenting a pre-drilling or pre-alteration condition, not a pre-permitting condition. As such, conditioning the preservation of these defenses on the issuance of an API Number that is assigned long before the Department issues a well drilling permit that is subsequently valid for a minimum of one (1) year is arbitrary. This provision should be amended to allow for timely submissions of all sample results in a timeframe that is logical in light of the pre-drilling or pre- alteration conditions described in the Act. (195)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

703. Comment: § 78a.52 (d) An operator electing to preserve its defenses under section [208(d)(1) of the act] 3218(d)[(1)(i) and] (2)(i) of the act (relating to protection of water supplies) shall provide a copy of all the sample results taken as part of the survey ELECTRONICALLY to the Department [and] [by electronic means in a format determined by the Department] ON FORMS PROVIDED THROUGH ITS WEB SITE within 10 business days of [receipt of all the sample results taken as part of the survey] ASSIGNMENT OF AN API NUMBER BY THE DEPARTMENT FOR THE GAS WELL THAT IS THE SUBJECT OF THE SURVEY. The operator shall provide a copy of any sample results to the landowner or water purveyor within 10-business days of receipt of the sample results. [Test] Survey results not received by the Department within 10 business days may not be used to preserve the operator's defenses under section [208(d)(1) of the act] 3218(d)[(1)(i) and] (2)(i) of the act commenter is concerned that the 10 day requirement is too short, will impose additional unnecessary costs, and may actually decrease the reliability of the results. Typically these tests take two weeks from lab receipt for the lab to run the necessary analysis, and additional time is spent shipping the samples to the lab, receiving the results from the lab, and transmitting the results to the Department. In order for a prudent operator insure compliance with the deadline, it would be forced to have survey analyses "rushed," which typically increases the cost by a magnitude of four and tends to increase the number of lab errors and sample errors as well. Additionally, an operation such as the Commenter's would require one or more dedicated Full Time Employees (FTE) to manage this process within the required time frame. Accordingly, commenter suggests that the language be revised to say "10 business days upon receipt of results." In that case, additional language could be added clarifying that an operator cannot start drilling until we have confirmed receipt that the landowner received the results. This would reduce the cost and administrative burden of this requirement without compromising environmental protection. (199)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well. This time frame only requires predrill samples to be taken at an earlier date and not for samples to require expedited analysis by the laboratory.

704. Comment: § 78.52(g) In order to avoid undue delays from non-responsive landowners, the rule should provide a time frame by which a landowner must respond to an operator's notification of the desire to conduct water sampling. we recommend that language be added specifying that a landowner must act within 15 days from notification of intent by certified mail, after which refusal shall be presumed. (199)

Response: Section 78.52(g) has been stricken because this provision in the 2102 Oil and Gas Act pertains only to unconventional well owners. Section 78a.52(g) does state that "Proof of written notice will be presumed if provided in accordance with section 3212(a) of the act." The Department will accept that the operator has made a good faith effort to provide notification to the property owner if, "Receipt of notice by the surface owner shall be presumed to have occurred 15 days from the date of the certified mailing when the well operator submits a copy of the certified mail receipt sent to the surface owner and an affidavit certifying that the address of the surface owner to which notice was sent is the same as the address listed in the assessment books in the county where the property is located."

705. Comment: §78a.52. Predrilling or prealteration survey - A new sentence has been added to this subsection that states that "survey" means all of the pre-drill water supply samples associated with a single well. This would include samples taken by any other person as indicated in

subsection (b). §3218(b) of Act 13 provides for landowners and water purveyors suffering pollution or diminution of a water supply to notify the department to request an investigation. The sample results of the operator's predrilling survey and the department's investigation are to be used in making a determination of whether or not pollution or diminution has occurred. Act 13 does not provide standing to “all of the pre-drill waste samples” since they could have been conducted at a different time, under different conditions, by persons not trained or certified in water supply sampling or analysis, or otherwise not related to the operator's activity. It is recommended that this new sentence be revised to make it clear that it is referring only to the samples collected by the operator. (193)

Response: The rule proposed by the commenter is both inappropriate and unreasonable, especially considering that the statute does not expressly or through implication impose such a rule. The proposed rule would require the Department to disregard valid direct evidence of pre-existing conditions. Facts are facts and they should not be deemed inadmissible before a complaint is even submitted to the Department.

706. Comment: Also, paragraph (d) has been revised to require the submission of the survey results within 10 business days of “assignment of the API number by the department for the gas well.” The timing for assignment of the API number is associated with the permit application process, and has nothing to do with the timing of the pre-drill survey activities, nor does the operator necessarily even know what day the department assigns the number. For the initial well on a pad, the pre-drill sampling will often occur long after an API number is assigned as part of the permit application process, in which case, it would be impossible to comply with the proposed submission of results within 10 days of the API number being assigned. For subsequent wells on the pad, if the same pre-drill data is to be used, then the 10 business days following assignment of the API number may be acceptable, if there is an associated requirement for DEP to notify the operator when the API is assigned. At a minimum, this paragraph needs to be revised to allow for submission “within 10 business days of receipt of all the sample results taken as part of the survey” as previously proposed, in situations where the data is not available at the time of API number assignment. (193)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

707. Comment: In 2013, the EQB proposed that sample results be provided to PADEP and water users within 10 days, and required notification that the presumption under 58 Pa. C.S. § 3218(d)(1)(ii) and (2)(ii) of the Act may be void if the landowner or water purveyor refuses to allow the water sampling. PADEP’s 2015 revised regulation (§ 78a.52) includes some administrative changes to the proposed language, but does not address the primary deficiencies identified in the 2014 Comments.

We support regulatory improvements for water supply protection, sampling, and notification. However, we remain concerned that while the proposed regulation at § 78a.52 requires a predrilling or prealteration survey (water sampling) and testing by an independent Pennsylvania-accredited laboratory, it does not specify what tests must be run by the lab. The regulation also does not specify a minimum radius of investigation for the survey work.

We recommend the regulation be revised to include a comprehensive, specific list of tests to be performed in order to collect the pre-drilling or pre-alteration data needed to verify whether future contamination is the result of Oil and Gas Operations. The regulation should also make it clear

that PADEP will follow the same recommendations issued to operators when it conducts testing in response to homeowner complaints and subsequent investigations. We recommend that the lab test for specific common oil and gas operational chemicals and pollutants, for the additives planned for use in hydraulic fracturing fluids, toxic volatiles (benzene, toluene, xylenes), the components of natural gas (e.g., methane, ethane) and toxic volatiles from the formation water (benzene, toluene, xylenes), salts and relevant inorganic contaminants.

Sampling measured exclusively from the vertical portion of the well does not account for the potential for contamination from the horizontal wellbore. For example, significantly higher methane concentrations have been found in water wells within a kilometer (0.62 miles) from Marcellus wells. Additionally, vertical movement of fluids is possible from the area of the shale that receives a hydraulic fracturing treatment, and eventually, all wells that lie above developed gas plays may have a potential for contamination.

The operator should be required to sample all wells and springs within at least one mile from the edge of the well pad or a minimum of 1,000' from any point along the horizontal wellbore, whichever is greater. The analysis must account for the movement of gas as well as fluids. Although these distances exceed the 2,500' distance for purposes of applying the statutory presumption, the additional sampling is essential to building scientific understanding of affected resources in oil and gas development areas and to inform future statutory changes to pre-drilling requirements, particularly as emerging research indicates that contaminants move greater distances than previously assumed. We recommend the following proposed revision to § 78a.52.

We recommend the following proposed revision to § 78a.52.

§ 78a.52. Predrilling or prealteration survey.

(a) A well operator who wishes to preserve its defense under section [208(d)(1) of the act (58 P.S. § 601.208 (d)(1))] 3218(d)[(1)(i) and] (2)(i) of the act (relating to protection of water supplies) that the pollution of a water supply existed prior to the drilling or alteration of the well shall conduct a predrilling or prealteration survey in accordance with this section. FOR THE PURPOSES OF THIS SECTION, "SURVEY" SHALL MEAN ALL OF THE PRE-DRILL WATER SUPPLY SAMPLES ASSOCIATED WITH A SINGLE WELL.

(b) A person who wishes to document the quality of a water supply to support a future claim that the drilling or alteration of the well affected the water supply by pollution may conduct a predrilling or prealteration survey in accordance with this section.

(c) The survey shall be conducted by an independent [certified] Pennsylvania-accredited laboratory. A person independent of the well owner or well operator, other than an employee of the [certified] accredited laboratory, may collect the sample and document the condition of the water supply, if the [certified] accredited laboratory affirms that the sampling and documentation is performed in accordance with the laboratory's approved sample collection, preservation and handling procedure and chain of custody.

(1) THE FOLLOWING LIST OF SAMPLE DATA MUST BE COLLECTED AND LABORATORY TEST PARAMETERS MUST BE EVALUATED BY A PENNSYLVANIA ACCREDITED LABORATORY: STATIC WATER LEVEL (WHEN POSSIBLE) PH, SPECIFIC CONDUCTANCE, TOTAL DISSOLVED SOLIDS (TDS), ALKALINITY, BROMIDE, BARIUM, CHLORIDE, SULFATE, NITRATE AND

NITRITE (N), PHOSPHORUS, ARSENIC, BORON, CALCIUM, IRON, MAGNESIUM, MANGANESE, POTASSIUM, SELENIUM, SODIUM, STRONTIUM, GROSS ALPHA/BETA, METHANE, ETHANE, PROPANE, BENZENE, TOLUENE, ETHYLBENZENE, XYLENE, TRIMETHYLBENZENES, ISOPROPANOL, DIETHYLENE GLYCOL, TRIETHYLENE GLYCOL, TERT-BUTYL ALCOHOL, GASOLINE RANGE ORGANICS, DIESEL RANGE ORGANICS, NAPHTHALENE AND OTHER POLYCYCLIC AROMATIC HYDROCARBONS (PAHS), AND ALL OTHER CHEMICALS PLANNED TO BE USED IN DRILLING OR HYDRAULIC FRACTURING OPERATIONS. THE DEPARTMENT MAY REQUIRE ADDITIONAL SAMPLE DATA TO BE COLLECTED AND ADDITIONAL LAB TESTS TO BE RUN. THE DEPARTMENT SHALL FOLLOW THESE SURVEY REQUIREMENTS WHEN CONDUCTING FOLLOW-UP TESTING IN RESPONSE TO COMPLAINTS OF DIMINUTION OF WATER QUALITY OR QUANTITY AND IN ITS SUBSEQUENT INVESTIGATIONS.

(2) PRIOR TO SITE DISTURBANCE FOR A NEW WELL OR NEW SPUD FOR AN EXISTING OIL AND GAS OPERATION, THE OWNER OR OPERATOR MUST MAKE ALL REASONABLE ATTEMPTS, WITH THE LANDOWNER'S PERMISSION, TO SAMPLE AND TEST, AT THE OWNER'S OR OPERATOR'S EXPENSE, ALL WATER WELLS, DOMESTIC SUPPLY SPRINGS, AND WATER WELLS AND SPRINGS THAT ARE USED AS WATER SUPPLY FOR LIVESTOCK OR CROPS, THAT ARE WITHIN ONE MILE FROM THE EDGE OF THE WELL PAD OR WITHIN 1,000 FEET OF ANY POINT ALONG THE HORIZONTAL WELLBORE, MEASURED FROM THE SURFACE ABOVE THE WELLBORE, WHICHEVER IS GREATER. (211)

Response: The Department disagrees with the changes proposed by the commenter. Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey...”

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on the backs of operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for in the samples the operator takes. By failing to establish predrill water quality, the operator opens itself up to liability for any failure to meet drinking water standards in any water supply located within the presumption's radius for any substance found in the water supply.

708. Comment: Subsection 78a.52(c) should be revised to clarify that the laboratory does not need to conduct the survey itself, but simply analyze the samples collected. This section could be misinterpreted as stating that only laboratory employees can perform the survey.

We suggest amendatory language:

(c) The analyses of a pre-drill sample of the water supply shall be completed by an independent Pennsylvania accredited laboratory. A person independent of the well owner or well operator, other than an employee of the accredited laboratory, may collect the sample and document the condition of the water supply, if the accredited laboratory affirms that the sampling and

documentation is performed in accordance with the laboratory's approved sample collection, preservation and handling procedure and chain of custody. (210)

Response: The Department disagrees with the commenter's proposed edits. The language in subsection 78a.52(c) has only been edited to change references to "certified" laboratory to Pennsylvania Accredited. The Department is not aware of any confusion related to the language the commenter suggests to be confusing.

709. Comment: 78a.52(d) Paragraph (d) has been revised to require the submission of the pre-drill survey results within 10 business days of "assignment of the API number by the department for the gas well." The purpose of a pre-drill survey is to determine baseline water quality in advance of drilling, preferably as close to the commencement of drilling as practical. The API number is assigned by DEP during the permit application process, prior to permit issuance. According to one regional office, API number assignment typically occurs within 10 days of application submittal, and more than 30 days prior to permit issuance. PADEP does not notify operators when the API number is assigned. Therefore, the operator does not have notice as to when the deadline is triggered. For the initial well on an unconventional well pad, the pre-drill sampling will often occur long after an API number is assigned as part of the permit application process, in which case, it would be impossible to comply with the proposed submission of results within 10 days of the API number being assigned. During the March 26, 2015 Conventional Oil and Gas Advisory Committee meeting, similar comments were raised related to concerns about API assignment setting the timeframe for pre-drill survey submissions. It is unclear why PADEP would not consider pre-drill survey sampling that occurs after API number assignment but before drilling. The title of this section references "pre-drilling and pre-alteration", which conflicts with the timeline set in the proposed ANFR.

The language in b, c, d, and f seems to indicate that the survey is for a singular water supply. Although we understand that DEP intends to allow batch reporting (submission of all sampling of water supplies done per well pad at one time) it is not clear in the regulation that submitting a single survey with the complete batch of sample results preserves the presumption.

Commentator's suggested amendatory language:

(d) An operator electing to preserve its defenses under sections 3218(d)(1)(i) and 3218(d)(2)(i) of the act shall provide a copy of all the sample results taken as part of the survey to the Department, and may submit those results in one batch submission per well pad by electronic means in a commonly utilized format determined by the Department within 10 business days of receipt of all the sample results taken as part of the survey for a particular well pad. The operator shall provide a copy of any sample results to the landowner or water purveyor within 10- business days of receipt of the sample results. Surveys received by the Department within 10 business days, including surveys submitted as described above with regard to batch submissions, may be used to preserve the operator's defenses under sections [208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i) of the act. (210)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

710. Comment: 78a.52(f)(4) The rule should provide for a time frame for response and action by the landowner once notice has been provided, so that operators may proceed with operations knowing that access was refused.

Commentator's suggested amendatory language:

NEW (g) Refusal shall be presumed if the operator does not receive a response within 30 business days of confirmed receipt. (210)

Response: Section 78a.52(g) states that "Proof of written notice will be presumed if provided in accordance with section 3212(a) of the act." The Department will accept that the operator has made a good faith effort to provide notification to the property owner if, "Receipt of notice by the surface owner shall be presumed to have occurred 15 days from the date of the certified mailing when the well operator submits a copy of the certified mail receipt sent to the surface owner and an affidavit certifying that the address of the surface owner to which notice was sent is the same as the address listed in the assessment books in the county where the property is located."

711. Comment: The Department of Environmental Protection must provide homeowners (or any other property owner of dwellings that relies upon a water well) with full water tests before issuing any permits to drill or frack near the property owners' water well. The tests must include "phase three" testing for highly toxic substances (including radioactive materials) beyond the current "standard oil and gas test". (226)

Response: See response to comment 707.

712. Comment: Section 78a-52(c)(1) Testing. As part of the comments by the Earth Justice coalition, it is requested that predrilling and prealteration survey testing should include a specific list of substances to be analyzed in water samples. We would strongly recommend that uranium, thorium, radium and radon be added to the list of substances to be analyzed in both the liquid phase and the gaseous phase. Current information about concentrations of these radioactive substances at oil and gas well sites is sporadic and limited. Rather than continue to have limited data about these potentially public health impacting elements, this information should be collected and reported through the PADEP website to improve the knowledge and understanding of any risks posed by such materials. In addition to testing for these radioactive materials, we recommend that the testing and analysis utilize EPA approved methods wherever such methods exist. Obviously accredited laboratories must be used, but often the testing methods and analytical protocols are different among testing and analysis companies. Wherever possible, uniformity should be required so that results can be more easily interpreted. (223)

Response: Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that "the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey..."

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on the backs of operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for in the samples the operator takes. By failing to establish predrill water quality, the operator opens itself up to liability for any failure to meet drinking water standards in any water supply located within the presumption's radius for any substance found in the water supply.

713. Comment: § 78a.52 Predrilling or pre-alteration survey

Paragraph (d) has been revised to require the submission of the survey results within 10 business days of “assignment of the API number by the department for the gas well.” The timing for assignment of the API number is associated with the permit application process, and has nothing to do with the timing of the pre-drill survey activities (nor does the operator necessarily even know what day the department assigns the number). For the initial well on a pad, the pre-drill sampling will often occur long after an API number is assigned as part of the permit application process, in which case it would be impossible to comply with the proposed submission of results within 10 days of the API number being assigned. For subsequent wells on the pad, if the same pre-drill data is to be used, then the 10 business days following assignment of the API number may be acceptable, if there is an associated requirement for DEP to notify the operator when the API is assigned. At a minimum, this paragraph needs to be revised to allow for submission “within 10 business days of receipt of all the sample results taken as part of the survey” as previously proposed, in situations where the data is not available at the time of API number assignment. (213)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

714. Comment: Section 78a.52 has been changed to require submission of pre-drilling water well sample results within ten days of assignment of an API number to the well. There seems to be no logical reason for this change. The API number is assigned by the Department during the permit application process, prior to permit issuance. We understand that this typically occurs within 10 days of application submittal, and more than 30 days prior to permit issuance, but at a specific time we are unaware of. We do not understand how we could conceivably meet this requirement. In addition, this would frequently be well in advance of drilling and even well site construction. The purpose of a pre-drill survey is to determine baseline water quality in advance of drilling, preferably as close to the commencement of drilling as practical. Frequently pre-drill surveys are not completed prior to permit issuance. There seems to be no purpose served by the proposed change. Reference to assignment of the API number should be deleted from this section to allow for a timely pre-drill survey. (191)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

715. Comment: Operators should be required to do pre-drill water quality testing and make the data publicly available. If contamination of a water source should happen the operator should be required to restore the supply to pre-drilling quality. The driller should also be required to provide a sufficient bond that will provide water for residents if contaminated and not just plugging costs. A comprehensive monitoring plan is also necessary with all the old gas wells and coal mines in Pennsylvania. (283)

Response: Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey...”

The Department believes that the General Assembly chose to place the risk of not conducting a predrill survey on the backs of operators, who might not be able to rebut a presumption of liability if a water supply is not sampled prior to drilling or a particular substance is not tested for in the samples the operator takes. By failing to establish predrill water quality, the operator opens itself up to liability for any failure to meet drinking water standards in any water supply located within the presumption's radius for any substance found in the water supply.

Operators must restore impacted water supplied consistent with the requirements in Sections 78.51 and 78a.51.

Operators are required to post a bond consistent with requirements in the 2012 Oil and Gas Act.

Section 78.52a and 78a.52a require monitoring plans for orphaned and abandoned wells within the area of review that are anticipated to be within the zone of fracture propagation.

- 716.** Comment: We suggest that item (f) in this section be clarified to stipulate that well owner(s) are potentially refusing access to their property by a certified lab and not a well operator as currently stated in 78a.52(f). This clarification would make the section consistent with requirements set forth in 78a.52(c) requiring surveys by a PA accredited lab. Operators would need a Scientific Research and Collecting Permit should testing in National Park System units be desired or required. The regulatory language should specify that federal permits would be needed if public resources need to be tested. (200)

Response: The Department disagrees with the commentator's proposed edits. The language in subsection 78a.52(c) has only been edited to change references to appropriate sections of the law that have changed. The Department is not aware of any confusion related to the language the commenter suggests to be confusing. The Department does not have the authority to require federal permits.

- 717.** Comment: We recommend that the Department accept hard copies or electronic submission for the sample results submittal to accommodate small, conventional operators. (213)

Response: The Department disagrees with the comment. The conventional operator can request that the sampling results from the accredited laboratory be provided in electronic form just like the unconventional operators and then submit the electronic data to the Department.

- 718.** Comment: The Department should not leave it up to the driller to decide when, where, and how to conduct water quality tests before drilling starts. Tests conducted should include radioactivity. All tests conducted should be made available to the public.(183, 290, 291, 292, 4870-4914)

Response: See response to comment 707.

- 719.** Comment: Pre-drill and post-drill water testing needs to be mandated at a Tier 3 level so that any potentially impacted individual has data about heavy metals, radioactivity, specific volatile organics and other chemicals that may be poisoning them. (337)

Response: See response to comment 707.

720. Comment: The timing of providing test results is incorrect and needs to be worked on. We believe in predrilling or pre-alteration surveys and we as a normal course of our business perform such tests in order to protect ourselves from unwarranted and unfounded claims. The timing of such tests should be considered so the Operator is protected from frivolous claims not related to oil and gas activities. (367)

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

721. Comment: Section 78.52 - Predrilling or pre-alteration survey

The revisions in this section require the operator to submit a copy of all predrill or pre-alteration samples to the Department within 10 business days of assignment of an API number for the gas well that is the subject of the survey. Though I understand the Department's reasons for doing this, I would propose a different reporting milestone, such as 10 days prior to spud. The current draft language requires that pre-drill sampling be completed early in the permitting process. I have seen many instances already where the proposed milestone would exclude the sampling of many water sources through the fault of no one. I am specifically referring to instances of new wells drilled between the permit application and spud (which is sometimes up to 24 months), real estate transactions that bring previously unused wells back into service, and landowner availability as many properties of NE and NC PA are seasonal or vacation homes where the landowners may only be available a couple of weekends a year.

Response: The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

722. Comment: 78a.52 (d) - Samples should be submitted within 10 days of receipt of laboratory analysis not within 10 days of assignment of the API number. Samples properly collected prior to drilling a well but submitted to the department after well API is assigned should be considered viable samples. Samples are often collected both prior to and after generation of the API number and may be associated with multiple well pads. The assignment of an API number occurs independently from pre-drill sampling and useable data should only be determined based on proper sampling and laboratory analysis, not based on an administrative technicality. The usability and quality of the data should not be determined based on the date an API number is issued. Further, the operator may not be aware that pre-drill data collected by other parties exist and this data should not be invalidated based on submission date to the department. Moreover, our pre-drill database, which has been supported by the Department, should provide additional usability and accessibility of the data by both industry and the department. (209)

Response: The Department agrees with the comment. Sections 78.52(d) and 78a.52(d) have been changed to reflect the commentator's comment. The Department has changed the rulemaking language to allow all sample results pertaining to the well of concern to be submitted to the Department by the operator 10 days prior to commencement of drilling of the well.

723. Comment: 78a.52(c) -- In the environmental industry, laboratories do not typically affirm and/or validate third party environmental consultants in the performance of sampling and documentation. (209)

Response: The Department acknowledges this comment. The Department notes that most laboratories will provide information on the proper sampling techniques and documentation to ensure an accurate analytical result.

§§ 78.52a and 78a.52a Area of review

724. Comment: In revising Chapter 78, the PA DEP needs to protect Pennsylvania's natural resources by; requiring drillers to check for orphaned and abandoned wells near their drilling pads and paths. (19, 22, 26, 28, 35, 38, 52, 57, 106)

Response: The Department acknowledges this comment.

725. Comment: 78.52a - Operators of unconventional wells are required to identify the location of old wells before drilling new ones, an important change that should be supported. An estimated 200,000 abandoned wells exist statewide. As drilling spreads and intensifies, so does the chance of accidents, blowouts, and pollution from the intersection of new wells with old ones. DEP should expand these changes and require operators to:

Identify existing wells through onsite inspection before site and well construction and drilling so that the location of a new well can be changed if needed.

Plug and seal or otherwise appropriately address abandoned and orphaned wells according to state safety standards prior to new well site construction. The state lacks funding to address the large number of old wells, so drillers should be responsible for preventing water and air pollution when accidents occur. (111, 294, 299)

Response: The Department believes that current regulatory language requiring that the area of review survey take place either prior to drilling, stimulation or permitting, dependent upon the anticipated timing of stimulation activities, will allow for avoidance measures to be implemented in an effort to mitigate risk. Unconventional well site construction has little bearing on an operator's ability to mitigate such risk, as directional drilling capabilities afford the flexibility necessary to prevent communication during hydraulic fracturing by enabling control over the wellbore position.

Plugging an identified well is a potential risk mitigation strategy available to an operator and this practice has been applied historically. This is also a strategy that can be employed at any time and in association with any kind of development. However, assuming that all identified wells in the survey have not been plugged or pose equivalent risks, and mobilizing plugging equipment to each site to re-enter wells is beyond the scope of a reasonable regulation aimed at suitably addressing risk. By monitoring well sites appropriately as proposed in the regulation, an assessment can be made regarding the potential for environmental impact and corrective actions employed should an unanticipated communication event occur.

726. Comment: Commentator strongly supports the extension of §§ 78.52a and 78a.52a to include all active and inactive wells in the pre-drilling review required of oil and gas operators that will use hydraulic fracturing to stimulate wells. We also support the Department's decision to require the submission of this information at least 30 days prior to commencement of drilling, but we suggest that the review be submitted even earlier still. Commentator suggests that it would be better to have any wells identified 30 days before site construction so as to ensure that well operators have

as much advance notice as possible to inform well placement, or prepare mitigation measures should placement appear that it will affect abandoned or orphaned wells. (231, 231a)

Response: See response to comment 725.

727. Comment: **78.52a** - Requiring the identification of location of old wells before drilling new ones is important. However, this should be done before site and well construction, not just before drilling. This allows the location of the new well to be changed in order to provide for increased safety. Orphaned and abandoned wells should be properly plugged and sealed before new well site construction as these can be a major contributor of methane migrations, which has occurred even before fracking is begun. (230)

Response: See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

728. Comment: Other suggestions: The Department to require that all identified orphaned or abandoned wells be plugged or otherwise adequately addressed prior to drilling. (34)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

729. Comment: I support the proposed requirement that operators submit a permit application that identifies all active, inactive, abandoned and orphaned wells prior to drilling, and urge the Department to also require that all identified orphaned or abandoned wells be plugged or otherwise adequately addressed prior to drilling. (24, 25, 31, 40, 41, 45, 48, 50, 51, 53, 54, 55, 59, 60, 62, 63, 64, 65, 66, 67, 68, 70, 73, 91, 92, 93, 94, 206, 218, 250, 268, 270, 345)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

730. Comment: Drillers must be required to check for orphaned and abandoned wells near their drilling pads and paths. In addition the DEP must conduct cumulative impact studies on the impacts of drilling and mining in the same locations. Thus far, the DEP has allowed for these two industries to extract in the same locations with no regard or knowledge of the full impact of these two industries operating literally on top of each other. (381)

Response: Existing laws address the coordination between coal extraction and oil and gas operations: “Coal and Gas Resource Coordination Act.” This law was amended in 2011 and is intended to prevent any environmental impacts resulting from the co-location of these extractive mineral industries. Please also response to comment 2413.

731. Comment: 2) The wording says, essentially “check databases, old maps, and make an effort to ask landowners”. That’s not enough. Seismic mapping to locate abandoned wells in the area should be required, and all seismic data should be made public. (16)

Response: This issue will be addressed in a guidance document discussing the components of a suitable monitoring plan. As a general note, it should be mentioned that seismic testing is not of sufficient resolution to detect abandoned well sites.

732. Comment: Drillers be required to check for orphaned/abandoned wells near their sites. (24)

Response: The Department acknowledges this comment. The final area of review regulation addresses this concern.

733. Comment: The proposed requirement of identification of all wells in new permit applications should be accompanied by a requirement that all known orphaned or abandoned wells be addressed prior to new drilling. (58)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

734. Comment: Unsecured abandoned drillings and wells should be controlled (75)

The greedy companies could be kinder to the environment and conduct their business in a much more environmentally friendly way instead of destroying our beautiful state. It would also be kinder to our creatures whose habitats have been invaded and destroyed. Require well drillers to identify and safely close orphaned and abandoned gas and oil wells - Stop catastrophes and pollution events! (Section 78.52a.) Operators of unconventional wells are required to identify the location of old wells before drilling new ones, an important change that should be supported. An estimated 200,000 abandoned wells exist statewide and many of them leak methane or other pollutants. As drilling spreads and intensifies, so does the chance of accidents, blowouts, and pollution from the intersection of new wells with old ones. DEP should expand these changes. (84)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

735. Comment: DEP should require operators to identify existing wells through onsite inspection before site and well construction and drilling so that the location of a new well won't trigger a pollution incident or pose dangerous conditions. Plug and seal or otherwise appropriately address abandoned and orphaned wells according to state safety standards prior to new well site construction. The state doesn't commit funding to address the large number of old wells, so drillers should be responsible for preventing water and air pollution and for avoiding catastrophes. (84, 130, 382)

Response: See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

736. Comment: DEP should require a greater area than 1000' to be surveyed and inspected for the presence of orphaned or abandoned wells. Interaction between a newly drilled well and an old well can occur at much greater distances than 1000' if there is a subsurface connection; scientific research should be used to set safe setbacks. The federal Bureau of Land Management's new rules for fracking on public and tribal lands released in March require a survey of a half mile; Pennsylvania deserves equal protection. (84)

Response: Although it acknowledges exceptions may exist, the Department supports the distances in the rulemaking. These distances are generally considerate of development spacing in the state and the known differences between the area of the reservoir stimulated and the well's effective drainage area.

737. Comment: Operators of unconventional wells must locate, map document and plug all orphan and/or abandoned wells within one mile of the newly-proposed well pad prior to spudding any new wells. (85, 179)

Response: See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

See response to comment 736 regarding the dimensions of the area of review.

738. Comment: DEP must require that all electronic filings and reports made by operators be made available to the public on DEP's website on the same day they are deemed complete by DEP. Easy and timely access to information by the public is necessary to ensure agency transparency and operator accountability. (84, 85, 111, 179, 299)

Response: All survey results, monitoring plans and communication notifications associated with the area of review must be submitted electronically and are considered public records. Data availability will be dependent upon the development of data management systems for receipt, processing, and archiving.

739. Comment: The rapid proliferation of gas drilling in Pennsylvania has brought on some very unsettling environmental and health ramifications. I am therefore urging you to make the necessary proposed changes to Pennsylvania's oil and gas regulations. The Quecreek coal mining accident drew worldwide attention as trapped miners struggled to survive the accidental penetration of an abandoned mine. We need to learn from past mistakes. Orphaned gas/oil wells should be identified prior to the installation of new wells in order to prevent the possibility of explosive disasters. Abandoned wells must also be sealed to prevent further air and water contamination. (104)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

740. Comment: 78.52a - What is the basis for establishing different areas of review for stimulation of a gas well or horizontal oil well and a vertical oil well? We suggest that the areas of review for both should be 500 feet of the vertical well bore. (190)

Response: For matters related to the dimensions of the area of review, please see response to comment 736.

741. Comment: Require a greater area than 1000' to be surveyed and inspected for the presence of orphaned or abandoned wells. Interaction between a newly drilled well and an old well can occur at much greater distances than 1000' if there is a subsurface connection; scientific research should be used to set safe setbacks. The federal Bureau of Land Management's new rules for fracking on public and tribal lands released in March require a survey of a half mile; Pennsylvania deserves equal protection. (111, 130, 182)

Response: See response to comment 736 regarding the dimensions of the area of review.

742. Comment: Please plug orphaned and abandoned wells within a mile of the newly-proposed well pad before spudding any new wells. (128)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

See response to comment 736 regarding the dimensions of the area of review.

743. Comment: Orphaned and abandoned gas wells should be identified and plugged prior to new well site construction. (Section 78.52a) Existing wells should be identified through onsite inspection before site and well construction and drilling so that the location of a new well won't trigger a pollution incident or pose dangerous conditions. Identified wells should be mapped on a publicly available web platform. (130, 382)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

For matters related to public availability of data, please see response to comment 738.

744. Comment: Today, there are an estimated 300,000 abandoned wells across Pennsylvania, leaking untold amounts of toxins into our air, and a study from 2014 suggested that these wells are a significant source of greenhouse gas pollution in Pennsylvania. In the revised rules, DEP must require the identification of existing wells through onsite inspection before site and well construction and drilling, and plug and seal or otherwise appropriately address abandoned and orphaned wells. (151, 3057-3093)

Response: See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

745. Comment: Operators should be required to locate, map, document and plug all orphaned or abandoned wells within a one mile radius of a proposed well site prior to spudding new well. (155)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

See response to comment 736 regarding the dimensions of the area of review.

746. Comment: I agree that fracking companies should be made to identify and plug abandoned wells. (145)

Response: The Department acknowledges the comment.

747. Comment: Operators of all wells should identify the location of orphaned and abandoned wells for future reference given their serious implications. (161)

Response: The intent of the regulation is to mitigate risk in association with hydraulic fracturing and target wells that will be stimulated using this process. Due to the geology in the state, the vast majority of oil and gas wells are stimulated using this process. Existing laws and regulations address environmental risks associated with the drilling and operation of all wells in the state.

748. Comment: §78a.52a – Area of Review We support the language changes, including the addition of active and inactive wells. It was noted during TAB meetings that an unconventional well is

more likely to communicate with an unconventional well in the area rather than a shallow conventional well. We recommend the section for adoption into the final regulation. (170)

Response: The Department acknowledges the comment.

749. Comment: 78a.52a(a). The extent of the Area of Review should be much greater than 1000'. Well bores at greater distance than 1000' can connect with new well bores through natural or human-made connections. As documented, contaminants can migrate very far if fractures or fissures are intersected and the distances are very specific to the geologic make up; the same is true for connecting well bores through drilling or fracking. (See comments above under section 78a.15(f.1.vi.)).

The area should be at least as large as the zone of presumption established by section 3218(c) of the PA Oil and Gas Act to provide needed information about conditions within the zone of presumption. (182)

Response: See response to comment 736 regarding the dimensions of the area of review.

750. Comment: Area of review (78.52a and 78a.52a) – formerly abandoned and orphaned well identification - the identification procedure in this section of the proposed regulation outlines a very difficult process. As I have stated in previous discussions with Department representatives, most operators completed its “due-diligence” in order to avoid potential environmental impacts and communication with abandoned/orphaned wells. The introduction of a map finder identification tool will be helpful to the operators. However, the use of a questionnaire with adjacent property owners will likely cause some issues from the standpoint of property access issues (if wells are identified) or lack of accurate knowledge or reliance of questionable information regarding the existence of abandoned/orphaned wells. Once again, this issue has been discussed for over two years, yet the proposed questionnaire to be used with this regulation has not been produced for review. (169)

Response: This issue will be addressed in guidance documents discussing the area of review requirements, the components of a suitable monitoring plan, expectations for completing the landowner survey and concerns related to the proposed landowner questionnaire.

751. Comment: §78.52a and §78a.52a. Area of review.

We strongly support the proposed regulation that operators would be required to identify the location of old wells before drilling new ones (§78.52a(a) and §78a.52a(a)). As drilling spreads and intensifies, so does the chance that accidents, blowouts, and the migration of methane and fluids into water wells will result from the intersection of new wells with old ones.

It is not acceptable for today’s operators to drill new wells that could disturb or alter old wells without taking responsibility for subsequent environmental problems that result. Because the state lacks funding to address the large number of old wells, drillers should be responsible for preventing water and air pollution when accidents occur as a result of their own activities.

These sections should be amended to specify that operators are required to identify orphaned and abandoned wells through onsite inspection and plug and seal them according to established safety standards before site construction and well permits are issued. This sequence is critical to ensuring that the location of new wells can be changed if needed to avoid intersection with old wells.

Pennsylvania law provides DEP with the authority to deny a permit if issuance of the permit would result in a violation of applicable law, which the failure to plug and abandon wells would be (58 Pa. C.S. §3220). (188)

Response: The Department acknowledges the comment. See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

- 752.** Comment: Not only make drillers responsible for identifying abandoned gas and oil wells before they drill, but plug them up if needed before drilling. This industry has gone along for too many years passing on its messes to be cleaned up at the cost of the public. If they want to drill, tidy up the site beforehand, at their cost. They can afford it better than the public treasury can.

Identify orphaned and abandoned gas and oil wells (Section 78.52a.)

Operators of unconventional wells are required to identify the location of old wells before drilling new ones, an important change that should be supported. An estimated 200,000 abandoned wells exist statewide. As drilling spreads and intensifies, so does the chance of accidents, blowouts, and pollution from the intersection of new wells with old ones. DEP should expand these changes and require operators to:

Identify existing wells through onsite inspection before site and well construction and drilling so that the location of a new well can be changed if needed.

Plug and seal or otherwise appropriately address abandoned and orphaned wells according to state safety standards prior to new well site construction. The state lacks funding to address the large number of old wells, so drillers should be responsible for preventing water and air pollution when accidents occur. (354)

Response: See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

- 753.** Comment: § 78a.52a (a) - The operator may not have access to landowner data 1,000-ft from the horizontal well bore. Further clarification should be provided regarding whether this includes an operator's own wells. (187, 209)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

Any wells meeting the criteria in the rulemaking are subject to the area of review requirements.

- 754.** Comment: Section 78a.52a(b). DEP should require a thorough on-site field inspection to locate and verify all wells within the Area of Review in addition to these other reviews before site and well construction and drilling so that the location of a new well won't trigger a pollution incident or pose dangerous conditions.

DEP should require that all wells that are identified in the Area of Review have been properly classified and all closure and abandonment activities performed. Some inactive wells are inactive for long periods of time even though there is a responsible party. Any inactive well should have the responsible party identified through a file survey by the applicant. DEP should require all

known responsible parties to properly plug and abandon inactive wells in accordance with 58 Pa. C.S. § 3220.

All orphan or abandoned wells that are potentially affected by the new well in the Area of Review should be plugged and sealed or otherwise appropriately addressed according to state safety standards prior to new well site construction. The state doesn't commit adequate funding to address the large number of orphan or abandoned wells, estimated at 200,000. DEP has verified the locations of 9,000 wells, according to the STRONGER report. The others are legacy wells not yet located by DEP.

Applicants for new well drilling are investing capitol and should use some of that investment to perform due diligence to prevent water and air pollution, including methane releases, and to avoid unsafe conditions for the local community and to avoid catastrophes such as a well blow out. In the answers to questions submitted by STRONGER to Scott Perry at DEP, it was stated that DEP was proposing to amend section 78.52a to require operators to visually monitor any orphaned or abandoned wells that may be impacted by the new well and to "take action to prevent pollution of the waters of the Commonwealth or discharges to the surface". It was also stated by DEP "In addition, an operator that alters an orphaned or abandoned well by the hydraulic fracturing would be required to plug the altered well". DEP should make this change that they testified they would make during the STRONGER review. The STRONGER review may have made a different assessment and recommendation regarding DEP's performance in addressing these legacy wells if this statement had not been affirmatively made by DEP. (182)

Response: Attempts must be made to identify all wells in the area of review survey requiring monitoring.

See response to comment 725 regarding well plugging prior to hydraulic fracturing as well as the timing of the area of review survey.

Any wells meeting the criteria in the rulemaking related to monitoring must be "visually monitored" when access can be legally secured.

755. Comment: § 78a.52a (d) - This report is administratively burdensome and would require significant efforts to complete. This reporting requirement does not allow for operational flexibility in regards to an operators drilling and completions schedules. Reporting and communicating with the department should suffice prior to spud. (187)

Response: The Department disagrees that the regulation does not afford operational flexibility and will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing the components of a suitable area of review report, monitoring plan and process expectations.

756. Comment: However, in other respects the proposed Chapters 78 and 78a changes fall far short of what is needed to protect the Commonwealth's national parks and to protect the balance between important national park economies and the oil and gas industry. The draft Chapters 78 and 78a regulations need to be improved: 1. The final regulations need to require significantly improved cataloguing and plugging of Pennsylvania's more than 250,000 "orphaned and abandoned" wells.

All orphaned & abandoned wells should be plugged properly. According to the Pennsylvania Department of Environmental Protection (DEP), there are likely more than 250,000 wells in the

state that were not properly plugged after they stopped producing. These “orphaned or abandoned” wells often are not well-documented – having been drilled before such requirements were in place – and could “simply be abandoned as gaping holes in the ground.” The plugging of abandoned wells was long considered an “afterthought” by the industry. As the DEP recognizes, “[a]n unplugged abandoned well can be a hazard not only to the environment, but also to the health and safety of Pennsylvania residents.” From an environmental standpoint, abandoned wells pose a number of potential threats. They provide potential conduits for fluids to migrate between formations and potentially into freshwater zones. Unplugged or poorly plugged wells also may provide pathways for natural gas to seep to the surface and potentially cause a fire or be a health hazard. As new technologies, such as hydraulic fracturing and horizontal drilling, return producers to areas once drilled and then abandoned, the risk of impacting a potentially-unknown orphan well increase.

Abandoned wells provide a pathway to contamination for waters that flow into the national parks, particularly those along the Delaware River, and for chemicals that could harm parks and park visitors across the state. The changes proposed in Chapters 78 and 78a take positive steps towards the identification and plugging of abandoned wells, further strengthened in the March 2015 addition of an Area of Review plan, but do not go far enough to ensure that proper safeguards are in place.

Draft section 78.52a requires well operators to identify any orphaned or abandoned wells within 1,000 feet of the well bore. Next, draft section 78.73(c) and (d) require operators to visually monitor any identified orphaned or abandoned wells, and, if the orphaned or abandoned well is “altered” by the hydraulic fracturing activities, to plug the well. In fact, all identified orphaned or abandoned wells should be plugged. These wells pose a significant risk of pollution, and visual monitoring will not ensure the risk is contained. “Alterations” from active drilling may not be visible from the surface, or they may not make themselves evident at the time of active drilling. Visual monitoring of orphaned or abandoned wells for “alterations” from active drilling gives operators far too much flexibility and deniability, and puts the public’s precious water and air at risk. Further, plugging identified abandoned or orphaned wells is in the best interest of drilling companies, as it contributes to the assurance that the integrity of their wells is protected. The proposed provisions in Chapter 78 fail to solve the recognized problems posed by thousands of abandoned and orphaned wells in Pennsylvania. The final regulations should require operators to plug all such wells identified within 1,000 feet of the well bore, and then require evaluation following implementation, as the next step to ensure that these wells will no longer pose a threat of contamination.(175)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing the components of a suitable monitoring plan.

757. Comment: 78.52a (AREA OF REVIEW)

The operator of a vertical oil well that is to be fraced...”shall identify the location of active, inactive, orphaned and abandoned wells within 500 feet of the well bore”...

(b) (1) “Conducting a review of the Department’s well databases and other available databases”. “Other available databases” is too vague. Can the list of required databases to be reviewed be listed?

(2) “Conducting a review of historical sources...” Again the regulation is not clear. What type of historical sources? Where does an operator go to conduct this review?

(3) “Submitting a questionnaire... to landowners” There are several questions to consider. Will the Department be providing guidance and a form for this questionnaire? Does it need to be sent certified? How long does an operator wait for a response? Is the operator responsible for any errors or omissions in landowner’s response?

(c) (3) “Monitoring plan...” Will the Department be issuing guidance with regards to the requirements for such plan? Will annual inspections suffice, for example? (204)

Response: The Department currently maintains and makes available a list of orphaned and abandoned sites that have not been plugged. The location of plugged wells are available in PA*IRIS/WIS. Existing databases are being expanded by the Department as historical analog source maps become available. Companies in possession of such maps may share them with the Department, in order to facilitate development of a more comprehensive reference database over time. The Department has modified the regulatory language to broaden the historical maps and database sources that could be referenced during the area of review survey. However, the revised language recognizes that not all operators may have access to the same sources. The Department has also agreed to make clarifying guidance available in order to address this concern.

For matters related to the landowner questionnaire, please see response to comment 750.

The Department will develop clarifying guidance related to the area of review requirements. Specifically, this issue will be addressed in a guidance document discussing the components of a suitable monitoring plan.

758. Comment: We are supportive of the Department’s desire to proactively locate, document, and address abandoned and orphaned oil and gas wells in the stipulated vicinity of a well that will be hydraulically fractured. However, there are conceivable limitations on being able to locate, document, and address all abandoned and orphaned oil and gas wells. Therefore, we propose the following two (2) changes/clarifications to what has been proposed:

§ 78a.52a(a): “The operator shall identify, if possible, the surface- and bottom-hole locations of active, inactive...”

§ 78a.52a(d): We believe that the Department has an obligation to provide written acknowledgement that it has received the report required by subsection (c) within the stipulated timeframe as well as a statement indicating that the report has been reviewed. Therefore, we are proposing the following language to aid in meeting this request:

“Department shall provide written acknowledgements stating 1) the date the report was received by Department, and 2) the date the Department reviewed the report. Department shall provide these acknowledgements within 2 business days following the electronic submission of the requirements set forth in subsection (c).” (195)

Response: The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing the meaning of terminology, such as surface

and bottom hole locations, used in the context of the area of review sections of the proposed regulation.

Although confirmation of receipt of the report will be provided and the Department will have the opportunity to review area of review report submissions, it does not intend to review each report as pending guidance is expected to ensure consistency and completeness respective of currently available data.

759. Comment: § 78a.52a (a) - The operator may not have access to landowner data 1,000-ft from the horizontal well bore. Some language should be inserted to the effect that an operator should make a reasonable attempt to contact a landowner, beyond which an operator should not be held responsible. (209)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

760. Comment: § 78a.52a (d) - This report is administratively burdensome and would require significant efforts to complete. To the extent this section shall remain, the 30-day reporting requirement does not allow for operational flexibility in regards to an operator's drilling and completions schedules. Simply reporting and communicating with the Department should suffice prior to spud. (209)

Response: For matters related to operational flexibility, please see the response to comment 755.

761. Comment: § 78a.52a. [~~Abandoned and orphaned well identification~~] AREA OF REVIEW.

We are concerned that the Department's database is not presently a reliable source on which a regulatory requirement can be based. The database does not have field GPS location coordinates for a large number of wells, some coordinates have been derived from old maps and are inaccurate. Similarly, a requirement to consult "applicable farm line maps, where accessible" in order to identify wells lacks the clarity required for a regulation. If the Department's database could be sufficiently enhanced, a review of the database should be an adequate obligation for well identification. Due to the generally higher rate, volume and pressure used in hydraulic fracturing of the Marcellus and other deep shale, constructing a more comprehensive database of historical deep wells (those that penetrate to a depth at least 1,500 feet above the Marcellus shale) should be a priority. It is hoped that with good cooperation this step could be accomplished soon, as the Commonwealth's current database for this set of deeper wells is believed to be nearly complete. Enhancement of the shallow well database will require significantly more work, time and expense, and it likely a multi-year project.

However, the regulatory obligation should be focused on only those wells which appear on the Department's database and which have a total depth that extends within 500 feet of the target zone to be perforated or isolated for hydraulic fracturing. Additionally, the oil and gas industry's identification of abandoned and orphaned wells will benefit from further development of the Department's database, and should be postponed until the database and map viewer are improved. Accordingly, the Department should consider a phased implementation of this new section.

Similarly, under Section 78a.52(a), the Department broadly requires that operators identify surface and bottom whole locations of active, inactive, orphaned and abandoned wells. Later in Section 78a.52(b)(3), the Department only requires such identification to the extent that

information is available. As previously stated, the database is not reliable nor does it have this sort of detailed information. Therefore, Section 78a.52(a) should clarify that the requirement to identify surface and bottom hole locations applies only “to the extent that information is available.” Section 78.52a(b)(3) should similarly clarify who should receive the questionnaires and that operators have no obligation to verify the information received. Lastly, the obligation to monitor wells as identified in Section 78a.73(c) is subjective, does not account for those instances where permission cannot be obtained to access the surface near an abandoned well, and is impractical to do over long periods of time.

We address this section later in this document. (199)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

The Department will develop clarifying guidance related to the area of review requirements. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

For matters related to the landowner questionnaire, please see response to comment 750.

For matters related to well site access, please see response to comment 750.

762. Comment: § 78.52a and § 78.73 Area of Review - The 2013 Proposal titled this section “Abandoned and orphaned well identification.” The DEP’s accompanying Regulatory Analysis stated: “This section does not apply to conventional operators.”

The 2015 amendment expressly applies this section’s provisions to conventional operators. Moreover, the 2015 proposal introduces many new “identification” and notice requirements that were not part of the 2013 Proposal that applied to unconventional operations. Several problems pertain:

- 1) Failure to State Purpose: The proposed regulations have transitioned from the DEP’s 2013 position (that “this section does not apply to conventional operators”) to the 2015 version which applies expressly to conventional operations, without any statement of the reason for change. As evidenced by the 2013 Regulatory Analysis, there was reason for the DEP, in 2013, to distinguish between conventional and unconventional oil and gas operations, and to regard the identification requirements as not necessary for conventional operations. Now, in 2015, without discussing the need with the Technical Advisory Board or representatives of the conventional industry, and without stating its purpose for change, the DEP has expressly made the regulatory requirements incumbent upon the conventional oil and gas industry.

The DEP’s failure to discuss or state its purpose for applying this section to conventional operations makes it impossible to now comment meaningfully. Without an understanding of the goals the DEP is seeking in 2015, one can only speculate on why the provision is now applicable to conventional operations. We know of no technical or field conditions that have changed between 2013 and 2015. Indeed, we can confirm that the hydro fracture techniques utilized in conventional operations have gone unchanged for the last several decades. Therefore, we cannot participate in one of the most fundamental purposes of the comment process, namely, a discussion of the need for the proposed regulatory provision.

As noted in more detail, below, it is also impossible to engage in a meaningful commentary on alternatives for small businesses. Without a statement, by the DEP, of the purposes to be achieved in applying this provision to conventional operations, it is not possible to fashion or discuss alternatives to meet those “phantom” purposes.

- 2) Failure of Statutory Authority: The 2015 Proposal contains a regulatory regimen much more cumbersome than the 2013 proposal applicable to unconventional operations. The requirements new in 2015 include the submission of a report to the DEP at least 30 days prior to the commencement of the drilling of a well. Due to the DEP's silence, one must speculate as to the need for that lengthy period; presumably, one purpose is to allow for the DEP to review, and, if not satisfied, deny permission for drilling or stimulation to commence.

Also new in 2015 is the preparation of a document entitled a “Monitoring Plan,” which plan must include a statement of the methods employed to monitor adjacent wells. The 2015 Proposal contemplates that the monitored wells might be on adjacent parcels—indeed another provision (section 78.73) requires yet another new notice, of least 72 hours, to be given to operators of wells on adjacent properties. As to wells on the adjacent properties the 2015 Proposal requires an inspection before submission of the monitoring plan as well as visual monitoring of the well(s) during the hydro fracture operation.

These are remarkable new requirements. The preparation of the plan and the lengthy DEP review time are the equivalent of an entirely new permitting process not sanctioned by any statutory authority. Indeed, each time it has addressed the Oil and Gas Act, the legislature has shown sensitivity to the need for the prompt processing of permits and for the provision of an appeals process in the event of permit denial. The new monitoring plan creates an entirely new permitting burden, not rooted in any legislation, and which is bereft of any appeal protection.

The burden to trespass is equally remarkable. Under the 2015 proposal, when active wells are on a neighboring parcel, a conventional operator will have to make at least two trips to that adjacent parcel, one to gather “surface evidence” as to the neighboring wells before submitting the Monitoring Plan (section 78.52a(c)(6)), and one to visually monitor the adjacent well (section 78.52a(c)(3)) during hydro fracture activities. When orphaned or abandoned wells are on a neighboring parcel, two similar trips must be made. There is no legislative authority to either allow such trespass or to protect or define the rights of the trespassing party or the adjacent property owner who is subject to the trespass.

In the context of conventional oil and gas operations, one can normally expect cordial neighborly relations. In the majority of cases, it would be possible to gain permission to go on neighboring parcels to inspect orphan or active wells and to even “monitor” active wells (depending on what the DEP might mean by that broad term). However, the 2015 Proposal requires access in all cases. Without underlying legal authority for that obligation, the 2015 proposal is seriously flawed.

- 3) Failure to Consider Costs: The DEP's 2013 Regulatory Analysis, which considered the inspection provisions to apply to unconventional well operations only, estimated the compliance cost at \$2,000 per new well. That DEP estimate was made before the introduction of significant new requirements introduced in 2015, including:
 - a. Researching the depth of identified wells;
 - b. Gathering surface evidence concerning condition of identified wells;

- c. Gathering GPS data for identified wells;
- d. Development of monitoring methods for identified wells, including visual monitoring under accompanying section 78.73;
- e. Provision of 72 hours advanced notice to adjacent operators under accompanying section 78.73; and
- f. The gathering of the above data in a monitoring plan and the submission of same at least 30 days prior to the commencement of drilling the well.

With the burden of the additional items, the cost of compliance will obviously exceed \$2,000 per well. It is difficult to comment on the extent of the new costs due to other problems inherent in the proposed provisions, including the difficulty of ascertaining the purpose and scope of the new provisions. Under the proposed regulation, conventional operators must now identify active, inactive, orphan and abandoned wells on both their own and neighboring parcels (where those adjacent parcels are within close proximity). The first three categories of wells are not burdensome inasmuch as the records of same are filed with and available through the DEP. However, infinite resources could be spent identifying (or failing to identify) abandoned wells, and, inasmuch as the proposed regulation does not contain a limitation as to the extent of effort that is expected, the proposed regulation is an invitation for an aggressive compliance officer to require unlimited expenditures of time and money.

The DEP's website dealing with abandoned and orphaned wells acknowledges that 300,000 oil and gas wells have been drilled in the state, that only since 1956 has Pennsylvania been permitting new drilling operations, and that only since 1985 have operators been required to register old wells. While many of the ancient wells are now plugged or identified under the new permits or registrations (and thus easily identified), there remain ancient wells lost to memory. Surface evidence of these ancient wells can be non-existent due to natural changes such as tree growth or manmade changes such as building construction, excavation and so forth.

Thus, when the new proposal requires a review of "historical sources of information," what resources must be expended to examine old courthouse records, historical society records, and so forth? Such a review could be nearly endless, as could other provisions of the section such as the visual inspection required under accompanying section 78.73. Does this mean occasional checking or full-time individual monitoring of each adjacent well?

Because the DEP has been silent as to both purpose and costs for the implementation of this provision (as to the conventional industry), it is impossible to meaningfully comment on the necessary cost benefit analysis. However, it can be said that even at \$2,000, the new requirement represents an increased well cost of 1% to 2%, that with the additional burdens introduced in 2015, the costs will obviously exceed \$2,000 per well, resulting in something more than an increased well cost of 2%, and that the conventional oil industry cannot sustain such increased costs, the evidence of this inability being the serious drop in new conventional oil and gas well permits over the last several years and the current environment of layoffs, decreased oil refinery supply, and the like.

- 4) Failure to Demonstrate Need: The stimulation of conventional wells results in fractures of short length making the risk of communication small. The conventional industry has successfully stimulated shallow wells for many years without formal abandoned and orphan well identification procedures and without widespread environmental problems.

A good example of the negligible communication difficulties in the context of conventional operations is found in the Allegheny National Forest (ANF). The ANF is in northwestern

Pennsylvania and is the state's only federal forest. The ANF comprises 513,000 acres. Approximately 92% of the oil, gas and minerals on the ANF are privately owned, it being the decision of the federal government to purchase only surface parcels when the forest was assembled in the early part of the 20th century.

The ANF is located in the heart of Pennsylvania's conventional oil region. Drake's well, drilled in 1859, is located 15 miles from the western boundary of the ANF. The ANF region remains a vital producer of conventional oil today, supplying much of the feedstock for products refined at the Bradford, Pennsylvania ARG refinery (the world's oldest continuously operating refinery employing approximately 400 Pennsylvania citizens).

Since 1859, tens of thousands of conventional oil and gas wells have been drilled upon the lands which now make up the ANF. The ANF estimates that today there are about 12,000 wells currently in production on the ANF. Despite this long history of oil and gas development upon the ANF, the streams, trees and other treasured resources of the ANF have prospered.

Of the 2,126 miles of mapped streams within the ANF proclamation boundary, fully 72% are rated as high quality or exceptional value for water quality. Moreover, the Forest Service, in 2007, characterized the water quality in the ANF as "among the highest in the state."

In November 2014, the U.S. Forest released its five-year Monitoring and Evaluation Report for the ANF for the period from 2008 through 2013. It focuses on oil and gas development during that period. The 2014 ANF Monitoring Report concludes that "[t]he majority of streams on the ANF are meeting state water quality standards. Impairments are most frequently related to acid deposition or acidity from natural sources." Of particular note is the Clarion University study undertaken to compare the results of oil and gas development on benthic macro invertebrate communities in a high development watershed as compared to a very low to no-development watershed. The study reviewed detailed data from a 2010 survey as well as results of studies conducted in the early 1980s, 1990s, and 2008. The Report concluded that these macro invertebrate studies "...did not detect a negative impact to water quality from this development."

While there can occur communication with old wells during new conventional operations, the above information puts into context the fact that such communication incidents are very few and that water quality is prospering, and even improving, in the heart of Pennsylvania's conventional oil operations. Thus, while no one would disagree that communication with abandoned wells is a risk, what has been notoriously absent in the DEP's promulgation of regulations is a meaningful examination of the context of that risk. The law does not allow new regulations to be adopted in such a vacuum.

- 5) Failure of Ascertainable Standards: The proposed regulation, and in particular, many of the components introduced in the 2015 Proposal, contains standards which are difficult or impossible to ascertain.
 - a. What constitutes compliance? As noted above, the regulation contains required tasks that can be infinite in nature.
 - b. What are the consequences for the failure to identify wells?
 - c. What constitutes GPS coordinates and is the DEP requiring that the operator GPS all mapping data? For example, the coordinate records (both in DEP's database and in operators' databases) for many active and inactive wells were prepared and filed years or decades ago, without the benefit of GPS. With the introduction of the term

“GPS” in the 2015 Proposal, the DEP appears to be requiring that all of that existing data be supplanted with new GPS data.

- d. What is required if a well is identified on an applicable map but cannot be located in the field? This question speaks to the infinite nature of the responsibilities inherent in the proposed regulation and discussed in greater depth above.
- e. What is required in a surface inspection to determine well integrity? This language is found at section 78.52a(c)(6). While the language has generated much speculation among our members, two facts are known:
 - 1) such broad language could entail infinite responsibilities; and 2) the DEP has never discussed the language with the Technical Advisory Board or with our members.
- f. What constitutes visual monitoring of orphan or abandoned wells under the accompanying section 78.73?
- g. What level of monitoring of an identified well, active or inactive, will be required to satisfy the monitoring plan?

These many unascertainable standards contribute to the impossibility of commenting meaningfully on the costs of implementing this proposed regulatory provision.

- 6) Failure to Account for Small Business: All of the conventional operators comprising our membership are small businesses as that term is used in the RRA. Section 12.1 of the RRA requires DEP to conduct a regulatory flexibility analysis in which it must consider methods that would accomplish the objectives of the applicable statutes while minimizing adverse impacts on small businesses. Such analysis must include consideration of: 1) less stringent compliance or reporting requirements; 2) less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishment of performance standards to replace design or operational standards; and 5) the exemption of small businesses from all or any part of the requirements contained in the rule.

That regulatory flexibility analysis was not performed, and its absence is obvious. Indeed, the “Area of Review” regulations, proposed by the DEP in 2015 for application to conventional operations, are nothing more than a photocopy of the same regulations proposed by the DEP for the unconventional industry in 2013—the only change being the addition of numerous regulatory provisions discussed above, such as the preparation of the monitoring plan and its submission 30 days before drilling, depth information, gathering of surface evidence, and the like.

Certainly there are flexible options to discuss. A key tenet of such discussion is the recognition that communication with another well results in a serious financial loss to the operator. The loss will always include poor performance of the well being stimulated and may also include the costs of cleanup or freshwater replacement in the unusual event the communication is so serious as to migrate out of an old well bore. The fact that migration spells financial disaster means there is already considerable incentive for the operator to prudently identify migration risks and that the costs of preparing yet another report, gathering new GPS data for adjacent wells, and submitting a monitoring plan 30 days in advance are not sensible.

Indeed, a prudent operator is already doing the following things:

- a. Making a reasonable attempt to identify and be aware of the location of all active, inactive and orphan wells within the stated radius;

- b. Making a field examination for abandoned wells that is limited to a “reasonable” standard and that entails neighboring property only when permission can “reasonably” be gained without compensation.

A second tenet is the new language introduced in 2015 in accompanying section 78.73 concerning treatment pressure changes indicative of abnormal fracture propagation. This is indeed the most likely evidence of a migration problem. Upon encountering such change, the operator should cease stimulation and investigate each of the active, inactive, orphan and abandoned wells that the operator previously familiarized himself with.

An alternatives analysis would test whether those steps, if followed, would be a meaningful response to the risk of migration. An alternatives analysis would also test whether an alternatives analysis would test whether those steps, if followed, would be a meaningful response to the risk of migration. An alternatives analysis would also test whether such suggested standards are sufficiently ascertainable by the operator, and enforceable by the DEP, so as to be realistically counted upon. We believe the answer to both questions is yes.

An alternatives analysis would also test whether the submission of the reports, monitoring plan and other data called for in proposed section 78.52a adds to the protection against migration and, if so, whether the substantial paperwork costs (both for the operator and the DEP) are worth the expenditure. We believe the answer is no.

These problems with the “Area of Review” provisions are instructive as to why the process is irretrievably broken. The above alternative is but one feasible alternative for small business. Yet the process now underway never included discussion of any alternative and no opportunity for the public to comment on such alternatives. Moreover, the proposed regulations have been substantially formed without the benefit of a statement of need, a financial analysis and the resulting informed cost/benefit analysis. Because these key steps are intended to inform the process, these steps cannot now be meaningfully performed by adding them at the end. The “Area of Review” provisions are a prime example of why the proposed regulations should be withdrawn. (212)

Response: The “area of review” requirements are considerate of the differences between conventional and unconventional operations. Further modifications have also been proposed accentuating the contrasts between both sides of the industry.

As an initial matter, the Department notes that the commenter is referencing an outdated version of the Regulatory Analysis Form (RAF). The RAF submitted to the Independent Regulatory Review Commission (IRRC) with the proposed rulemaking correctly identifies that this section applies to both conventional and unconventional operators. That document is available at <http://www.irrc.state.pa.us/docs/3042/AGENCY/3042PRO.pdf>.

Please see response to comment 2301 regarding the regulatory process concerns.

The Department disagrees that it lacks statutory authority for the requirements in this section. Importantly, Chapters 78 and 78a are promulgated under the authority of both the 2012 Oil and Gas Act and the Clean Streams Law as well as several other environmental statutes.

Sections 78.52a and 78.52a address potential communication between existing wells and hydraulic fracturing activities. Communication events pose a substantial threat to waters of

the Commonwealth and pose a risk to public health, safety and the environment.

Under section 401 of the Clean Streams Law, it is considered unlawful for any person or municipality to put or place into any of the waters of the Commonwealth, or allow or permit to be discharged from property owned or occupied by such person or municipality into any of the waters of the Commonwealth, any substance of any kind or character resulting in pollution. Any such discharge is declared to be a nuisance. Section 402 of the Clean Streams Law authorizes the promulgation of regulations that are necessary to avoid such pollution.

Under the 2012 Oil and Gas Act, Section 3202 of Act 13 expresses the General Assembly's intent to permit development of oil and gas resources "consistent with protection of the health, safety, environment, and property of Pennsylvania citizens." Under section 3217 (relating to protection of fresh groundwater and casing requirements), a well operator must control brines produced from drilling to aid in protection of fresh groundwater. This section is also concerned with preventing the migration of gas or fluids into sources of fresh groundwater. Section 3259 (relating to unlawful conduct) states that it shall be unlawful for any person to conduct an activity related to drilling for or production of oil and gas in any manner as to adversely affect public health, safety, welfare or the environment. Finally, section 3274 provides the authority for the EQB to promulgate regulations to implement this chapter.

Accordingly, both the Clean Streams Law and the 2012 Oil and Gas Act provide the Department the statutory authority for these provisions to minimize the impacts of hydraulic fracturing activities communicating with existing wells.

For matters related to well site access, please see response to comment 750.

When communication incidents are not observed immediately, the extent of the environmental impacts may be more severe. Remediation activities are costly and may require operators to finance projects over the course of several years. Depending on when the incident is noted, future wells may be drilled that are not considerate of open communication pathways - these wells may have to be abandoned prematurely or certain frac stages may have to remain unstimulated, thus reducing the economic value of the new well and the efficiency of resource recovery. The proposed rulemaking strikes a reasonable balance between the costs of conducting surveys and monitoring abandoned wells and the benefit associated with avoiding communication incidents.

For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

The Department will develop clarifying guidance related to the area of review requirements. Specifically, this issue will be addressed in a guidance document discussing the components of a suitable monitoring plan.

Although it acknowledges exceptions may exist, the Department supports the distances in this final rulemaking. These distances are generally considerate of development spacing in the state and the known differences between the area of the reservoir stimulated and the well's effective drainage area. Further, without an area of review protocol in place, it is not possible to definitively declare how many stimulations have taken place in the state without significant impact. The final regulation will require observation at identified, high-risk well

sites, thus putting in place some mechanism by which this statement can be considered and possibly applied with a reasonable level of certainty.

The Department disagrees that the final regulation establishes standards that cannot be achieved and is in the process of developing technical guidance that will clearly illustrate process and expectations.

The final regulation requires that “GPS” coordinates be provided for all wells identified on the plat. This does not suggest that coordinate data must be surveyed in the field for all locations. For example, only those sites requiring monitoring per the requirements of § 78.73 for which access has been granted and field identification accomplished must be surveyed in accordance with Section 3211(b) of Act 13. Acquisition of locational information for other well sites can be accomplished through scanning and digitizing the source map or using existing coordinate data on the source map to approximate the position of the well.

The Department acknowledges the existence of uncertainty related to well location and surficial evidence of legacy well sites. The landowner survey is one mechanism that may be beneficial for resolving such uncertainties, as landowners may be aware of the location of such sites on their property. Further, there is no additional expectation for operators to attempt to find and monitor sites that are not in the general vicinity of mapped locations.

The Department has modified the proposed regulation to require a visual assessment of each well’s integrity. The proposed requirements are consistent with the Department's current requirements for assessing operating wells for mechanical integrity, i.e., visual inspections for escaping gas and fluids, and severe corrosion. This assessment is intended to address if wells in the area of review requiring monitoring are suitably equipped to handle pressures and volumes associated with the nearby stimulation.

For matters related to acceptable monitoring protocols, please see response to comment 757.

Regarding the involvement of the Oil and Gas Technical Advisory Board (TAB) and the Conventional Oil and Gas Advisory Committee (COGAC), the Department notes several points. First, two meetings were held in 2013 under the TAB umbrella to discuss substantive provisions in the proposed rulemaking. The area of review portion of the rulemaking was one of those subjects. Both sides of the industry, along with the public and environmental groups, were in attendance at those meetings and expressed strong opinions on this portion of the rulemaking. The Department accounted for those discussions in the draft final-form rulemaking language. Second, a significant portion of the public comments received on the proposed rulemaking addressed the area of review sections. Some of those comments came from TAB members or organizations and entities that the TAB members were affiliated with. As can be seen in the Proposed section of the Comment and Response Document, those comments were carefully considered in drafting changes to the proposed rulemaking language. Finally, the Department held several meetings with TAB and COGAC over the course of 2015 and at each meeting the final-form rulemaking language was discussed. Significant substantive changes were made to the final-form rulemaking on the advice of both TAB and COGAC. The Department will not always agree with or make changes based on the recommendations of TAB and COGAC, but an objective observer would likely conclude that the process was effective.

The final regulation requires operators to document due diligence either prior to drilling, stimulation, or with the permit application, dependent upon the anticipated timing of

stimulation activities, and offers a procedure for doing so. Additionally, specified monitoring of the highest-risk well sites (potential conduits) will allow identification of communication incidents and greatly curtail the potential for environmental degradation. Addressing this particular issue has been supported by STRONGER, and comports with the Act, which intends that oil and gas wells be constructed in such a way to prevent gas and other fluids from entering sources of fresh groundwater.

- 763.** Comment: § 78a.52a. Area of review - Under paragraph (a) the operator is to identify the surface and bottom hole locations of active, inactive, orphaned and abandoned wells having well bore paths within 1,000 feet measured horizontally from the vertical well bore and 1,000 feet measured from the surface above the entire length of a horizontal well bore. Identification of wells in some proximity from the vertical well bore is easy to understand; however the need for identification of all wells along the horizontal well bore is unclear. As has been discussed with DEP, the Oil and Gas Technical Advisory Board (TAB), and various public interest groups in various forums including the TAB workgroups in 2013, other wells that do not penetrate formations within 1,500 feet of the horizontal well bore are not affected by drilling or stimulation of the well, and communication between wells does not occur. The time and resources needed to identify these wells with no associated resulting environmental benefit is not justified.

Identification of wells along the horizontal well bore that do not penetrate formations within 1,500 feet of the horizontal well bore does not contribute to environmental protection from the proposed drilling or stimulation activities. Consequently, it is recommended that the requirement for identification of wells along the horizontal well bore be revised to limit that identification to wells that penetrate to within 1,500 feet of the horizontal well bore. (193)

Response: The Department disagrees with this recommendation and asserts that it is important to identify all wells in the area of review. This is particularly important because past communication incidents have allowed shallower wells to become over-pressured due to proximity to/connectivity with deeper, improperly plugged, and abandoned wells. By knowing the location of all well sites, a response can be coordinated more effectively.

- 764.** Chapters (78.52a and 78a.52a) - previously abandoned and orphaned well identification section - the identification procedure in this section of the proposed regulation outlines a very onerous process. My company, as well as most operators complete a “due-diligence” process in order to avoid potential environmental impacts and/or communication with abandoned or orphaned wells. The introduction of a map finder identification tool would be helpful to operators; however, the questionnaire for adjacent property owners could cause some issues for property access. This has been discussed many times over the last several years, and yet the questionnaire to be used with this regulation has not been provided for comment or review. (150)

Response: For matters related to the current application of due diligence by operators, please see response to comment 762.

The Department currently maintains and makes available a list of orphaned and abandoned sites that have not been plugged. The location of plugged wells are available in PA*IRIS/WIS. Existing databases are being expanded upon by the Department as historical analog source maps become available and as time permits. Companies in possession of such maps may share them with the Department, if they so choose, in order to facilitate development of a more comprehensive reference database over time. It should also be noted that the Department has modified the regulatory language to broaden the historical maps

and database sources that could be referenced during the area of review survey. However, the revised language recognizes that not all operators may have access to the same sources.

For matters related to well site access and the landowner questionnaire, please see response to comment 750.

765. Comment: In 2013, the EQB proposed a process to identify abandoned and orphaned wells prior to hydraulic fracturing operations. In 2015, PADEP changed the title of this regulation to “area of review” and expanded the list of wells to include active and inactive wells. PADEP added a monitoring plan and reporting requirement.

We support the requirement for well operators to identify active, inactive, orphaned, and abandoned wells prior to hydraulic fracturing operations.

We appreciate PADEP’s acceptance of our recommendation that the Area of Review investigation be submitted in a report. However, we recommend the report be submitted with the well application, and not at a later date. This information is needed for PADEP to make a decision on whether to approve drilling and stimulation of each well.

We appreciate PADEP’s response to our request that it remove the 2013 proposed exemption for gas wells that do not produce marketable quantities of gas or a gas/oil ratio of less than 100 Mcf/bbl from the operator’s obligation to identify orphaned and abandoned wells prior to hydraulic fracturing operations.

We remain concerned that incomplete historic records may not be sufficient to identify orphaned and improperly abandoned wells and that more sophisticated well identification methods (such as historic photos, ground magnetic surveys, and airborne surveys (equipped with magnetometers and methane detectors)) may be required. We recommend that where current and accurate records are not available, that the operator be required to conduct aeromagnetic and ground magnetic surveys and use methane detectors to identify those wells, consistent with abandoned well location method recommendations from the U.S. Geological Survey (USGS).

We also remain concerned that improperly abandoned wells, including wells that have not been abandoned in compliance with PADEP’s requirements for long-term plugging and abandonment at 25 Pa. Code § 78.91 through § 78.98, may not be identified or remedied.

Additionally, we remain concerned that the proposed radius of investigation for locating improperly abandoned wells is too small, and that action is not required to properly abandon a well that could be intersected by a hydraulic fracture treatment.

While we appreciate PADEP’s newly proposed monitoring plan under § 78.52a(c)(3), this monitoring plan will identify problems after they occur, rather than proactively prevent the problem from occurring.

We recommend that, before any well stimulation and in addition to the monitoring requirement, action be taken to properly abandon wells that could be intersected by a hydraulic fracture treatment and pose a risk to groundwater quality.

PADEP proposed a radius of investigation of 1,000 feet for all wells. PADEP did not explain how it determined a 1,000-foot threshold to be sufficient and protective of groundwater resources. Consistent with the 2014 Comments, we continue to recommend a radius of investigation of at

least 2,500 feet, unless PADEP can provide a technical explanation of why a 1,000-foot radius is sufficient and protective of groundwater resources.

We remain concerned that PADEP's proposal includes no variability in the impact radii to account for hydraulic fracture treatment type or size variation. Fracture zones can propagate at considerable distances from the wellbore, and PADEP should require operators to identify abandoned wells within the potential zone of impact, with an additional margin of safety. We recommend that operators be required to identify any improperly abandoned wells within 2,500 feet of the furthest fracture zone extent measured along the entire wellbore. This method will ensure a larger radius of investigation is completed for larger hydraulic fracture treatments with larger radii of impact.

The 2014 Comments recommended that operators that have not properly P&A'd all their wells in Pennsylvania be required to complete that work before being issued permits to drill and hydraulically fracture new wells. We reiterate this important recommendation. It is not acceptable for operators to continue to drill new wells without taking responsibility for remedying existing problem wells. Pennsylvania law provides PADEP with the authority to deny a permit if issuance of the permit would result in a violation of applicable law. 58 Pa. C.S. § 3211(e)(1). Failure to plug and abandon wells would be a violation of applicable law 58 Pa. C.S. § 3220.

We remain concerned that the proposed regulations still do not require that operators applying for a permit to drill a new well nearby an improperly P&A'd or orphaned well: (1) locate the well's owner and arrange for the well to be P&A'd consistent with PADEP's regulations; (2) work with PADEP to use PADEP's Well Plugging Funds (58 Pa. C.S. § 3271) to properly P&A each improperly abandoned well identified; or (3) P&A the improperly abandoned well before PADEP issues any site construction or drilling permits, if PADEP has insufficient funds to complete this work on the time schedule and the operator wants to implement its project at a faster pace.

New wells drilled and hydraulically fractured near improperly P&A'd wells can result in groundwater contamination. It is not acceptable to defer resolution of improperly P&A'd wells to a future, yet-to-be determined process with an unknown outcome, and proceed with approval of new wells, when those defective wells are located within the potential hydraulic fracture treatment zone of impact.⁷ The Area of Review investigation needs to be more than a paperwork process; it needs to identify risks and to mitigate those risks.

We recommend the following proposed revision to § 78a.52a (a), (b), and (c):

§ 78a.52a. [Abandoned and orphaned well identification] AREA OF REVIEW.

(a) ~~[Prior to hydraulically fracturing the well, the]~~ THE operator [of a gas well or horizontal oil well] shall identify the SURFACE AND BOTTOM HOLE LOCATIONS [location] of ACTIVE, INACTIVE, orphaned [or] ~~AND~~ abandoned wells OR IMPROPERLY ABANDONED WELLS HAVING WELL BORE PATHS within ~~1,000~~ 2,500 feet measured horizontally from the vertical well bore and ~~1,000~~ 2,500 feet measured from the surface above the entire length of a horizontal well bore in accordance with subsection (b), OR IN IN THE CASE THAT THE WELL IS HYDRAULICALLY FRACTURED, WITHIN 2,500 FEET OF THE FURTHEST PREDICTED FRACTURE ZONE EXTENT MEASURED ALONG THE LENGTH OF THE ENTIRE WELLBORE.~~[Prior to hydraulically fracturing the well, the operator of a vertical oil well shall identify the location of orphaned or abandoned wells within 500 feet of the well bore in accordance with subsection (b). For the purposes of this section, a gas well is a well~~

~~which is producing or capable of producing marketable quantities of gas or of gas and oil with a gas-oil ratio of more than 100 MCF per bbl of oil.]~~

(b) Identification shall be accomplished by conducting the following:

(1) A review OF the Department's [~~orphaned and abandoned well database~~] WELL DATABASES AND OTHER AVAILABLE WELL DATABASES.

(2) A review of HISTORICAL SOURCES OF INFORMATION, SUCH AS applicable farm line maps, ~~where accessible~~ MADE AVAILABLE ON THE DEPARTMENT WEBSITE.

(3) Submitting a questionnaire on forms provided by the Department to landowners whose property is within the area identified in subsection (a) regarding the precise location of orphaned and abandoned wells on their property.

(4) A REVIEW OF HISTORICAL AIR PHOTOS.

(5) WHERE THE RECORD REVIEW CONDUCTED IN PARAGRAPH (b)(1)-(4) PROVIDES INSUFFICIENT INFORMATION TO ACCURATELY LOCATE EXISTING WELLS, THE OPERATOR MUST CONDUCT A FIELD SURVEY THAT INCLUDES A GROUND SURVEY TO IDENTIFY SURFACE EVIDENCE OF ORPHANED, ABANDONED, OR IMPROPERLY ABANDONED WELLS, INCLUDING THE USE OF METHANE DETECTION EQUIPMENT, AND AEROMAGNETIC AND GROUND MAGNETIC SURVEYS. (c) [~~Prior to hydraulically fracturing a well, the~~] THE operator shall submit a REPORT SUMMARIZING THE REVIEW AND THE SURVEY RESULTS TO THE DEPARTMENT WITHIN SEVEN DAYS OF COMPLETION. THE DEPARTMENT SHALL MAKE THE REPORT PUBLICALLY AVAILABLE ON ITS WEBSITE WITHIN SEVEN DAYS OF RECEIPT. THE REPORT SHALL INCLUDE INCLUDING:

[no revisions recommended for (1) through (6)]

(7) EVIDENCE THAT ALL THE WELLS THE OPERATOR IS FINANCIALLY RESPONSIBLE FOR IN PENNSYLVANIA EITHER ARE PRODUCING OR HAVE BEEN PROPERLY P&A'D IN ACCORDANCE WITH 58 PA. C.S. § 3220 AND THE DEPARTMENT'S REQUIREMENTS FOR LONG-TERM PLUGGING AND ABANDONMENT.

(8) EVIDENCE THAT, FOR EACH ORPHANED OR ABANDONED WELL IDENTIFIED, ONE OF THE FOLLOWING HAS OCCURRED:

(i) THE WELL'S OWNER WAS LOCATED, AND THE WELL OWNER HAS PROPERLY P&A'D THE WELL ACCORDING TO THE DEPARTMENT'S REQUIREMENTS FOR LONGTERM PLUGGING AND ABANDONMENT,

(ii) THE WELL OWNER CANNOT BE LOCATED OR WILL NOT PROPERLY P&A THE WELL AND THAT THE DEPARTMENT'S WELL PLUGGING FUNDS (58 PA. C.S. § 3271) HAVE BEEN USED TO PROPERLY P&A EACH WELL, ACCORDING

TO THE DEPARTMENT'S REQUIREMENTS FOR LONG-TERM PLUGGING AND ABANDONMENT, OR

(iii) THE OPERATOR HAS PROPERLY P&A'D THE WELL ACCORDING TO THE DEPARTMENT'S REQUIREMENTS FOR LONG TERM PLUGGING AND ABANDONMENT.

(d) THE OPERATOR SHALL SUBMIT THE REPORT REQUIRED BY SUBSECTION (c) TO THE DEPARTMENT AT LEAST 30 DAYS PRIOR TO COMMENCEMENT OF DRILLING THE WELL OR AT THE TIME THE PERMIT APPLICATION IS SUBMITTED IF THE OPERATOR PLANS TO COMMENCE DRILLING THE WELL LESS THAN 30 DAYS FROM THE DATE OF PERMIT ISSUANCE. THE REPORT SHALL BE PROVIDED TO THE DEPARTMENT ELECTRONICALLY THROUGH THE DEPARTMENT'S WEB SITE.

(e) THE DEPARTMENT WILL INCORPORATE ANY NEW ORPHANED AND ABANDONED WELL DATA INTO ITS WELL DATABASE WITHIN 30 CALENDAR DAYS AND MAKE THAT DATA PUBLICALLY AVAILABLE ON THE DEPARTMENT'S WEBSITE. (211)

Response: For matters related to the timing of the area of review survey and well plugging prior to hydraulic fracturing, please see response to comment 725.

Pending guidance will detail appropriate search techniques in cases where wells are not found at the reported location.

See response to comment 736 regarding the dimensions of the area of review.

Generally speaking, due to lithostatic pressure applied by overlying rock layers and the physics constraining fracture mechanics, the most likely pathway to fresh groundwater during hydraulic fracturing is represented by improperly abandoned oil and gas wells. If faults or zones of fracture concentration do play some role in communication, it is by allowing propagated fractures to move out of zone and into an improperly abandoned oil or gas well. However, the Department has modified the regulatory language to include a provision for monitoring fracture treatment pressures and volumes at the stimulated well site. This provision is intended to allow for the identification of abnormal fracture growth. The Department has also modified the regulatory language to account for out-of-zone fracture growth and require a visual assessment of the integrity of well sites identified during the area of review survey.

For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

The Department disagrees that it is necessary for the regulation to specify that plugging records should be reviewed, as this is presumably a standard risk-mitigation process.

Plats submitted to the Department identifying wells sites will be done so electronically and are considered public records.

766. Comment: 78a.52(a) A vertical isolation distance of 1,500 feet above the zone to be perforated or isolated for hydraulic fracturing in an unconventional well and 500 feet above the zone to be

perforated or isolated for hydraulic fracturing in any other well is a reasonable isolation distance that exceeds the normally expected vertical growth of induced fractures. We previously provided this comment to the Department in its March 2014 comments to the proposed Chapter 78 rulemaking. The Department modified its language in ANFR Section 78a.73(c) to reflect our suggested vertical isolation distance of 1,500 feet, but has not modified its language to reflect that same language in Section 78a.52a. We asserts that a modification of the vertical isolation distance in Section 78a.52a that is consistent with the Department's proposed changes to Section 78a.73(c) is appropriate and should be made by the Department.

It also seems appropriate that any wells which appear in the Department's electronic well database should be identified, provided their total depth extends below the interval that could reasonably be influenced by hydraulic fracturing. The proposed requirement to conduct "a review of historical sources of information, such as applicable farm line maps, where accessible" in order to identify wells lacks the clarity required for a regulation. There are many sources of information on old wells in Pennsylvania, including many reports by state agencies, as well as privately owned maps and records maintained by various operators. If the Department's database could be sufficiently enhanced, a review of the database should be an adequate obligation for well identification. A partnership effort between industry and state government seems an appropriate method of compiling available data on historical oil and gas wells.

Because of the generally higher rate, volume and pressure used in hydraulic fracturing of the Marcellus and other deep shale, constructing a more comprehensive database of historical deep wells (those that penetrate to a depth at least 1,500 feet above the Marcellus shale) should be a priority. It is hoped that with good cooperation this step could be accomplished soon, as the Commonwealth's current database for this set of deeper wells is believed to be nearly complete.

Enhancement of the shallow well database will require significantly more work, time and expense, and it likely a multi-year project.

The proposed language in subsection 78a.52a(b)(3) would require submission of a questionnaire to landowners requesting information on orphaned or abandoned wells on forms provided by the Department. It is unclear how responses to such questionnaires would be directed and what obligations might fall on operators to verify information received. This is far too much uncertainty related to this provision to support it as a regulatory requirement. The requirement to use a questionnaire should be eliminated.

Additionally, the oil and gas industry's identification of abandoned and orphaned wells will benefit from further development of the Department's database, and should be postponed until the database and map viewer is improved. Accordingly, the Department should consider a phased implementation of this new section. (210)

Response: For matters related to the dimensions of the area of review, please see response to comment 736. Please note that all wells requiring monitoring due to proximity to the stimulated zone must be identified in the area of review survey.

For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

For matters related to the landowner questionnaire, please see response to comment 750.

767. Comment: The provisions of the proposed final rule requiring a conventional well operator who intends to stimulate a well using hydraulic fracturing to identify the location of active, inactive, orphaned, and abandoned wells within 500 feet of the well bore is not in the public interest and should be withdrawn. (201)

Response: For an explanation of why the proposed regulation is reasonable, please see response to comment 762.

768. Comment: The new proposed standards for the identification of other active, inactive, orphaned or abandoned wells represent a policy decision of such a substantial nature that it requires an act of the General Assembly before they can become law. Act 13 of 2012 tasks the Department - not well operators - with the obligation to find previously undiscovered orphaned and abandoned wells and plug them when no responsible party has been identified. In fact, well operators pay the Department to perform this very task. 58 Pa.C.S. § 3271 (relating to well plugging funds). See also 58 Pa.C.S. § 2315(a.1) (providing for state grant funds to eligible applicants to plug orphaned and abandoned oil and gas wells). While Act 13 does require well operators to notify the Department of the existence of abandoned wells located on property leased by the operator within 60 days of discovery, it does not currently saddle them with the historically difficult task of searching for undiscovered wells, abandoned years ago by prior, often unidentified owners, dating back to the birth of the oil drilling industry in the 1850's. Evidence of the difficulty of this endeavor is reflected in the Department's own publications, as well as Act 13 itself. See 58 Pa.C.S. § 3213(b) (permitting an extension of one-year time period contained in 3213(a) due to the "practical difficulties of locating unpermitted wells and complying with the reporting requirements of this chapter."); Pennsylvania's Plan for Addressing Problem Abandoned Wells and Orphaned Wells, DEP Document No. 550-0800-001. This difficulty is also evident in the fact that the Department has only been able to identify and plug 3,489 of the approximately 300,000 orphaned and abandoned wells believed to be in existence today in the last 20 years under its Abandoned & Orphaned Well Program. The policy decision to shift more of the burden for locating these wells onto the backs of small conventional well operators - who are already paying to fund the Department's Abandoned and Orphaned Well Program - is unconscionable. In any event, such a sea change in policy cannot be implemented by regulatory fiat. Rather, such a change in policy is reserved solely for the General Assembly, especially given the specificity with which Act 13 articulates a well operator's pre-drilling responsibilities vis-a-vis nearby orphaned and abandoned wells. See 58 Pa.C.S. § 3213(a.1). Clearly, if the General Assembly believed that the danger of communicating with an orphan or abandoned well was so great that it justified requiring small, conventional well operators to expend thousands of dollars more to do what they are already paying the Department to do anyway, it would have included that in Act 13. (201)

Response: The purpose of these provisions is to address potential communication events with existing wells during hydraulic fracturing activities. Communication events pose a substantial threat to waters of the Commonwealth and pose a risk to public health, safety and the environment. Accordingly, these requirements are separate and distinct from the requirements in Sections 3213(b) and 3271. The Department currently addresses wells under the Plugging Program in consideration of existing environmental conditions at abandoned well sites. This analysis is independent of industry activity cannot and should not be bound or directed by an operator's intent to continue development in a certain area. Further, there are no provisions in the law that direct the Department to facilitate coordination between operators developing adjacent leases, but communication risks still exist at such locations.

The Department disagrees that it lacks statutory authority for the requirements in these sections. Please see response to comment 762.

769. Comment: The new proposed standards regarding well identification in conventional well operations are not supported by acceptable data and will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. According to the Department's online compliance reports, the Department conducted 13,445 well inspections in 2014, a 78% increase over 2008. Of the 13,445 inspections conducted in 2014, only 1 inspection revealed an accidental breach of an abandoned well during conventional drilling operations. This is hardly justification for more stringent and expensive regulations on the identification of active, inactive, orphaned and abandoned wells within 500 feet of the well bore prior to the use of hydraulic fracturing. (201)

Response: Without an area of review protocol in place, it is not possible to definitively declare how many stimulations have taken place in the state without significant impact. The regulation will require observation at identified, high-risk well sites, thus putting in place some mechanism by which this statement can be considered and possibly applied with a reasonable level of certainty.

770. Comment: The Department has not explained why the current procedures for plugging orphan or abandoned wells breached during hydraulic fracturing are inadequate to protect the environment and the public health, safety and welfare of the people. (201)

Response: The regulation is intended to address inadequately or unplugged wells that pose the highest communication risks while also requiring notification to surrounding operators, the latter which has been a request made by the industry in the past. For plugged wells, monitoring will be commensurate with the documented quality of plugging.

771. Comment: The direct and indirect costs of the new proposed standards requiring well identification are so high that they will put small, independent conventional oil and gas well operators out of business.

Subsection	Task	Description	Cost
(b)(1)	Database Review	Operator must review Department databases. Make appointment. Travel 1-3 hours each way to regional office. Review database for 1-3 hours.	\$500.00
(b)(2)	Historical Review	Operator must hire expert to research historical sources of information, such as farm line maps	\$1,500.00
(b)(3)	Landowner Questionnaire	Operator must submit DEP questionnaire (does not yet exist) to landowners regarding location of abandoned and orphaned wells	Unknown
(c)(1)	Plat	Operator must submit a plat showing the location and GPS	\$700.00

		coordinates of all wells identified in (b).	
(c)(2)	Proof of Notification	Operator must submit proof that questionnaires submitted under (b)(3)	\$30.00
(c)(3)	Monitoring Plan	Operator must submit plan for monitoring wells required under 78.73(c). Installation of monitoring tank may be required	\$1,200-\$2,700 (depending on the type of monitoring plan)
(c)(4)	Well Depth	Operator must submit true vertical depth of wells, if known	Unknown
(c)(5)	Source of Information	Operator must identify source of information for identified wells, if available.	Unknown
(c)(6)	Well Integrity	Operator must furnish surface evidence of failed well integrity, if available.	Unknown
TOTAL			\$5,340.00

The new proposed standards requiring well identification will have a severe adverse effect on the productivity of small, independent conventional well operators. As explained above, the new costs alone will drive these small operators out of business. (201)

Response: Responsible operators in the state currently complete well-search activities prior to resource development to protect their investment. The final regulation simply provides a standard mechanism for documenting these activities and reporting unforeseen incidents that have the potential to impact waters of the Commonwealth. The Department asserts that the concerns expressed in this comment are overstated and disproportionate with regard to the requirements associated with the area or review regulation. The Department believes that the area of review regulations have the potential to enhance opportunities for prudent resource development by improving transparency and reducing environmental impact in a cost-effective manner. Further, gains in production efficiency are expected as a secondary benefit of the regulation in certain situations. These benefits are anticipated as are result of the prevention or minimization of resource quality degradation and reductions in time lost and expenditures associated with resolving communication incidents.

772. Comment: There are provisions in these sections that will be impossible for conventional operators to comply with, irrespective of cost. For example, if the other identified well lies off the property line, the well operator cannot simply trespass onto an adjoining property in order to monitor the well pursuant to subsection (c)(3). (201)

Response: For matters related to well site access, please see response to comment 750.

773. Comment: It is not unusual for an operator to have difficulty determining who the owner of an adjoining property is and/or how to contact them. In this situation, the well operator will be unable to prove submission of the questionnaire in accordance with subsection (c)(2). (201)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

774. Comment: Delays in getting appointments to view the database(s) at the Department's regional offices is out of our control. (201)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

775. Comment: The new proposed standards requiring well identification lack clarity and are ambiguous. The Department's own Technical Advisory Board (TAB) shares our concerns about the breadth and vagueness of these sections. See TAB Report, July 18, 2013, Page 5-6. (201)

Response: The Department disagrees that the area of review requirements lack clarity and are ambiguous. These sections establish clear standards of performance that are easily understood. The Department will develop clarifying guidance related to the area of review requirements to help address questions that may arise and provide additional flexibility to operators.

776. Comment: Subsection (b)(1) requires a review of the Department's databases and "other available well databases." What are the other databases? How many are there? How does an operator gain access to all of them? (201)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

777. Comment: Subsection (b)(2) requires a review of "historical sources of information, such as applicable farm maps, where accessible." What else is included within the definition of "historical sources of information.?" (201)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

778. Comment: Subsection (c)(3) requires the preparation of a "monitoring plan." What is an acceptable "monitoring plan" to the Department? (201)

Response: This issue will be addressed in a guidance document discussing the components of a suitable monitoring plan.

779. Comment: Subsection (c)(6) requires operators to include in their report to the Department "surface evidence of failed well integrity for any identified well." What does this mean? (201)

Response: The Department has modified the final regulation to require a visual assessment of each well's integrity. The requirements are consistent with the Department's current requirements for assessing operating wells for mechanical integrity, i.e., visual inspections for escaping gas and fluids, and severe corrosion. This assessment is intended to address if wells in the area of review requiring monitoring are suitably equipped to handle pressures and volumes associated with the nearby stimulation.

780. Comment: 78a.52(a) The area of review of 1,000 feet laterally from any portion of an unconventional wellbore is reasonable. Well identification should be limited only to wells that are reasonably expected to penetrate to within 1,500 feet vertically of the shale zone being hydraulically fractured. There has been significant research, both stress modeling and compilation

of thousands of micro seismic records, showing that vertical growth of induced hydraulic fractures from gas shale beyond 1,500 feet is extremely rare. Moreover, we understand that there has been no case where hydraulic fracturing fluids have migrated vertically from an induced fracture in the Marcellus shale into wells with total depth more than 1,500 feet above the shale. As noted above, the 1,500 foot vertical isolation distance is already reflected in § 78a.73(c) of the ANFR. (210)

Response: For matters related to the appropriateness of the identification of wells in the area of review, please see response to comment 763.

781. Comment: As proposed, Section 78a.52a does not clearly state how wells that are identified are to be characterized by an operator. There is no mention of identifying wells that are already plugged, regardless of whether such plugging is part of the Department's records or whether historical records indicate plugging. (210)

Response: The Department has modified the regulation to include a provision for identifying plugged and abandoned wells during the area of review survey.

782. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule requiring identification of other active, inactive, orphaned or abandoned wells. (201)

Response: For matters related to the statutory authority of this provision, please see response to comment 762. The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act, the Commonwealth Documents Law and others. See response to comment 2301 for more details.

783. Comment: The Department's regulatory analysis form does not sufficiently demonstrate a need for the new proposed standards governing other well identification. In the form, the Department states: "Abandoned and orphan wells could pose a serious issue to the commonwealth if an operator inadvertently alters one during the drilling or hydraulic fracturing process. Altering an abandoned well can lead to a number of issues including methane migration and water supply impacts." Unfortunately, the Department does not offer any support for its assertions, and its own data undermines this position. As noted above, the Department's own compliance reports reveal that of the 13,445 inspections conducted in 2014, only 1 revealed an accidental breach of an abandoned well during conventional drilling operations. This is hardly justification for more stringent and expensive regulations on the identification of active, inactive, orphaned and abandoned wells within 500 feet of the well bore prior to the use of hydraulic fracturing. (201)

Response: For matters related to the technical basis for this provision, please see response to comment 769.

784. Comment: The Department's regulatory analysis form does not reflect the Department's consideration of the true direct and indirect costs of the proposed standards or the economic impact that those standards would have on small businesses. In its form, the Department assigns a zero cost for compliance with Section 78.52a. This estimate is wholly at odds with reality given the anticipated costs outlined above. It is also at odds with other sections of the form, where the Department states: "Similarly, DEP expects that many operators will utilize consultants to help in the identification of abandoned and orphaned wells..." Does the Department think that consultants work for free? (201)

Response: Responsible operators in the state currently complete well-search activities prior to resource development to protect their investment. The final regulation simply provides a standard mechanism for documenting these activities and reporting unforeseen incidents that have the potential to impact waters of the Commonwealth. The Department asserts that the concerns expressed in this comment are overstated and disproportionate with regard to the requirements associated with the area of review regulation. The Department believes that the area of review regulations have the potential to enhance opportunities for prudent resource development by improving transparency and reducing environmental impact in a cost-effective manner. Further, gains in production efficiency are expected as a secondary benefit of the regulation in certain situations. These benefits are anticipated as are result of the prevention or minimization of resource quality degradation and reductions in time lost and expenditures associated with resolving communication incidents.

785. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent or less costly alternative methods to prevent communication of wells. Clearly, the Department is capable of searching its own well databases for any known orphan or abandoned wells in the 500 foot radius of the well bore. It does not need small, independent conventional well operators to do it for them. Also, to the extent that a questionnaire is necessary, there is no reason why the Department cannot do it. In the alternative, section 78.52a(b)(3) could be amended to mirror the language of 58 Pa.C.S. § 3211(b.1) (requiring notification to surface owners of permit application “by sending notice to those persons to whom the tax notices for the surface property are sent, as indicated in the assessment books in the county where the property is located”). (201)

Response: The purpose of these provisions is to address potential communication events with existing wells during hydraulic fracturing activities, not notify landowners of the intent to drill a well. Communication events pose a substantial threat to waters of the Commonwealth and pose a risk to public health, safety and the environment. Responsible operators in the state currently complete well-search activities prior to resource development to protect their investment. The final regulation simply provides a standard mechanism for documenting these activities and reporting unforeseen incidents that have the potential to impact waters of the Commonwealth. As part of the Department's Plugging Program, a database of orphan and abandoned wells has been developed and is readily accessible to operators. The Department currently addresses wells under the Plugging Program in consideration of existing environmental conditions at abandoned well sites. This analysis is independent of industry activity cannot and should not be bound or directed by an operator's intent to continue development in a certain area. Further, there are no provisions in the law that direct the Department to facilitate coordination between operators developing adjacent leases, but communication risks still exist at such locations. The Department disagrees that the alternatives proposed in this comment are reasonable or in alignment with the intent of the area of review regulation.

786. Comment: Finally, the new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should these standards become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and

well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10-15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: Responsible operators in the state currently complete well-search activities prior to resource development to protect their investment. The final regulation simply provides a standard mechanism for documenting these activities and reporting unforeseen incidents that have the potential to impact waters of the Commonwealth. The Department asserts that the concerns expressed in this comment are overstated and disproportionate with regard to the requirements associated with the area or review regulation. The Department believes that the area of review regulations have the potential to enhance opportunities for prudent resource development by improving transparency and reducing environmental impact in a cost-effective manner. Further, gains in production efficiency are expected as a secondary benefit of the regulation in certain situations. These benefits are anticipated as are result of the prevention or minimization of resource quality degradation and reductions in time lost and expenditures associated with resolving communication incidents.

787. Comment: 78a.52(b)(1) The investigation should be limited to simply checking PADEP’s online well database, which is believed to be a very complete record of deep drilling in Pennsylvania. The phrase “other available well databases” is vague, and it is not clear what other well databases PADEP is referring to in this proposed subsection. This phrase should be deleted, or otherwise modified/qualified to include databases that are both known and readily accessible to an operator. In other words, if the operator doesn’t know about the database or have easy access to it, then the operator should not be required to review it. (210)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

788. Comment: 78a.52(b)(2) Please refer to our general comment above regarding this subsection. Operators should not be required to review historical records if the Department’s online well database is accurate. (210)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

789. Comment: 78a.52(b)(3) Submitting questionnaires to landowners through the well permitting process is an ineffective way to identify abandoned wells and would require a significant amount of public education effort. This subsection should be deleted. There is simply too much uncertainty with regard to this questionnaire and/or any responses that it might generate. Additionally, PADEP has not provided a copy of the proposed questionnaire form at the same time that they proposed the regulation, as required by Section 5(a)(5) of the Regulatory Review Act, so we are not able to provide comments on the proposed questionnaire or the impact that will result from it. (210)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

790. Comment: 78a.52a(c) The phrase “Prior to hydraulically fracturing a well” should be retained. See our comment on proposed § 78a.52a(d) below.

Response: The Department modified the previous language because completing the survey prior to drilling allows avoidance strategies to be employed.

791. There is no justification for requiring the paperwork burden of a formal summary report, as long as the pertinent information is provided. The results of the proposed investigation (with a plat) could be submitted to the Department, rather than a report. (210)

Response: The Department disagrees and asserts that the submission of a formal summary report, the components of which will be defined in a pending guidance document, will allow for greater consistency and enhance the agency's ability to provide operators with gained efficiencies over time, while informing other interested stakeholders with regard to legacy matters in the state.

792. Comment: 78a.52a(c)(2) Pursuant to our comments to subsection 78a.52a(b)(3), the questionnaire requirement should be deleted. In the alternative, if the questionnaire requirement is retained, we suggest that a return receipt or other adequate proof of receipt is sufficient proof for an operator to demonstrate compliance with this subsection. (210)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

793. Comment: 78a.52a(c)(3) There is no justification for requiring the paperwork burden of a formal monitoring plan. The monitoring requirements in proposed subsection 78a.73(c) alone will be sufficient, and the methodology (visual monitoring) required in that subsection is straightforward and does not require the development and submission of a monitoring plan to implement. (210)

Response: The Department will develop clarifying guidance related to the area of review requirements and the components of a suitable monitoring plan. The final regulation requires operators to document due diligence either prior to drilling, stimulation, or with the permit application, dependent upon the anticipated timing of stimulation activities, and offers a procedure for doing so. Additionally, specified monitoring of the highest-risk well sites (potential conduits) will allow identification of communication incidents and greatly curtail the potential for environmental degradation. Addressing this particular issue has been supported by STRONGER, and comports with the Act, which intends that oil and gas wells be constructed in such a way to prevent gas and other fluids from entering sources of fresh groundwater. By developing a standardized process for completing monitoring activities that is based on risk, the Department asserts that ambiguity will be reduced, efficiencies gained and uncertainty related to compliance rendered negligible.

794. Comment: 78a.52a(c)(4) The vertical depth of wells identified in the investigation of the Department's online well database could be included with the plat in subsection 78a.52a(c)(1). (210)

Response: The Department will develop clarifying guidance related to the area of review requirements. Specifically, this issue will be addressed in a guidance document discussing the components of a suitable area of review report.

795. Comment: 78a.52a(c)(5) Consistent with our comments above, the source of information should be the Department's online well database (which would eliminate this requirement in subsection (c)(5)). (210)

Response: Although the Department acknowledges that certain sources will be accessed and utilized frequently, this provision allows for sources beyond those most commonly cited to be referenced, thus enhancing existing databases.

796. Comment: 78a.52a(c)(6) This requirement is subjective and unnecessary given the 78a.73(c) monitoring requirements. Any reporting of condition of a deep abandoned well, and any change in status during hydraulic fracturing operations, would be reported per Section 78a.73. (210)

Response: The Department disagrees and asserts that an integrity assessment at well sites requiring monitoring is an important consideration related to how risk should be addressed prior to executing stimulation activities.

797. Comment: 78a.52a(c)(6) (d) The information collected pursuant to this section is related to hydraulic fracturing, not drilling, so there is no legitimate need for the information to be submitted prior to drilling. There may be long time frames between drilling and hydraulic fracturing, so the costs and burden of performing this review should not be arbitrarily required before hydraulic fracturing.

Per our comment to subsection (c), it is not necessary for an operator to submit the report to the Department. Rather, we suggest that operators submit the results of the review to the Department, which would provide sufficient information to the Department. Additionally, the proposed language is not clear as to whether the Department will review the results during the proposed 30 day timeframe.

Operators do not control the issuance of a well permit, and therefore the timing of well permit issuance is not a set date known by an operator. PADEP's second proposed submission requirement is triggered by the timeframe "less than 30 days from the date of permit issuance" therefore is speculative and not a specific date known by the operator at the time of submission of a permit application. Furthermore, the trigger for submission of the results should be commencement of hydraulic fracturing of the unconventional well, not the drilling of the unconventional well, because there are circumstances when a well may be drilled but not hydraulically fractured. (210)

Response: The Department modified the previous language because completing the survey prior to drilling allows avoidance strategies to be employed. In situations where the operator anticipates drilling will commence within 30 days after the authorization is granted, the area of review report must be submitted in conjunction with the well permit.

The submission of a formal summary report in accordance with the regulations will allow for greater consistency and enhance the agency's ability to provide operators with gained efficiencies over time, while informing other interested stakeholders with regard to legacy matters in the state. Although confirmation of receipt of the report will be provided and the Department will have the opportunity to review area of review report submissions, it does not intend to review each report as pending guidance is expected to ensure consistency and completeness respective of currently available data.

The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

798. Comment: Today, there are an estimated 300,000 abandoned wells across Pennsylvania, leaking

untold amounts of toxins into our air, and a study from 2014 suggested that these wells are a significant source of greenhouse gas pollution in Pennsylvania. In the revised rules, DEP must require the identification of existing wells through onsite inspection before site and well construction and drilling, and plug and seal or otherwise appropriately address abandoned and orphaned wells. (241)

Response: For matters related to completion of the area of review survey prior to drilling, see response to comment 790.

For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

799. Comment: The Final Regulations Still Do Not Require a Physical Survey for Abandoned Wells. In our comments on the proposed regulations, we raised the issue that the requirements for the pre-drilling survey were limited to certain “paper” sources and did not require an actual, on-the-ground survey for unplugged abandoned wells in the vicinity of the new operation. 1 The final regulations include some improvements to the survey requirements, which are a step in the right direction. Not included in these improved requirements, however, is any provision that the new operator must conduct a physical survey. Additionally, some improvements should go further.

The final regulations have made certain positive changes to the pre-drilling survey requirements:

- Sections 78.52a and 78a.52a now require that the survey also include active and inactive wells, in addition to orphaned and abandoned wells;
- Sections 78.52a and 78a.52a broaden the information sources from which the survey is drawn, now stating “historical sources of information, such as applicable farm line maps” instead of just “applicable farm line maps”;
- Sections 78.52a and 78a.52a now require that the operator submit a full report to PA DEP at least thirty days prior to drilling, including a monitoring plan for wells within a certain vertical depth of the new well, the depth of all identified wells, the source of information on the identified wells, and any surface evidence of the identified wells' failed integrity; and
- Sections 78.73 and 78a.73 include an improved notification and monitoring provision, under which the operator will notify owners of identified wells within seventy-two hours of commencing hydraulic fracturing and must specifically notify PA DEP “of any treatment pressure changes indicative of abnormal fracture propagation at the wellbeing stimulated” and cease stimulation until further approval.

Each of these new requirements is a positive change and a step in the right direction. We support PA DEP's additions of these requirements and urge the department to make further revisions in this same spirit, in order to ensure that operators take key preventive steps prior to drilling and hydraulic fracturing. Specifically, we suggest the following additional revisions:

- First, as we raised in our comments on the proposed regulations, the operator should conduct a physical, on-the-ground survey for unplugged abandoned and orphaned wells. While it is positive that the final regulations broaden the sources of information for the survey, there is a daunting number of abandoned and orphaned wells in Pennsylvania (anywhere from 200,000 to 500,000, depending on the estimate), and a survey only of paper sources will inevitably result in wells being missed. There is simply no substitute for an on-the-ground survey. Not only is it safer and more accurate, but also it will add needed information to Pennsylvania's Abandoned and Orphaned Well Plugging Program.

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- Second, the operator should notify the owners of identified wells sooner than seventy-two hours prior to commencing hydraulic fracturing. Ideally, the regulations should require the operator to notify the owners at the same time the operator transmits the report to PA DEP: at least thirty days prior to commencing drilling. While the operator also should be required to notify the well owners prior to hydraulic fracturing, earlier advance notice is a cheap and easy preventive measure and allows all parties to plan accordingly.

We appreciate the efforts PA DEP has taken to improve the pre-drilling survey requirements and we urge PA DEP to make these two additional revisions to ensure that oil and gas development is safe, well-informed, and not harmful to Pennsylvanians or the environment. (228)

Response: The current proposed regulation does require operators to complete field inspections to identify any wells in the area of review that are deemed likely to fall within frac-propagation distances.

The Department acknowledges the comment supporting the provision.

The proposed regulation has been modified with regard to notifications to adjacent operators. In instances when an operator plans to drill the well within 30 days of permit approval, the survey must be completed prior to permitting and submitted with the permit application. Otherwise the area of review survey results must be submitted 30 days prior to commencement of well drilling or 30 days prior to stimulation if the well is initially produced naturally and hydraulically fractured at some later date.

800. Comment: The Final Regulations Still Do Not Require an Operator to Plug Abandoned Wells Prior to Hydraulic Fracturing

One of the central shortcomings we raised in our comments on the proposed regulations is that they only required an operator to plug an abandoned or orphaned well if the operator “alters” the well by hydraulic fracturing. Otherwise, the operator could leave the abandoned well unplugged, no matter the vicinity to the new well, the depth of the abandoned well, or any other consideration. Unfortunately, the only change the final regulations have made to this key gap is that they now allow the operator the choice to put the abandoned well back into service rather than plugging it. Clearly, this does not address the issue.

The problem with this provision is that it is not preventive. Instead of requiring the operator to make an up-front investment toward ensuring the safety of the new well and surrounding community, the regulations allow the operator to wait until disaster occurs. As we raised in our previous comments, there are several major instances in recent Pennsylvania history in which an abandoned well's “communication” with new hydraulic fracturing can result in explosions, air pollution, contamination of groundwater, and evacuation of nearby residents. At this point, it is too late to plug the abandoned well in an easy manner. Instead, gas must be vented or flared for hours or days to reduce pressure and ensure safety. In other words, a requirement that the operator plug the well once it is “altered” is only slightly better than no requirement at all.

This is not a new issue for PA DEP. In 2010, the “non-profit, multi-stakeholder organization” State Review of Oil and Natural Gas Environmental Regulations, Inc. (STRONGER) conducted an independent review of Pennsylvania's oil and gas regulations and found this specific gap to be an issue, particularly as it related to groundwater contamination. STRONGER urged that Pennsylvania “require operators to identify and eliminate the potential pathways” prior to

fracking. Nearly five years have passed since STRONGER's review, and a number of dangerous abandoned well incidents have occurred since then. It is time for PA DEP to address this issue in a meaningful way.

In connection with this provision, we also previously raised the issue that the proposed regulations failed to define "alter." Even though the final regulations added and updated other definitions, they still do not include an entry for "alter." Aside from the safety and environmental implications, this is bad for regulatory certainty. The entire plugging requirement hinges on an undefined term, which may mean that even the most scrupulous oil and gas operators may be unsure of their responsibilities and that more delinquent operators could use the ambiguity to avoid full compliance. The most direct course is to require plugging of all nearby abandoned wells prior to hydraulic fracturing. But even if PA DEP opts to retain the requirement that wells only be plugged after alteration, it must include a clear definition of the triggering event. (228)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

"Alteration" is currently defined in Act 13 and in this case the physical characteristics of the wellbore communicated with are modified through the establishment of a hydraulic connection with a different portion of the reservoir or a new reservoir.

801. Comment: The Survey, Monitoring, and Plugging Requirements Should Apply to All New Wells, Not Just Hydraulically Fractured Wells

A final issue we raised in our previous comments with respect to abandoned wells is that the proposed regulations only applied the surveying, monitoring, and plugging requirements of Sections 78.52a and 78.73 to hydraulically fractured wells. Given that the final regulations appear to have kept this exemption in place, we again urge PA DEP to apply the requirements to all new wells. 13

While it is true that hydraulic fracturing is a standard practice for most wells currently, even wells that do not use hydraulic fracturing can cause problems, and the preventive measures to avoid these problems are fairly simple. As we stated in our previous comments, the Environmental Quality Board estimated that the cost to identify and monitor abandoned and orphaned wells is \$2,000 per operator. If the exemption of non-hydraulically fractured wells is in consideration of regulatory and cost burdens on smaller operators, PA DEP can easily impose reduced requirements. For example, such reduced requirements could follow on the regulations' differing identification and monitoring distance for vertical wells and horizontal wells. A smaller identification and monitoring distance could easily be required for non-hydraulically fractured wells. (228)

Response: The intent of the regulation is to mitigate risk in association with hydraulic fracturing and, as such, targets wells that will be stimulated using this process. Due to the geology in the state, the vast majority of oil and gas wells are stimulated using this process. Existing laws and regulations address environmental risks associated with the drilling and operation of all wells in the state.

802. Comment: New Data and Events over the Last Year Demonstrate the Need for Improved Regulations for Abandoned and Orphaned Wells

Our previous comments on the proposed regulations documented a number of studies, articles, and events to demonstrate the safety, human health, and environmental concerns caused by unplugged abandoned and orphaned wells. Given that over a year has passed since we submitted those comments, we include here certain events and studies that have occurred or been released since then:

- A summer 2014 article in the National Academy of Engineering's publication *The Bridge* discussed the extent to which older wells pose higher risks of leakage and pollution. Cement plugs help to impede the flow of leaking gas, though older cement plugs can degrade over time and should meet certain criteria to serve as an effective barrier.
- On December 23, 2014 the Proceedings of the National Academy of Sciences published a study by Princeton researcher Mary Kang that directly measured emissions of methane and other fluids to the atmosphere from nineteen abandoned oil and gas wells in Potter and McKean counties, Pennsylvania. The study found that every measured well emitted methane, with a mean flow rate of 0.27 kilograms per day per well (or 216.81 pounds of methane per year per well). Three of the measured wells were especially high emitters—emitting thousands of times more methane than the lower-emitting wells. Based on these direct measurements, the study estimated that methane emissions from abandoned wells represent four to seven percent of total statewide methane emissions from human activity. The study also found, based on a review of supporting information, that the actual number of abandoned wells in Pennsylvania may be as high as 500,000.
- A February 25, 2015 article in the Wall Street Journal examined the problem of abandoned wells in Pennsylvania, Wyoming, and other states. The article noted that, while certain state regulators have estimated that the cost of plugging wells is high, the actual cost for plugging certain shallow wells in Wyoming was \$7,500 per well. The article also interviewed an economics professor and Pennsylvania's former state geologist, both of whom found the current required bonding to be “unreasonably low” and insufficient to fund the state's efforts to plug abandoned wells. In fact, Pennsylvania was only able to plug 48 wells from its overall list of over 8,000 orphaned wells. According to an audit of Louisiana's program, insufficient bonding “may provide an incentive for operators to abandon their wells since forfeiting the financial security may be more economical than paying plugging costs.”

Based on these articles and studies, one can see that the problem of abandoned and orphaned wells is not going away and is likely only to increase with more drilling and hydraulic fracturing of new wells. With its first major revision of oil and gas rules in years, PA DEP has a unique opportunity to address this problem in a direct way by requiring new operators to survey, monitor, and remedy abandoned wells. Unless PA DEP addresses the significant shortcomings we have identified in these comments and our previous comments, it should not issue the final regulations. (228)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

803. Comment: Pa must revise the Chapter 78 and Chapter 78a regulations to include appropriate requirements for seismic testing.

The second major area we raised in our comments on the proposed regulations was that the regulations contained no requirements with respect to seismic testing, whether via blasting,

vibroiseis trucks, or other practices. We noted that the only applicable requirements to seismic testing were PA DEP's generic regulations for explosives, which are implemented by PA DEP's Bureau of Mining and Reclamation rather than the Office of Oil and Gas Management. And these regulations fail to cover other types of seismic testing operations, such as vibroseis trucks. We offered several important elements to include in seismic testing regulations, drawn from other states' regulations and municipal ordinances, including required notice to landowners and municipalities, location restrictions (e.g., setbacks), and a requirement that all seismic companies obtain full local approval. In the final regulations, however, PA DEP has not addressed this issue at all.

Because there have been no developments since the proposed regulations, we reiterate our comments on the proposed regulations and incorporate them in their entirety. In particular, we again raise the need for baseline seismic testing requirements due to the regulatory vacuum that currently exists; the increasing number of conflicts between municipalities and companies and between landowners and companies; and the important issues with respect to safety, the environment, and human health.

To highlight these issues, we call to PA DEP's attention the following events and developments that have occurred in the year since we submitted our comments on the proposed regulations:

- On March 31, 2014, seismic testing company ION Geophysical Corp. of Houston, Texas, sued Hempfield Township, Westmoreland County, in federal court to “forbid Hempfield from interfering with Ion's survey and exempt the company for one year from any ordinance regulating seismic activity in Hempfield, should the township decide to pass one.” On April 23, 2014, the township settled with after the company successfully obtained a preliminary injunction preventing the township from prohibiting seismic testing on public roads.
- On April 25, 2014, Rep. Rob Matzie announced legislation that would make it easier for landowners to obtain compensation for damage caused by seismic testing. The representative noted complaints from his constituents regarding property damage from the practice and stated that “as policy makers we should expect those who are conducting business in our commonwealth to be fair and adhere to good business practices, up to and including repair of property that was damaged that was no fault to a property owner.”²⁷ The bill was referred to the Judiciary Committee, where it appears to have died.
- On July 23, 2014, seismic testing company Geokinetics filed a lawsuit against Center Township, Greene County, challenging a seismic testing ordinance the township passed in May 2014. This suit follows on the previous lawsuits filed by another seismic testing company, Seitel Data Ltd., against Hopewell and Potter townships, which we discussed in our previous comments.
- On October 8, 2014, PublicSource published an article on Leigh Shields, a resident of Sprags, Greene County. The article recounts Mr. Shields' encounters with the seismic testing company Geokinetics and the landmen from Cougar Land Services working on behalf of Geokinetics. Over the course of 2013, landmen visited his house on three or four occasions, requesting permission to conduct seismic testing on Mr. Shields' eighty-eight acres. After repeated refusals from Mr. Shields, Geokinetics trespassed onto Mr. Shields' land in June 2014 to mark testing sites, dig holes, and drop a bag of testing equipment by helicopter. When Mr. Shields seized the bag of testing equipment, Geokinetics sent a Pennsylvania state trooper to retrieve it. The trooper stated that “such

situations happen frequently in Greene County, with helicopters dropping equipment on people's land.” The article also discusses the lawsuit filed by Geokinetics against Center Township's seismic testing ordinance, noting in particular affidavits on how Geokinetics “threatened landowners who wouldn't sign permits, harassed them to enter their land and entered from other points when they were denied.”

These events demonstrate the conflict and confusion caused by PA DEP' s failure to establish clear regulations on seismic testing for oil and gas. Out-of-state seismic companies are capitalizing on this regulatory vacuum to the detriment of landowners, public infrastructure, and the environment. And municipalities are seeking to fill this gap and protect their residents through the adoption local controls, only to encounter threats and lawsuits. By promulgating simple, straightforward baseline regulations for seismic testing, PA DEP could add order to this “wild west” environment; give clarity to landowners, municipalities, and companies; and ensure that all Pennsylvanians and communities have adequate protections from this expanding practice. (228)

Response: The Department acknowledges your comment. Although seismic testing activities are beyond the scope of this rulemaking, there are separately proposed amendments to Chapters 210 (Blasters’ Licenses) and 211 (Storage, Handling, and Use of Explosives) that would update these regulations to account for the proper regulation of seismic testing. Any earth disturbance activities conducted in the state that exceed regulatory thresholds must follow all applicable surface permitting. Additionally, the use of charges in seismic shotholes is regulated by the mining program.

804. Comment: 78a.52a Area of Review – Chevron supports the intent of this section, but recommends that the rule limits the identification to wells that are within 1500 feet of the area of stimulation, consistent with potential impacts. (232)

Response: For matters related to the appropriateness of the identification of wells in the area of review, please see response to comment 763.

805. Comment: Identification of wells in some proximity from the vertical well bore is easy to understand; however the need for identification of all wells along the lateral is unclear. As has been discussed with DEP numerous times in the past, other wells that do not penetrate formations within 1,500 feet of the lateral are not affected by drilling or stimulation of the well, and communication does not occur. The time and resources needed to identify and monitor these wells with no associated resulting environmental benefit is not justified. Identification of wells along the lateral that do not penetrate within 1,500 feet of the lateral does not contribute to environmental protection from the proposed drilling or stimulation activities, and only serves to supplement the DEP orphaned and abandoned well database. Consequently, it is recommended that the requirement for identification of wells along the horizontal portion of the well bore be revised to limit that identification and monitoring to wells that penetrate to within 1,500 feet of the lateral. (232)

Response: For matters related to the appropriateness of the identification of wells in the area of review, please see response to comment 763.

806. Comment: Next, I would like to discuss a section of the proposed regulations entitled “Area of Review”. This section of the regulations, proposed by the DEP in 2015 for application to conventional operations, is nothing more than a photocopy of the same regulations proposed by the DEP for the unconventional industry in 2013-the only change being the addition of numerous regulatory provisions, such as the preparation of the monitoring plan and its submission 30 days

before drilling, depth information, gathering of surface evidence and the like. (281)

Response: For matters related to the applicability of the regulation to conventional operators, please see response to comment 762.

- 807.** Comment: Regarding Area of Review (§ 78.52a), it is unclear whether the expanse of the requisite surface reconnaissance is 1,000' centered over the horizontal well bore or if it is intended to represent 1,000' from the path of the lateral in each direction. It seems, in the context of conventional exploration, that 1,000' centered over the horizontal wellbore (i.e. 500' from the path of the lateral in each direction) would suffice.

There has been no questionnaire template presented as part of the rulemaking affording operators the chance to review and comment on the language and the scope of inquiry. It is also unclear what will be acceptable "proof" that a questionnaire has been submitted to a landowner in any number of scenarios resulting in a questionnaire that is not completed and returned. Penneco believes that due diligence communication and field visits with property owners whose surface is in the area of review will be far more productive than regulating the process using questionnaires. The magnitude of the stakes compels operators to do no less.

There is no guidance regarding the monitoring plan and the proposed expectations of the Department. It is Penneco's opinion that the magnitude of the stakes and current regulations will compel operators to formulate their own monitoring plan and execute it without regulatory paperwork. (245)

Response: The final regulation requires a survey distance of 1,000 feet on both sides of the horizontal well bore.

For matters related to the landowner questionnaire, please see response to comment 750.

For matters related to acceptable monitoring protocols, please see response to comment 757.

- 808.** Comment: We commend the Department for addressing the important issue of discovering and mitigating potential subsurface conduits in proximity to new wells that could transport pollutants to protected waters. When the Department finalizes these sections, Pennsylvania will be in the vanguard of states addressing this issue in regulations. This is critical in Pennsylvania as the Commonwealth has an unusually large number of orphaned or abandoned wells in close proximity to modern oil and gas fields. (225)

Response: The Department acknowledges the comment.

- 809.** Comment: The revisions in this section represent real progress over the initial 2013 proposal. In particular, we support the Department's addition of active and inactive wells to the inventorying requirement; the increased requirement for specificity of well surface and bottom hole locations; the increased radius of review; the enhanced information sourcing requirements; the requirement to submit a monitoring plan for potential conduits; the requirement to review well integrity records for potential conduits; the requirement that this analysis be completed prior to drilling rather than hydraulic fracturing; the requirement that operators notify the operators of nearby wells prior to hydraulic fracturing occurs to minimize the risk of interference or "frac hits" that could cause pollution to protected waters; the use of electronic reporting in monitoring of potential proximate conduits during hydraulic fracturing; and the requirement to terminate hydraulic fracturing on indications of "abnormal fracture propagation at the well being

stimulated,” and not to resume operations without Departmental approval. These enhancements, consistent with our March 2014 comments, will go a long way in protecting Pennsylvania’s groundwater during directional drilling and hydraulic fracturing operations. (225)

Response: The Department acknowledges the comment.

- 810.** Comment: With this said, the Department could further improve its Area of Review program by adopting certain additional protective requirements. These include an enhanced AOR radius; inclusion of known geological faults and fractures; a more robust statement about protectiveness, a requirement to plug wells; and a requirement to terminate operations if offset wells show signs of interference. (225)

Response: For matters related to the dimensions of the area of review, please see response to comment 736.

For matters related to the inclusion of geologic features in the area of review survey, please see response to comment 765.

For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

The Department agrees with this comment and has revised language in §§ 78.73 and 78a.73 requiring operators to cease stimulation activities if made aware of a confirmed communication incident.

- 811.** Comment: The Department should expand the radius of Area Of Review in §78a.52a(a) to 1,320 feet measured from the vertical well bore and from the entire length of the horizontal well bore, instead of 1,000 feet. A one-quarter mile radius is a standard distance derived from the U.S. Environmental Protection Agency (EPA) Underground Injection Control Program, and interference from hydraulic fracturing operations has been noted at distances well exceeding this radius.² Alaska, which passed an Area Of Review requirement earlier this year, uses a one-half mile radius, which suggested that one-quarter mile is not overly stringent. The Department should further adopt language that it may specify a greater or lesser distance upon determination that regional or local conditions justify a larger or smaller Area of Review. Finally, we recommend that the analysis required in §78a.73(c) include any wells with boreholes located within 1,500 feet measured vertically of the formation intending to be stimulated, whether their surface expressions are within 1,000 feet (or 1,320 feet, as the case may be), or either the vertical or horizontal boreholes of the well in question. That is to say, it is possible that active, inactive, orphaned or abandoned wells could transect a well’s intervening zone without falling into the radius prescribed by §78a.52a(a). To remedy, the Department can require analysis of all such known wells. (225)

Response: For matters related to the dimensions of the area of review, please see response to comment 736.

- 812.** Comment: The Department should include known geologic faults and fractures in its list of potential conduits presented in §78a.52a(a). Operators should be required to identify and evaluate risk from these known faults and fractures as part of its Area Of Review analysis described in §78a.52a(b)-(c), using Pennsylvania geologic databases specified by the Department. The Department should further clarify in §78a.73(c) that “pressure changes indicative of abnormal fracture propagation” includes not only potential communication with active, inactive, orphaned,

and abandoned wells, but also subsurface or other geologic conditions or hazards that could result in pollution migration or threats to the environment or public safety. Known geologic faults and fractures can act as conduits of contaminants to protected water, and states like Alaska and Nevada require faults and fractures to be included in their Area Of Review analyses. Operators should incorporate natural faults and fractures into their hydraulic fracturing program design and risk analysis, which can be accomplished by requiring their inclusion in an Area of Review. (225)

Response: For matters related to the inclusion of geologic features in the area of review survey, please see response to comment 765.

- 813.** Comment: The Department should require operators to submit a statement to the Department that, based on operator’s analysis of the active, orphaned and abandoned wells, and known natural faults and fracture zones that transect the impacted strata within the Area of Review, no such well or natural phenomenon may be a conduit for movement of fluids into a source of protected water. This goes beyond mere monitoring and requires operators to attest that they expect the mitigation activities they have undertaken with respect to potential conduits of contaminants to protected waters to be sufficient to protect against such pollution. This could be introduced as a §78a.52a(e). Such a requirement would be consistent with a requirement in Alaska that operators provide “information sufficient to support a determination that such wells [or faults or fractures] will not interfere with containment of the hydraulic fracturing fluid within the one-half mile radius of the proposed well bore trajectory.” (225)

Response: For matters related to the inclusion of geologic features in the area of review survey, please see response to comment 765.

- 814.** Comment: Section 78a.52a - Area of Review
Please define what is meant by a “historical source.” The universe of sources to be consulted is unclear. When should this area of review search be conducted relative to submitting the well application? (222)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

In instances when an operator plans to drill the well within 30 days of permit approval, the survey must be completed prior to permitting and submitted with the permit application. Otherwise the area of review survey results must be submitted 30 days prior to commencement of well drilling or 30 days prior to stimulation if the well is initially produced naturally and hydraulically fractured at some later date.

- 815.** Comment Area of review (78.52a and 78a.52a) - formerly abandoned and orphaned well identification. As the Department is aware, most operators complete “due-diligence” as a best management practice in order to avoid potential environmental impacts and communication with abandoned/orphaned wells. The introduction of a map finder identification tool will be helpful. However, the use of a questionnaire requiring input from adjacent property owners will likely cause some issues including property access (if wells are identified) and the accuracy of information regarding the existence of abandoned/orphaned wells. (227)

Response: The final regulation requires operators to document due diligence either prior to drilling, stimulation, or with the permit application, dependent upon the anticipated timing of stimulation activities, and offers a procedure for doing so. Additionally, specified monitoring of the highest-risk well sites (potential conduits) will allow identification of

communication incidents and greatly curtail the potential for environmental degradation. Addressing this particular issue has been supported by STRONGER, and comports with the Act, which intends that oil and gas wells be constructed in such a way to prevent gas and other fluids from entering sources of fresh groundwater.

For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

For matters related to well site access, please see response to comment 750.

For matters related to the value of the landowner questionnaire, please see response to comment 753.

816. Comment: § 78.52a AREA OF REVIEW

It appears that previous comments and suggestions made by industry organizations have not been properly addressed with the final draft revisions of this section. The Area of Review requirement would create unreasonable administrative burden to the operator without any clear or significant environmental benefit. Without significant environmental impact, thousands of conventional wells have been hydraulically fractured over the years without Department mandated abandoned well identification procedures. Operators have relied on both all available data resources as well as industry practices to aid in the identification and location of abandoned and orphaned wells. The Department still needs to consider that this section should be delivered as a guidance document available to operators as opposed to a regulation. Commenter asks the Department on whether or not they have considered a less costly or less intrusive alternative method, yet common sense approach for achieving the goal of this proposed regulation? (213)

Response: The proposed regulation requires operators to document due diligence either prior to drilling, stimulation, or with the permit application, dependent upon the anticipated timing of stimulation activities, and offers a procedure for doing so. Additionally, specified monitoring of the highest-risk well sites (potential conduits) will allow identification of communication incidents and greatly curtail the potential for environmental degradation. Addressing this particular issue has been supported by STRONGER, and comports with the Act, which intends that oil and gas wells be constructed in such a way to prevent gas and other fluids from entering sources of fresh groundwater.

817. Comment: § 78a.52a AREA OF REVIEW

It appears that previous comments and suggestions made by PIOGA and other industry organizations have not been properly addressed with the final draft revisions of this section. Operators rely on all available data resources as well as industry practices to aid in the identification and location of abandoned and orphaned wells. The Department needs to consider a less costly or less intrusive alternative method, yet common sense approach for achieving the goal of this proposed regulation. (213)

Response: For an explanation of why the proposed regulation is reasonable, please see response to comment 762.

818. Comment: § 78.52a and § 78a.52a AREA OF REVIEW

The abandoned/orphaned well identification process is not a straight forward and comprehensive process. The introduction of a property owner questionnaire will create problems and confusion

between all stakeholders, including the Department. Many landowners will generally not give accurate answers, not answer the proposed questionnaire or allow access to their properties, especially if they do not benefit from the prospective well. In general, the obligations and cooperation from the specified landowners will likely be problematic, especially when it comes to property access and any necessary remedial action. Does the Department plan to interrupt well drilling and development if abandoned and orphaned wells are not able to be precisely located or if coordinates cannot be assigned to them, based on available data? In addition to this concern, the Department still needs to consider a comprehensive mapping tool that will be constantly maintained and updated by the Department to ensure “up-to-date” information is provided to operators in order to address abandoned/orphaned well issues. While the Department’s “database” is referenced in this section, if this database is not continually updated by the Department, this will cause room for significant errors that can’t be blamed on industry if proper due-diligence methods are completed.

One of the most important parts of this section that needs to be considered is the burden on the operator from the paperwork that will need to be produced. The generated questionnaire forms (and associated proof of notification) for property owners and the guidelines to be utilized for the proposed monitoring plan need to be available as part of this regulatory package for proper review. The submittal of proposed forms that are part of the proposed regulation is required in Section 5(a)(5) of the Regulatory Review Act. Accurate and complete commentary cannot be made on this section without the ability to review this information. (213)

Response: For matters related to the landowner questionnaire and well site access, please see response to comment 750.

The Department will develop clarifying guidance related to the area of review requirements. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

For an explanation of why the proposed regulation is reasonable, please see response to comment 818.

819. Comment: § 78.52a(a) The measured distance from the well bore for oil or gas wells should be 500 feet. Based upon the long history of conventional oil and gas operations in this Commonwealth, it is well known that shallow wells rarely if ever communicate with other wells beyond 500 feet. (213)

Response: For matters related to the dimensions of the area of review, please see response to comment 736.

820. Comment: § 78.52a(b) and § 78a.52a(b) The language of this introductory phrase must be revised to indicate that the obligation to identify the location of other wells will be deemed to be satisfied by undertaking reasonable efforts as described below. There is no guarantee that “identification” will be accomplished by the following, and an operator’s obligation must be limited to what reasonable efforts can be undertaken. (213)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

821. Comment: § 78.52a(b)(1) and § 78a.52a(b)(1) Member operators complete this review as a standard industry practice. The lack of definition regarding “databases” is troubling and can cause confusion. It is suggested that the references to “available databases” be removed. (213)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 757.

822. Comment: § 78.52a(b)(3) and § 78a.52a(b)(3) As stated in the general comments, a questionnaire form has the ability to create significant issues and uncertainty with all stakeholders regarding the information gathered from this form. In addition, this form has not been submitted as part of this proposed regulatory package, which causes even further uncertainty. we object to the use of a questionnaire in this section. (213)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

823. Comment: § 78.52a(c)(2) and § 78a.52a(c)(2) As stated above, we object to the use of questionnaires. (213)

Response: For matters related to the landowner questionnaire, please see response to comment 750.

824. Comment: § 78.52a(c)(3) and § 78a.52a(c)(3) As stated in the general comments, the Department has not provided any guidance regarding the monitoring plan and what should be contained in such a plan. The methodology and language spelled out in § 78a.73(c) would be sufficient enough action to fulfill the requirement, while not providing additional paperwork burden to the operator. (213)

Response: This issue will be addressed in a guidance document discussing the components of a suitable monitoring plan.

825. Comment: § 78.52a(c)(4) and § 78a.52a(c)(4) This can be a significant issue with wells that are identified, yet not accessible due to landowner access restrictions. (213)

Response: For matters related to well site access, please see response to comment 750.

826. Comment: § 78.52a(c)(6) and § 78a.52a(c)(6) Once again, this can be an issue given potential for landowner access restrictions. In addition, § 78.73(c) adequately addresses the necessary requirements. (213)

Response: For matters related to well site access, please see response to comment 750.

827. Comment: § 78.52a(d) and § 78a.52a(d) Comment: There is concern that if a report is submitted 30 days or more prior to drilling, but after the permit is issued, the results disclosed in the report could potentially void or alter the drilling permit. This intention was reported by the Department. However, we would like to see a compromise here between the Department and the operator to resolve these issues and ensure drilling schedules are maintained. In addition, if this report is anticipated to be in an electronic form, the Department is obligated to provide this draft form as part of this review process. (213)

The Department will develop clarifying guidance related to the area of review requirements. This guidance will be publicly available for review and comment and address matters related to process and expectations.

828. Comment: § 78.52a. Area of Review.

Suggested Language:

- (a) The operator shall identify in accordance with subsection (b) the surface locations of active, inactive, orphaned and abandoned wells within 500 feet measured horizontally from the vertical well bore and 500 feet measured from the surface above the entire length of a horizontal well bore. The operator of a vertical oil well which will be stimulated using hydraulic fracturing shall identify the location of active, inactive, orphaned and abandoned wells within 500 feet of the well bore.
- (b) Identification shall be deemed to have been satisfied by conducting the following:
 - a. A review the Department's active, inactive, orphaned and abandoned well database;
 - b. A review of applicable farm line maps and well databases, where accessible.
- (c) Prior to the drilling of a well, the operator shall submit a plat to the Department showing the location and if possible, the GPS coordinates of wells identified pursuant to subsection (b), whose total depth is known to be less than 500 feet above the shallowest vertical depth to be stimulated by hydraulic fracturing. The operator may identify on the plat those wells that are identified in the Department's database, but field verification of the identified well has not been confirmed utilizing reasonable investigatory efforts. (213)

Response: Although it acknowledges exceptions may exist, the Department supports the distances in the rulemaking. These distances are generally considerate of development spacing in the state and the known differences between the area of the reservoir stimulated and the well's effective drainage area. Because of this, the Department does not agree that it is necessary to change to language related to the specified survey area.

The Department does not agree that only surface locations should be reported when completing the area of review survey, as even in areas of conventional development, intentionally deviated, horizontal wells are present and represent potential communication risks dependent upon their proximity to proposed vertical wells.

The Department currently maintains and makes available a list of orphaned and abandoned sites that have not been plugged. The locations of plugged wells are available in PA*IRIS/WIS. Existing databases are being expanded by the Department as historical analog source maps become available and as time permits. Companies in possession of such maps may share them with the Department, if they so choose, in order to facilitate development of a more comprehensive reference database over time. It should also be noted that the Department has modified the regulatory language to broaden the historical maps and database sources that could be referenced during the area of review survey. However, the revised language recognizes that not all operators may have access to the same sources. The Department disagrees that the regulatory language should impose limits on sources referenced, as this is not a static matter and, therefore, it is appropriate to address such an issue in guidance that can be changed as available sources change over time.

The Department acknowledges the existence of uncertainty related to well location and surficial evidence of legacy well sites. The landowner survey is one mechanism that may be

beneficial for resolving such uncertainties, as landowners may be aware of the location of such sites on their property. Further, there is no additional expectation for operators to attempt to find and monitor sites that are not in the general vicinity of mapped locations. Expectations in this regard will be clearly defined in the accompanying area of review guidance document.

829. Comment: § 78a.52a. Area of Review.

Suggested Language:

- (a) The operator shall identify in accordance with subsection (b) the surface locations of active, inactive, orphaned and abandoned wells within 1,000 feet measured horizontally from the vertical well bore and 1,000 feet measured from the surface above the entire length of a horizontal well bore.
- (b) Identification shall be deemed to have been satisfied by conducting the following:
 - (1) A review the Department's active, inactive, orphaned and abandoned well database;
 - (2) A review of applicable farm line maps and well databases, where accessible.
- (c) Prior to the drilling of a well, the operator shall submit a plat to the Department showing the location and if possible, the GPS coordinates of wells identified pursuant to subsection (b), whose total depth is known to be less than 1,500 feet above the shallowest vertical depth to be stimulated by hydraulic fracturing. The operator may identify on the plat those wells that are identified in the Department's database, but field verification of the identified well has not been confirmed utilizing reasonable investigatory efforts. (213)

Response: The Department agrees with the area of review dimensions proposed in this comment and the final language is reflective of these distances for unconventional well sites.

The Department does not agree that only surface locations should be reported when completing the area of review survey, as even in areas of conventional development, intentionally deviated, horizontal wells are present and represent potential communication risks dependent upon their proximity to proposed vertical wells.

The Department currently maintains and makes available a list of orphaned and abandoned sites that have not been plugged. The location of plugged wells are available in PA*IRIS/WIS. Existing databases are being expanded upon by the Department as historical analog source maps become available and as time permits. Companies in possession of such maps may share them with the Department, if they so choose, in order to facilitate development of a more comprehensive reference database over time. It should also be noted that the Department has modified the regulatory language to broaden the historical maps and database sources that could be referenced during the area of review survey. However, the revised language recognizes that not all operators may have access to the same sources. The Department disagrees that the regulatory language should impose limits on sources referenced, as this is not a static matter and, therefore, it is appropriate to address such an issue in guidance that can be changed as available sources change over time.

The Department acknowledges the existence of uncertainty related to well location and surficial evidence of legacy well sites. The landowner survey is one mechanism that may be beneficial for resolving such uncertainties, as landowners may be aware of the location of such sites on their property. Further, there is no additional expectation for operators to attempt to find and monitor sites that are not in the general vicinity of mapped locations.

Expectations in this regard will be clearly defined in the accompanying area of review guidance document.

830. Comment: Please ensure that future regulations will identify existing disposal injection wells and make sure that the regulations plug and seal old abandoned and orphaned wells appropriately prior to new well construction to prevent pollution from accidents. (283)

Response: The proposed regulation is inclusive of all active, inactive, abandoned, and plugged and abandoned wells. Injection disposal wells existing in the area of review are covered by this provision.

For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

831. Comment: Another significant change to the proposed rule is the “Area of Review”, requiring identification of active, inactive and orphaned and abandoned wells located within 1,000 feet of a proposed gas well or located within 500 feet of a proposed oil well that will be stimulated using hydraulic fracturing. Without significant environmental impact, thousands of conventional wells have been hydraulically fractured over the years without Department mandated abandoned well identification procedures. Operators have relied on both private and public databases as well as best management practices to aid in the identification and location of abandoned wells. Has the increase in horizontal drilling led to an increased number of cases of communication with abandoned and orphaned wells? If yes, then this section should only apply to perspective wells with horizontal components, leaving conventional vertical operations exempt. If not, then one may conclude that this rule is unnecessary, without any clear environmental benefit. Has a less costly or less intrusive alternative method for achieving the goal of the regulation been considered? Perhaps this section should be delivered as a guidance document available to operators as opposed to a regulation?

The abandoned well identification process is not black and white. The introduction of a landowner questionnaire will create problems. Many landowners will not answer questions or allow access to their properties, especially if they do not benefit from the prospective well. Keep in mind that large production units common in the unconventional industry are not nearly as common in conventional operations, so the obligations and cooperation from adjacent landowners will likely be problematic. Lastly and perhaps most importantly the Department generated questionnaire forms have not been made available for review, therefore accurate and complete comments cannot be made until the form is made available. (251)

Response: The purpose of these provisions is to address potential communication events with existing wells during hydraulic fracturing activities. Communication events pose a substantial threat to waters of the Commonwealth and pose a risk to public health, safety and the environment. Accordingly, these requirements are separate and distinct from the requirements in Sections 3213(b) and 3271. Without an area of review protocol in place, it is not possible to definitively declare how many stimulations have taken place in the state without significant impact. The regulation will require observation at identified, high-risk well sites, thus putting in place some mechanism by which this statement can be considered and possibly applied with a reasonable level of certainty.

For matters related to the current application of due diligence by operators, applicability of the regulation to conventional operators and how the benefits of the final rulemaking outweigh the costs, please see response to comment 762.

For matters related to well site access and the landowner questionnaire, please see response to comments 750 and 753.

- 832.** Comment: The issue of potential communication between hydraulically fractured wells and existing abandoned or orphaned wells is of paramount importance and concern to the NPS. Reported occurrences of “frack hits”(subsurface well communication) and the resulting environmental and safety hazards is very concerning to agencies such as the NPS, charged with conserving the environment and serving the visiting public.

When drilling operations are proposed near units of the National Park System and affiliated areas, the NPS would like to work closely with the Department and the specific operator so that the required orphaned or abandoned well surveys could be completed on National Park System owned or administered lands. Due to the large acreages involved, the NPS does not always have accurate surveys of all wells within park boundaries. A cooperative working agreement between the Department, operators, and the NPS to complete the required surveys would benefit all involved parties and assist the Department in a more efficient permitting process. The NPS would be happy to help the Department craft this cooperative working process for inclusion in draft regulations.

The language in this section overall is a substantial improvement over the previous version. We appreciate the inclusion of a requirement for a monitoring plan. We also suggest that this section include language requiring environmental remediation by the operator if orphaned or abandoned wells not previously located or cataloged are adversely impacted by new operations. We also request that park units within the notification distance required in § 78a.15(f)(1)(i) for publicly owned or administered park lands be notified when an operator reports wellbore annulars have become over pressured to a degree that requires some well remedial action in response to defective casing or insufficient or defective cementing as specified under § 78a.86. The condition that an underground blowout or elevated sustained casing pressure was occurring in a nearby well would be an indication of an increased threat of gas migration to nearby properties and alert the NPS to potential subsurface resource impacts (increased methane levels in potable aquifers). Impacts to water supplies from increased methane levels or surface resources may then only become apparent upon further groundwater monitoring or inspection for a surface release (i.e. gas, condensate or other fluid seep). (200)

Response: The Department acknowledges this comment. The Natural Park Service (NPS) is notified of proposed oil and gas wells in proximity to NPS areas in accordance with the process outline in Sections 78.15(f) and 78a.15(f). Notifications and other provisions may be most appropriately addressed in the lease agreement or surface use agreement between the operator and the appropriate agency. Regardless, the Department will coordinate with all surface rights owners if surface impacts occur.

- 833.** Comment: DEP is to be commended for its requirement that the operator of an unconventional well survey the area for orphaned and abandoned wells. I emphatically support this requirement. However, there should be a requirement that the operator survey a prospective well pad area for all forms of risk to unconventional drilling and hydraulic fracturing. Specifically, the survey should include a requirement to also identify “orphaned and abandoned” coal mines. In the area where I live — Redstone Twp, Fayette County — unconventional natural gas wells have been subject to frequent problems such as cement failures, consumption of more cement than anticipated, and other problems that are likely due to encountering unanticipated underground voids. Just as local knowledge may be useful to drillers in determining where an undocumented

well might be, the same kind of local knowledge may be helpful in locating an undocumented coal mine. Such a problem is not only a hazard to the public, it is an added expense to the driller, requiring in some cases that wells be drilled over again. DEP is completely failing to classify unconventional wells based on a reasonable assessment of risk. Those wells which are subject to such problems as cementing anomalies should be placed in a high-risk category, entailing more frequent inspection and mandatory use of such devices as CBLs (Cement Bonding Logs). It is important to have regulations to protect the integrity of the well casing, but just as important to assess risk in advance. (216)

Response: For matters related to coordination between coal extraction and oil and gas operations, please see response to comment 730.

Required monitoring at the highest-risk well sites (potential conduits), irrespective of cement conditions, will allow identification of communication incidents and greatly curtail the potential for environmental degradation.

834. Comment: Section 78.52a and Section 78a.52a: requires that an operator identify the location of “active, inactive, orphaned and abandoned wells” within a distance of 1,000 feet from a well bore. Since many orphaned or abandoned wells are not properly known it may be of benefit for the operator to also have to “publish a notice in a newspaper of general circulation in the host municipality and county.” In this way those that know of past activities will have the chance to bring their knowledge forward. (253)

Response: The information most pertinent to locating well sites exists with property owners or can be referenced through the review of available historical maps and databases. The Department has addressed these information sources through language in the final rulemaking requiring landowner questionnaires, map reviews, and database searches.

835. Comment: Require drillers to check for orphaned and abandoned wells near their drilling pads and paths. (183, 290, 291, 292, 4870-4914)

Response: The Department acknowledges this comment.

836. Comment: Industry must identify, plug and seal abandoned and orphaned wells prior to well construction and drilling; (299)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

837. Comment: Operators of unconventional wells must locate, map document, and plug all orphan and abandoned wells within one mile prior to permitting and spudding. (325)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

838. Comment: No unconventional development should be permitted within a mile of abandoned and orphaned wells as communication from the hydrofracturing process can cause massive pollution of the environment. That is, unless the oil and gas company and DEP can verify all wells have been plugged appropriately and there is zero chance of a pollution event unfolding. (337)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 725.

839. Comment: Section 78.52a regarding areas of review is vague and onerous. What exactly constitutes compliance with this section? What constitutes 'GPS coordinates'? Is it field survey coordinates or points off a map? Does the Department claim the power to specify to operators what the rated accuracy of the GPS unit is supposed to be? A \$50 unit or a \$10,000 unit? What if a surface parcel not under control of an operator is included in the area of review and the owner refuses access? Are we then subject to violations for failure to comply? (361)

Response: The final regulation requires that “GPS” coordinates be provided for all wells identified on the plat. This does not suggest that coordinate data must be surveyed in the field for all locations. For example, only those sites requiring monitoring per the requirements of Section 78.73 for which access has been granted and field identification accomplished must be surveyed in accordance with Section 3211(b) of Act 13. Acquisition of locational information for other well sites can be accomplished through scanning and digitizing the source map or using existing coordinate data on the source map to approximate the position of the well.

The Department acknowledges the existence of uncertainty related to well location and surficial evidence of legacy well sites. The landowner survey is one mechanism that may be beneficial for resolving such uncertainties, as landowners may be aware of the location of such sites on their property. Further, there is no additional expectation for operators to attempt to find and monitor sites that are not in the general vicinity of mapped locations.

For matters related to well site access, please see response to comment 750.

840. Comment: This section seems to primarily apply to the unconventional side of the business. Conventional well spacing has the effect to mitigate and minimize the majority of concerns regarding the identification and location of abandoned wells. Perhaps this section should be referenced as a best practice for the conventional operator. The questionnaire will result in a number of issues from timing to drilling to completion. Questions abound such as will the permit be issued if no responses are received. PA DEP should have an active database showing the orphaned and abandoned wells. Operators have for years relied on private and public databases at the State, County and Township level to identify orphaned and abandoned wells prior to application for permits to drill. The State should work closely with Counties and Townships to help identify orphaned wells. This process would help all stakeholders involved. (367)

Response: For matters related to the applicability of the regulation to conventional operators, please see response to comment 762.

For matters related to the landowner questionnaire, please see response to comment 750.

For matters related to sources that should be referenced when completing the area of review survey, please see response to comment 764.

The Department has and continues to work with local governments to acquire legacy well sources and, as time permits, render those sources digitally.

841. Comment: I am extremely concerned about PA's Chapter 78 oil and gas regulations. We are experiencing far too much toxic pollution to our air, water, private land, and neighborhoods. I

strongly request that drillers be required to check for orphaned/abandoned wells near their sites. (42)

Response: The Department acknowledges this comment and points out that the final regulation requires identification of orphaned and abandoned wells in the area of review.

842. Comment: Require extensive independent air and water quality tests prior to drilling for all residents living near drilling sites and above all proposed horizontal pipelines connected to the well heads on those sites. Require extensive independent air and water quality tests in a half mile radius of areas where proposed infrastructures such as compressor stations are to be located (13).

Response: The intent of the regulation is to mitigate risk in association with hydraulic fracturing and, as such, targets wells that will be stimulated using this process and other wells surrounding the stimulated well site that have the potential to serve as conduits allowing the movement of fluids and gas to the shallow subsurface.

The Department's current laws and regulations address water supply impacts using presumptive, rebuttable liability. Section 3218 of the 2012 Oil and Gas Act establishes the requirements for pre-drill water supply surveys. Subsection (c) establishes a presumption of liability for an operator who impacts a water supply located within a certain distance from the wellbore and within a certain timeframe. Subsection (d) allows an operator to rebut the presumption by proving that “the pollution existed prior to the drilling, stimulation or alteration activity as determined by a predrilling or prealteration survey...”

Air quality matters associated with oil and gas operations are regulated by the U.S. Environmental Protection Agency and the Department's Bureau of Air Quality and are outside of the scope of this rulemaking.

843. Comment: Require the discovery, listing and remediation of abandoned unplugged oil and gas wells, not only near new drilling pads, but also including all areas of lateral drilling and tracking. Hydraulic fracking presents a real and present danger to rural water supplies. These wells, many unknown only to GOD, because of the lack of documentation must be found no matter the time and energy required for their discovery. (273)

Response: The current regulation does require that all wells within the prescribed area of review distance along the lateral be identified prior to drilling, permitting or stimulation, dependent upon the anticipated date of stimulation activities. Further, an integrity assessment is also required for well sites likely to fall within the expected area of fracture propagation.

844. Comment: 1) 1000 feet is not enough buffer. Change it to 1 mile. Our understanding of what is going on underground is so limited that we need to be more cautious about potential leakage from new well bores for gas to old and abandoned water wells. (16)

Response: For matters related to the dimensions of the area of review, please see response to comment 736.

845. Comment: We support the need to identify the old gas and oil scattered around Pennsylvania (78.52a) as well as old coal mines that might be in the area of new drilling. These underground “tunnels” are hazardous pathways for pollution. (220)

Response: The Department acknowledges the comment.

- 846.** Comment: 78a.52a: Clarify a Set List of Sources to Consult to Identify Abandoned and Orphaned Wells. Before promulgating a rule that utilizes such a broad scope of review, we ask that the DEP make all available data easily accessible to the industry from one comprehensive source or that the DEP create a concrete list of sources to be consulted to establish the standard required for identifying abandoned and orphaned wells. Without such a comprehensive source of data on orphaned and abandoned wells, assuring a thorough pre-hydraulic fracturing review on a well-by-well basis will be very difficult for the DEP and the regulated community. Operators do their best to obtain all information regarding potential orphaned and abandoned wells in the vicinity of a planned unconventional well. However, operators remain without a comprehensive source of best available data from the Commonwealth that would aid in the pre-hydraulic fracturing review.

We encourage prompt digitization and accessibility of identification resources prior to the implementation of Chapter 78. If a comprehensive source cannot be established by the DEP, we ask that the DEP consider removing terms such as “other available well databases” and “historical sources of information such as . . .” Both of these phrases are arbitrary depending on the well or operator at issue; thus, making the successful development and implementation of this project difficult. Identifying abandoned and orphaned wells before hydraulic fracturing is good standard practice; however, the rule as currently proposed does not provide operators with enough clarity and flexibility to properly identify and plan operations where such abandoned and orphaned wells may be present. (383)

Response: For matters related to sources that should be referenced when completing the area of review survey, please see response to comments 757 and 764.

§§ 78.53 and 78a.53 Erosion and sediment control and stormwater management

- 847.** Comment: Stormwater management planning and systems and erosion and sediment controls at gas and oil well sites must include all earth disturbances such as roads, pipelines, borrow pits, staging areas, and other disturbed areas. Post construction stormwater management, as per Chapter 102, must be an integral part of restoration of all disturbed areas for all aspects of oil and gas development and operations. The use of DEP’s ESCGP-2 is not adequate for erosion and sediment control and stormwater management at gas and oil operations. The protection of land, vegetation, forests, streams and their riparian buffers, and other water dependent features requires comprehensive stormwater management (both during and post disturbance) that addresses the land use changes that produce stormwater runoff and that address the water quality and water quantity aspects of stormwater and erosion and sedimentation. To accomplish this it is critically important that the PA Stormwater Best Management Practices Manual and the PA Erosion and Sedimentation Manual must take precedence over the Oil and Gas Operators Manual for design standards. (182)

Response: The Department acknowledges that the Oil and Gas Operators Manual should be updated but also acknowledges that the guidance documents are listed as a reference and are not incorporated as requirements. The reference has been retained.

- 848.** Comment: I live in Barnes, PA, a very active oil and gas area, close to the Allegheny National Forest. The increased drilling activity has greatly harmed the forest and local ecology. New roads and drill pads disrupt and isolate sensitive habitat areas, cause increased hot spots and thus contribute to climate change, and lead to increased runoff, soil depletion and stream pollution.

Living on the South Branch of the Tionesta I have seen increased risk of flooding due to the new roads and related runoff. In the past 3” of rain could create flooding, now it only takes 1.5”. This is a problem I think needs to be addressed by new regulations. Lots of new well roads go straight up steep hillsides, and none allow for holding back rainwater and allowing it to absorb back into the ground and water table. Please restrict the building of new roads and create new regulations to reduce runoff. (135)

Response: Chapter 102 is the basis for erosion, sediment control and stormwater management Best Management Practices for oil and gas activities. This Chapter has recently been updated to better address the commentators concerns relative to the control and reduction of runoff.

849. Comment: We are encouraged by the Department’s wording in:

§ 78.53, and § 78a.53, to which the Department added Stormwater Management to erosion and sedimentation as a water quality concern. (163)

Response: The Department acknowledges the comment.

850. Comment: 78a.53 The inclusion of stormwater management is to be applauded. (161)

Response: The Department acknowledges the comment.

851. Comment: 78a.53 and 78.53 - This section proposes to adopt a number of DEP manuals and guidance documents as regulation. This is inappropriate and in violation of the *Regulatory Review Act*. Currently, such documents are non-binding on operators and are agency policies rather than regulations. Notably, none of the text of the referenced guidance documents was published as part of this regulatory process. Also, once adopted as regulation, these unvetted guidance documents policies would have the force and effect of law without having been subjected to scrutiny and review in accordance with regulatory review procedures established by IRRC under the *Regulatory Review Act*. This also creates a concern going forward that any amendments or modifications to these documents will likewise circumvent the regulatory review process and enable DEP to unilaterally impose and implement new rules that will have the force and effect of established law by virtue of their being incorporated into these sections of Chapter 78 and 78a. (190)

Response: The guidance documents are listed as a reference and are not incorporated as requirements.

852. Comment: REGARDING 78a.53 – EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT – Commenter strongly supports the addition of stormwater management to the language of the proposed rulemaking as well as the additional specifications and requirements that language carries. In drilling operations, erosion and sediment control are short-term concerns. In post-construction standards, stormwater management must be considered for decades to come. (176)

Response: The Department acknowledges the comment.

853. Comment: [~~During and after earthmoving or soil-disturbing activities, including the activities related to siting, drilling, completing, producing, servicing and plugging the well, constructing, utilizing and restoring the access road and restoring the site, the operator shall design, implement~~

~~and maintain best management practices in accordance with~~ Any person proposing or conducting earth disturbance activities associated with oil and gas OPERATIONS [activities] shall comply with Chapter 102 (relating to erosion and sediment control) [and an erosion and sediment control plan prepared under that chapter]. Best management practices for erosion and sediment control AND STORMWATER MANAGEMENT for oil and gas [activities] OPERATIONS are listed in the [Oil And Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001 (April 1997), as amended and updated] Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008, as amended and updated, THE PENNSYLVANIA STORMWATER BEST MANAGEMENT PRACTICES MANUAL, COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION, NO. 363-0300-002, AS AMENDED AND UPDATED, the Oil and Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001, as amended and updated, AND RIPARIAN FOREST BUFFER GUIDANCE, (BUFFER GUIDANCE), COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION, NO. 395- 5600-001 (2009), AS AMENDED AND UPDATED.

We question the codification of guidance, which has not gone through statutory procedures for rulemaking, into regulation in this manner. Guidance does not have the force of law nor does it create a binding legal norm, thus it is not appropriate as a regulatory requirement. Incorporating guidance into regulation in this way is inappropriate because it creates new law, rights, and obligations without providing the statutory public notice and opportunity to comment and satisfying other rulemaking requirements. Additionally, this language allows for future updates to guidance to be codified automatically in this regulation as well, which is a further violation of the agency's procedural duties. For these reasons, the language codifying guidance should be stricken. (199)

Response: The guidance documents are listed as a reference and are not incorporated as requirements.

854. Comment: § 78.53 E&S and Stormwater

PADEP would revise this section to list numerous manuals that may provide best management practices for erosion and sediment control and stormwater management. There is no need, however, to list or refer to manuals in the regulation, which already provides a reference to the mandatory obligations in Chapter 102 with which anyone conducting earth disturbance activities must comply. The first sentence thus provides all of the instruction necessary for this subsection; the second sentence is not only necessary but also creates the very real risk that PADEP staff in regional offices will require rigid adherence to manuals that do not have the same legal authority as the regulations themselves. Operators and staff are well aware that manuals exist and may be useful. Elevating manuals to the status of regulations is legally improper and potentially limit the best practices that may be developed outside of the manuals and utilized with better efficiency and results. The second sentence should be deleted or qualified with an express statement that manuals do not create legally binding obligations. (212)

Response: The guidance documents are listed as a reference and are not incorporated as requirements.

855. Comment: **78a.53** - We support that stormwater management has been added to the requirements to control erosion and sediment in this section. However, DEP does not include post construction

stormwater management, a critically needed component to ensure that sites are equipped with an effective stormwater system after being built. DEP should change this section to: “shall comply with Chapter 102 (relating to erosion and sediment control) and Post Construction Stormwater Management requirements”. (182)

Response: Post Construction Stormwater Management is required under Chapter 102.

- 856.** Comment: **78a.53** - Researchers at the Academy of Natural Sciences have discovered that where high density of natural gas wells occur, adjacent streams in Pennsylvania’s Marcellus are experiencing decreased water quality as demonstrated by lower macro invertebrate density and higher levels of specific conductivity and total dissolved solids. Degradation to these streams results from increased polluted runoff and other pollution releases.

DEP should remove the exemption for oil and gas activities of riparian buffer requirements at 102.14(d)(vii). The waiver provision is allowed if the pre-construction buffer area is undisturbed. This provision is often abused because there is no guidance for its application and, in practice, buffers are being damaged or destroyed by gas and oil development.

If DEP does not remove this exemption, DEP should require a pre-disturbance inventory of the riparian buffer to ensure an informed assessment of the condition in terms of disturbance after construction.

Text should include: Prior to site disturbance, identify soil types and locations, soil layer depths, and at least 98% of existing plant species (identify genus and species) including herbaceous plants, shrubs and trees, and a calculation of the prevalence of those species, to inform site restoration. Utilize qualified soil scientists for the soil investigation, and qualified botanists for the plant species identification and quantification. The plant survey should be done in season(s) appropriate for identifying the herbaceous species.

For sites larger than 1 acre, provide mapping of the locations of soils and species groups. Removal of vegetation, compaction of soils, or any other changes in the features surveyed will constitute disturbance.

No stormwater is to be routed directly into or through the riparian buffer and any disturbed area is subject to a stormwater management plan (pre- and post- construction) and will require full compliance with riparian forested buffer restoration requirements according to Chapter 102 and the appropriate Manuals, as discussed below. (182)

Response: Modification of Chapter 102 is beyond the scope of this rulemaking.

- 857.** Comment: **78a.53** - We support the inclusion in this section of the PA Stormwater Best Management Practices Manual, the Erosion and Sediment Pollution Control Program Manual, and the Riparian Forest Buffer Guidance. We oppose the inclusion of the Oil and Gas Operators Manual (1997) which is outdated and does not address horizontal drilling and high volume hydraulic fracturing practices that are used in the unconventional formations in the State.

Conventional drilling is not adequately guided by this manual because practices have changed and technology has evolved since 1997, making the guidance irrelevant and potentially wrong.

It is completely inappropriate and misguided to allow consultation with the Oil and Gas Operators Manual which does not provide guidance applicable to unconventional shale gas drilling and fracking, the type of well that represents most of the drilling and permitting in the State. According to DEP's Oil and Gas website, this year (1.1.2015-5.25.2015) 346 unconventional wells have been drilled and 117 conventional wells have been drilled. In this same time period, DEP has issued permits for 1,053 unconventional wells and 840 conventional wells. And yet DEP has not issued new a guidance manual that is applicable to unconventional well drilling – similarly needed as the revised regulations that are meant to address unconventional well development - for the lion's share of wells that are being developed in the state. This is unacceptable and exposes the environment and the public to avoidable and unnecessary risks and direct harm.

DEP should remove the Oil and Gas Operators Manual (1997) from this section for both conventional and unconventional well drilling. If DEP does not remove it, DEP should make clear that the PA Stormwater Best Management Practices Manual and/or the Erosion and Sediment Pollution Control Program Manual always take precedent over the Oil and Gas Operators Manual for design standards and the Oil and Gas Operators Manual is only to be used for industry specific issues not addressed in the Stormwater Best Management Practices and/or the Erosion and Sediment Pollution Control Program Manuals.

This is critically important; as many of the most commonly used practices at unconventional well sites today use the far less stringent and not applicable Oil and Gas Operators Manual standards, rather than the current and appropriate Stormwater Best Management Practices Manual and/or Erosion and Sediment Pollution Control Program Manual standards because DEP allows this choice. The “menu of options” in this section will allow this damaging practice to continue. A common example is the “vegetated strips”, which are widely used for well pads and almost always designed to the ineffective Oil and Gas Standards rather than the Stormwater Best Management Practices Manual Standards. (182)

Response: See response to comment 847.

858. Comment: DEP should publish Notices of Intent as defined in § 102.1, for Oil and Gas Operations in the Pennsylvania Bulletin, with a mandatory 30 day period for public review and comment. (182)

Response: This comment is beyond the scope of this rulemaking.

859. Comment: In the State of Pennsylvania, the drilling and development of 8 to 10 oil or gas wells on a lease may cause more than 5 acres of land to be considered “disturbed”. If an operating company disturbs more than 5 acres of land on a single piece of property they may be subjected to violations, excessive fines and total work stoppage. If a company wishes to disturb more than 5 acres, or even anticipates it will disturb more than 5 acres, they must go through a long and costly process of applying for and completing what is known as an ESCGP-2, also called an Erosion and Sediment Control General Permit.

In several cases where such a permit has been granted, the actual expenses for the permit alone have totaled over \$20,000. This includes detailed mapping, survey work, engineering and geology planning and fees. The actual execution of the ESCGP-2 in the field is based on the regulations derived from the faulty logic of faceless regulators with absolutely no experience in the oil & gas industry. This is self-evident from examination of the document itself. The ESCGP-2 permit was based on and created for the recent increase of development of Marcellus and Utica wells while

completely ignoring the best practice standards of 150 years of experience of local oil and gas developers. The ESCGP-2 permit calls for the creation of a storm water runoff system by constructing collection ditches, some of which may need to be a half mile or more, that would ultimately result in a much large impact to the natural environment and alter the existing drainage of the land.

These environmental considerations of conservation and natural water movement are fully addressed in the existing Erosion & Sediment Plan that is created and followed for every single well on any lease developed within the Commonwealth. To attempt to actually implement an ESCGP-2 plan in the field has cost local developers an additional \$60,000 for a ten well project. Even with all the advanced planning there is no guarantee that a company will find economic oil or gas deposits which will result in wasted money, time and effort.

There are laws on the books in the State of Pennsylvania that were placed there to protect the small business person. The Pennsylvania Department of Environmental Protection has totally ignored these laws and refuses to take into consideration the economic impact of such needless regulations on our local industries. If they actually knew the business that they regulate the ESCGP-2 plan would not exist. (339)

Response: ESCGP-2 requirements are consistent with requirements in Chapter 102 which was last revised in November 2010. Modification to chapter 102 is beyond the scope of this rulemaking.

860. Comment: In 2015, PADEP included stormwater management and use of Pennsylvania's Stormwater Best Management Practices Manual in the proposed erosion and sediment control regulation (§ 78a.53).

We appreciate PADEP's inclusion of our recommendation to include stormwater management, Pennsylvania's Stormwater Best Management Practices Manual, and its guidance manual on riparian buffers in the proposed erosion and sediment control regulation (§ 78a.53).

However, we remain concerned the state's regulatory program intended to prevent oil and gas construction activities from polluting the waters of the Commonwealth, has not been successful in many cases. A February 2012 report by the PennEnvironment Research and Policy Center documented 3,355 citations for environmental violations at Pennsylvania oil and gas wells between January 1, 2008, and December 31, 2011, and 2,392 of those violations posed a direct threat to the environment. The greatest percentage of violations (26 percent) was related to erosion and sediment control.

We recommend that PADEP strengthen what is now an essentially self-regulating permit process, by creating a public participation process for adjacent property owners, public resource agencies, water purveyors, and other interested parties, who can assist PADEP in ensuring that those requirements are met. The 2014 Comments provide more detail on each additional recommendation included in the text below.

We recommend that § 78a.53 be revised to add the following provisions:

§ 78a.53. Erosion and sediment control, STORMWATER MANAGEMENT

[no revisions recommended to (a)]

(b) NOIS, AS DEFINED IN § 102.1, FOR OIL AND GAS OPERATIONS SHALL BE PUBLISHED IN THE PENNSYLVANIA BULLETIN, AND THE DEPARTMENT MAY NOT ISSUE ITS DETERMINATION ON A PERMIT APPLICATION UNTIL A 30-DAY PERIOD FOR PUBLIC REVIEW AND COMMENT IS COMPLETE.

(c) ANY PERSON MAY SUBMIT NOTICE TO THE DEPARTMENT OF DOCUMENTATION AND DESIGN DEFICIENCIES RELATED TO EROSION AND SEDIMENT CONTROL OR STORMWATER MANAGEMENT IN A PERMIT APPLICATION SUBMITTED BY ANY OIL AND GAS OPERATION SEEKING PERMIT COVERAGE UNDER CHAPTER 102. PROVIDED THAT THE NOTICE INCLUDES DOCUMENTATION OF THE SPECIFIC COMPONENTS OF THE PERMIT APPLICATION THAT DO NOT MEET CHAPTER 102 REQUIREMENTS, THE DEPARTMENT SHALL DELIVER WRITTEN ACKNOWLEDGEMENT OF THE NOTICE TO BOTH THE APPLICANT AND THE PERSON SUBMITTING THE NOTICE WITHIN 14 DAYS OF RECEIVING THE NOTICE. THE DEPARTMENT SHALL HAVE AN ADDITIONAL 14 DAYS TO COMPLETE A WRITTEN DEFICIENCY DETERMINATION. IF THE DEPARTMENT IDENTIFIES DEFICIENCIES, THE PERMIT HOLDER SHALL HAVE 14 DAYS TO ADDRESS ALL DEFICIENCIES. IF THE DEFICIENCIES ARE NOT ADDRESSED WITHIN THE 14-DAY PERIOD, PERMIT COVERAGE SHALL BE SUSPENDED UNTIL ALL DEFICIENCIES ARE ADDRESSED.

(d) TWO YEARS AFTER SITE DISTURBANCE BEGINS AND UNTIL FULL SITE RESTORATION IS COMPLETE, NOTWITHSTANDING THE PROVISIONS OF § 102.8(N), THE POST-CONSTRUCTION STORMWATER MANAGEMENT REQUIRED UNDER CHAPTER 102 SHALL BE IMPLEMENTED AT ALL AREAS OF A WELL SITE NOT NEEDED FOR SAFE OIL AND GAS OPERATIONS. THE AREAS NEEDED FOR SAFE OIL AND GAS OPERATIONS INCLUDE THE FOLLOWING:

(1) AREAS USED FOR SERVICE VEHICLE, WELL WORKOVER EQUIPMENT, AND RIG ACCESS.

(2) AREAS USED FOR STORAGE TANKS AND SECONDARY CONTAINMENT FACILITIES.

(3) AREAS USED FOR WELLHEADS AND APPURTENANT PROCESSING FACILITIES.

(4) AREAS USED FOR ANY NECESSARY SAFETY BUFFER LIMITED TO THE AREA SURROUNDING EQUIPMENT THAT IS PHYSICALLY CORDONED OFF TO PROTECT THE FACILITIES.

(5) AREAS USED TO STORE SUPPLIES OR EQUIPMENT REQUIRED FOR EXPLORATION OR PRODUCTION OPERATIONS.

(6) AREAS USED FOR OPERATION AND MAINTENANCE OF LONG-TERM PCSM BEST MANAGEMENT PRACTICES.

(e) NOTWITHSTANDING THE PROVISIONS OF § 102.8(N), A PERSON PROPOSING OIL AND GAS OPERATIONS THAT INVOLVE ONE (1) ACRE OR MORE OF EARTH DISTURBANCE OVER THE LIFE OF THE PROJECT SHALL

COMPLY FULLY WITH THE EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REQUIREMENTS OF CHAPTER 102.

(f) EXISTING RIPARIAN BUFFERS SHALL BE CONSIDERED UNDISTURBED TO THE EXTENT PRACTICABLE, WITHIN THE MEANING OF § 102.14(D)(VII), PROVIDED THAT THERE IS NO REMOVAL OF VEGETATION OR SITE DISTURBANCE WITHIN THE RIPARIAN BUFFER. FOR WOODED RIPARIAN BUFFERS, DISTURBANCE OR COMPACTION OF THE ROOT ZONE OF WOODED VEGETATION SHALL BE CONSIDERED DISTURBANCE. DIRECT DISCHARGE OF STORMWATER TO RIPARIAN BUFFER AREAS WITHOUT PRIOR STORMWATER MANAGEMENT IS PROHIBITED. IF RIPARIAN BUFFER DISTURBANCE OCCURS, FORESTED RIPARIAN BUFFER RESTORATION IN ACCORDANCE WITH THE TECHNICAL REQUIREMENTS OF § 102.14 IS REQUIRED FOR ALL DISTURBED AREAS. (211)

Response: The Department disagrees with the revisions proposed by the commenter. Modifications to the Chapter 102 permitting process are beyond the scope of this rulemaking. Restoration requirements are adequately addressed in Chapters 78.65 and 78a.65.

861. Comment: We strongly support the storm water management (78a.53). The standards for this industry have been riddled with exemptions and exceptions to the codes others have been held to. It is important to address the erosion and sediment control in both the short term and long term implications of the drilling process. (220)

Response: The Department acknowledges the comment.

862. Comment: There is an important need to update the referenced manuals as sources of best management practices for oil and gas well activities. Recent efforts to develop model plans for erosion and sediment control, post construction stormwater management and site restoration should be finalized. As stated in comments to the proposed rulemaking, we continue to be willing to assist the Department with development and training for new and enhanced best management practices.

However, PADEP should clarify that the BMPs referenced in the documents identified in the proposed ANFR are not an exclusive list of options available to industry. Chapter 102 makes reference to the E&S Manual (Guidance No. 363-2134-008), the PCSM Manual (Guidance No. 363-0300-002), and the Buffer Guidance (No. 395-5600-001); thus, inclusion of those references in this section is redundant and unnecessary. Additionally, the Oil and Gas Operators Manual (Guidance No. 550-0300-001) is outdated and includes many laws, regulations, and forms that are no longer accurate or in existence. It was written in 2001, and predates unconventional operations in Pennsylvania.

Commentators' suggested amendatory language:

Any person proposing or conducting earth disturbance activities associated with oil and gas operations shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control). (210)

Response: See response to comment 847.

863. Comment: § 78.53 and § 78a.53 E&S and STORMWATER

PADEP would revise this section to list numerous manuals that may provide best management practices for erosion and sediment control and stormwater management. There is no need, however, to list or refer to manuals in the regulation, which already provides a reference to the mandatory obligations in Chapter 102 with which anyone conducting earth disturbance activities must comply. The first sentence thus provides all of the instruction necessary for this subsection; the second sentence is not only unnecessary but also creates the very real risk that PADEP staff in regional offices will require rigid adherence to manuals that do not have the same legal authority as the regulations themselves. Operators and Department staff are well aware that manuals exist and may be useful. Elevating manuals to the status of regulations is legally improper and potentially limits the best practices that may be developed outside of the manuals and utilized with better efficiency and results. The second sentence should be deleted or qualified with an express statement that manuals do not create legally binding obligations. (213)

Response: The guidance documents are listed as a reference and are not incorporated as requirements.

864. Comment: We are encouraged to see language specifying that "Any person proposing or conducting earth disturbance activities associated with oil and gas activities shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control)", and that best management practices for erosion and sediment control for oil and gas well activities are listed in the Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008, as amended and updated. The guidance therein, stating that activities creating runoff from a permitted project site that discharges to Special Protection Waters streams (those classified as High Quality [HQ] or Exceptional Value [EV]), and that calls for more stringent criteria being used to design the BMPs for these sites, is sound.

Furthermore, language referring to work in these drainages and stating that "Nondischarge alternatives are to be used wherever possible" is fully justifiable. We believe these protections would be strengthened by including a requirement that specifies that Antidegradation Best Available Combination of Technologies (ABACT) BMPs be used to the fullest extent possible at all times when working in drainages of Special Protection Waters with anti-degradation standards. (200)

Response: Antidegradation requirements for erosion and sediment control in special protection watersheds are addressed under Chapters 102 and 93.4c including requirements to evaluate non-discharge alternatives and implement ABACT BMPs when non-discharge alternatives do not exist. Section 78.53 requires compliance with Chapter 102 for all oil and gas activities. Therefore § 78.53 requires compliance with antidegradation provisions in Chapters 102 and 93.4c.

865. Comment: §78a.53 Erosion and Sediment Control and Stormwater Management

The provisions in this section that oil & gas operations shall comply with the 2010 amended Chapter 102 regulations are an acceptable modification to the regulations. However, by stipulating within the narrative of the proposed regulation those guidance documents by which operators can achieve compliance, the Department would be codifying in regulation documents which are intended only as guidance. The distinction is that guidance manuals are different than regulations in two important ways:

Guidance documents present methods to achieve compliance which are already familiar to the DEP and can, consequently, be approved with little or no deliberation, but which are not the only methods to achieve compliance. Guidance documents provide for substitution of other methods if it can be demonstrated that the same level of protection can be achieved using an alternative. If codified I regulation, the methods of the guidance documents become requirements;

Guidance documents can be updated to reflect advances in technology without having to go through the entire regulatory development and adoption process, thereby ensuring that the latest advances in protections are available to the regulated community.

The listing of guidance documents should be eliminated from the regulations. (308)

Response: The guidance documents are listed as a reference and are not incorporated as requirements.

§§ 78.55 and 78a.55 Control and disposal planning

866. Comment: All waste which has returned to the surface must be monitored, inspected and documented weekly. Treatment and or transport to an approved waste disposal site must be documented with a paper trail. (85, 155, 179, 325, 354)

Response: Waste is monitored and inspected regularly during routine operations. The Department does not agree with the commenter's proposed timeframe for reporting but has amended section 78a.121 to require monthly production reporting of waste to the Department.

867. Comment: This section is inadequate. Because the wastes of the oil and gas industry are defined as non-hazardous, they are deemed residual. However, they should be treated as hazardous and have plans beyond a pollution prevention and contingency plan. Operators need to be held accountable for their wastes - what is in them as well as where and how they are disposed. As, for the most part unregulated in the Commonwealth, residual wastes from oil and gas operations can be disposed of in municipal landfills along with household wastes. Consistency with the Solid Waste Management Plan and the Clean Streams Law is important. However, other safeguards need to be put in place. Given the magnitude of produced wastes and their consequences, it is imperative that regulations be a proactive to prevent problems rather than responding to one after the fact. The control and disposal planning should be reflective of hazardous substances not residual ones. A superfund needs to be established to deal with unanticipated consequences. (161)

Response: Wastes removed from the well site must be managed in accordance with the Solid Waste Management Act. Modifications to the Solid Waste Management Act are beyond the scope of this rulemaking. The analysis required prior to disposing of drilling waste on the well site includes the Toxicity Characteristic Leaching Procedure (TCLP) which is used to identify hazard wastes. The regulations at 78.62(b) and 78.63(b) relating to disposal of waste on the well sites in pits and by land application, respectively does not allow disposal of wastes that test characteristically hazardous.

868. Comment: We recommend the following revision (in bold italics) to the existing text:

(t) ***"Copies.*** A copy of the well operator's PPC plan shall be provided to the Department, the Fish and Boat Commission or the landowner, ***nearby landowners, including public resource***

agencies, if applicable, or the general public upon request and shall be available at the site during drilling and completion activities for review.”

See our recommended changes above to the definition of public resource agency. (200)

Response: It is sufficient to require the Oil and Gas Operator to provide the Preparedness Prevention and Contingency (PPC) Plan to the Department, PA Fish and Boat Commission and the landowner. It is not clear what, if any benefit would be achieved by requiring wider distribution of the PPC Plan to other entities.

869. Comment: POINT 3: EMERGENCY PLANNING IS INSUFFICIENT TO PROTECT THOSE LIVING, WORKING, OR GOING TO SCHOOL NEAR UNGD SITES.

Commenter notes that the emergency/accident planning by natural gas companies and the State is inadequate to protect Pennsylvania residents.

§ 78a.55. Control and disposal planning; emergency response for unconventional wells.

(b) Preparation and implementation of plan for well sites. In addition to the requirements in subsection (a), the well operator shall prepare and develop a site specific PPC plan prior to storing, using, generating or transporting regulated substances to, on or from a well site from the drilling, alteration, production, plugging or other activity associated with oil and gas wells.

- (v) The plan and subsequent updates shall be submitted to:
 - (A) PEMA.
 - (B) The Department.
 - (C) The county emergency management agency.
 - (D) The Public Safety Answering Point with jurisdiction over the well site.

Commenter recommends that information contained in sections (ii)(B) and (v) and all emergency plan-related material (particularly Material Safety Data Sheet) be posted to public database in addition to “being prepared and developed” PRIOR to any usage of chemicals AND before beginning any unconventional natural gas development operations. Commenter recommends clarifying, for the benefit of general public, what comprises “Regulated Substances”. We also recommend that the above information be submitted, in addition to (v)(A) through (D), to residents within 2000 feet of UNGD. Finally, we recommend that the process of emergency planning be more inclusive of residents within close proximity of risk.

Accidents at shale extraction or production sites pose dangers to schools and children in three primary ways. The first is the exposure to chemicals or particles produced or dispersed by the accident; the second is the inadequate chemical information first responders often have; and the third is the difficulty of quickly and safely evacuating a school full of children and staff and getting them the necessary medical attention.

While there are no central national or state inventories of accidents in the shale gas industry, there are local newspaper accounts of some portion of them. One accident that received significant public attention in Pennsylvania was the 2014 fire at a gas well in Dunkard Township, Greene County. This fire resulted in one worker injury and one death on the site. Previous accidents in the SWPA region include, to name a few, a condensate fire in Washington County, March 2010; a well blowout in Clearfield County, June 2010; a July 2010 explosion in Indiana Township, Allegheny County resulting in two deaths, July 2010; and a condensate fire in Avella, Washington County in February 2011 with two severe injuries and one minor injury. Regulations

must assure that children can be rapidly removed from accident locales and not be left to escape through their and their teacher's own devices. (186)

Response: The Department acknowledges the comment but does not believe any changes are needed to address the commenter's concerns. Emergency response plans submitted to the Department are available to the public for review through the Department's website.

Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103). The definition and use of the term "regulated substance" was intentionally selected to be very broad and cover all substances that may cause pollution.

870. Comment: This provision should clarify that PPC planning is required to the extent 25 Pa. Code §§ 91.34 and 102.5(l) apply to the subject activity. It also appears that Section 78a.55(a) overlaps and duplicates requirements that are set forth in Section 78a.55(b). While Section 78a.55(b) requires well operators to prepare PPC plans for activities at well sites, Section 78a.55(a) covers "oil and gas operations" and applies to any "person" conducting such operations thereby introducing significant uncertainty and confusion as to how these provisions are to operate in tandem. The commentator recommends that Section 78a.55(a) be clarified to apply only to oil and gas operations that do not take place at well sites (well sites are covered under Section 78a.55(b)) and that at such locations, the person or entity in charge of the operations be responsible for preparing and implementing a PPC plan, as appropriate, to eliminate the potential for preparation of multiple, competing PPC plans.

Commentator's suggested amendatory language:

(a) Preparation and implementation of plan for oil and gas operations at a location other than a well site. Persons conducting oil and gas operations at a location other than a well site shall prepare and implement site specific PPC plans according to §§ 91.34 and 102.5(l), as applicable. (210)

Response: The Department disagrees that persons conducting oil and gas operations at locations that are not well sites should not be required to comply with PPC planning requirements in Chapters 91.34 and 102.5(l). As written, the requirements in subsection 78a.55(a) and 78a.55(b) do not include duplicative requirements. The Department has not made the change suggested by the commenter.

871. Comment: The provisions of the proposed final rule regarding the preparation and implementation of a Preparedness, Prevention, and Contingency (PPC) plan for each site is not in the public interest and should be withdrawn. (201)

Response: The development and use of PPC plans is a tool to be used by operators to be sure they are as prepared as possible in the event of a spill or release of a potentially polluting substance. Ensuring that operators are prepared to manage a spill or release reduces the potential for a spill or a release to have a significant adverse impact on public health and safety and the environment.

872. Comment: In 2013, the EQB proposed improvements to emergency response planning requirements for unconventional wells. In 2015, PADEP proposed one additional improvement requiring the operator to provide the location and a monitoring plan for emergency shut-off valves along temporary pipelines.

We support the requirement to prepare a PPC plan. However, we remain concerned that the recommendations for improving § 78a.55 in the 2014 Comments were essentially ignored. The proposed regulation is written in a confusing manner. It requires a PPC plan for Oil and Gas Operations, but provides incomplete instruction on what is required and does not advise the operator when a Spill Prevention Response (SPR) plan is needed. The proposed regulations do not require PADEP review and approval of the PPC plan before Oil and Gas Operations commence or when the plan is amended. Local governments are not consulted by the applicant in the preparation of the PPC Plan to ensure that any responsibilities assumed or assigned to the local government in the plan (e.g. industrial firefighting) can be delivered by the local government. The applicant is not required to provide adequate funding to the local government and/or provides supplemental resources to provide a high-quality response system. Local governments are not required to update their local All-Hazard Mitigation Plan to include information provided in the industry plans. There is no requirement for local governments, first responders, and residents on or adjacent to land used for Oil and Gas Operations to receive copies of the PPC plan prior to commencement of construction activities. There are no specific requirements for the operator to conduct drills to practice the plan, and for PADEP to audit the plan via drills, exercises, equipment inspections, and personnel training audits. Please refer to the 2014 Comments for recommended redlines to the proposed regulations. (211)

Response: The Department disagrees that it's guidance for development of PPC plans should be included in the Chapters 78 or 78a. In addition, the rulemaking does not require operators to develop or implement a Spill Prevention Response plan; therefore, Spill Prevention Response plans are not addressed in the rulemaking. Requirements for the operator to conduct drills to practice the plan and for the Department to audit the practice have not been historically required by the Department. The Department does not believe the proposed requirement will result in a significant increase in the quality or implementation of PPC plans and would be overly burdensome for operators.

873. Comment: There are important differences between the environmental hazards presented by large-scale, unconventional well operations conducted by billion-dollar corporations and small, conventional well operations conducted by small businesses who have been drilling in Pennsylvania's oil patch since 1859. The Department readily acknowledges this fact in its regulatory analysis form: "Conventional well operators are much smaller in scope and they generate far less waste than unconventional drilling, therefore the potential impact to the environment is significantly less." In addition to differences in the size of the tanks/well sites and the volume of material that could be released in an accidental spill, the regulated substances and pollutants present at a conventional well site do not vary from site to site. Moreover, the distance between conventional well sites is much smaller, sometimes as little as 150 feet.

The new proposed standards requiring site-specific PPC plans will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. The Department does not identify a single conventional well accident where the use of a non-site specific PPC plan (lawful under Department's existing regulations) contributed to a worsening of a spill or negatively impacted the quality of the environment or public health, safety and welfare. Moreover, local fire departments and first responders are often trained on how to respond to problems at well sites, and do not need to read a form to know what to do. In the absence of such evidence, the requirement of a site-specific PPC plan is meaningless. (201)

Response: Both conventional and unconventional operators are required to develop and implement PPC Plans under §§ 78.55 and 78a.55, respectively. Subsection (a) reiterates the requirements already existing in Chapters 91.34 and 102.5(l).

874. Comment: The new proposed standards requiring site-specific PPC plans lack clarity and are ambiguous. The new proposed standards require conventional well operators to develop site-specific PPC plans that comply with 25 Pa. Code §§ 91.34 and 102.5(l). Section 91.34 applies to locations where pollutants are both produced and stored. Section 102.5(l) applies to oil and gas activities, which include pipelines and processing. It is unclear whether site-specific PPC plans on site at the well and at the tank locations would also satisfy section 102.5(l) for the pipelines and equipment in between. (201)

Response: Operators may develop a single integrated PPC plan to satisfy the requirements of subsection 78.55(a) and 78.55(b). PPC Plans satisfying the requirements of §91.34 alone may not also satisfy the requirements of §102.5(l). PPC plans are required for production and storage of pollutants as well as for pipelines and processing. This rulemaking does not exempt the requirements of either §91.34 or §102.5(l) for conventional or unconventional Oil and Gas Activities.

875. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule requiring site-specific PPC plans. (201)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

876. Comment: The Department's regulatory analysis form does not demonstrate a need for site-specific PPC plans for conventional well operators. In fact, it is totally silent on this point. The Department does not identify a single conventional well site accident (in the form or otherwise) where the use of a non-site specific PPC plan under current regulations contributed to a worsening of an accidental spill or otherwise negatively impacted the quality of the environment or public health, safety and welfare. (201)

Response: The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with

the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

877. Comment: There must be mapping done of oil and gas lines installed so that if problems occur, emergency response personnel will be able to know where the lines are located. Some operators already do this, however it is not required. The same goes for electric line locations installed for oil and gas operations. (226)

Response: Proposed pipeline locations are submitted in maps and drawings reviewed by the Department when permit review and approval is required for proposed Oil and Gas activities. The Department disagrees that it is necessary for mapping of electric lines that support Oil and Gas Activities.

878. Comment: It is suggested that this section be revised to only require a general discussion of what substances are anticipated to be found at the well site since an operator may not know the specific chemical abstract of regulated substances that may be onsite prior to use.

The Department should not by regulation give the other mentioned agencies authority they do not have otherwise, or be placed in a situation by those parties that would require the Department to take enforcement action for violations of this section. It is strongly recommended that the proposal to provide copies of the PPC plan to the Fish and Boat Commission and the landowner be deleted. (232)

Response: A general discussion of anticipated substances does not sufficiently address the requirements and necessity of a PPC Plan. The Pennsylvania Fish and Boat Commission has jurisdictional responsibilities over waters of the Commonwealth, as well as DEP, therefore it is within the intent of the rulemaking for the Pennsylvania Fish and Boat Commission to be provided a copy of the PPC Plan. It is not unreasonable to provide them a copy of an oil and gas site's PPC plan, so they may investigate any areas of concern that fall under their jurisdiction. Additionally, landowners have a vested interest in the contents of the PPC plan and should have access to the plan. Therefore, it is in the best interest of the landowner to be provided a copy of the PPC Plan so they understand the activities and potential pollutants and how they will be controlled in the event of a pollution release.

879. Comment: § 78a.55 Control and disposal planning - The use of the term "regulated substance" is inaccurate and misleading in this and other sections of the Draft Final Rule. And the rule should not impose obligations to provide PPC plans to agencies or landowners who have no authority to review PPC plans. Members of the public can access DEP files according to open records laws.

In addition, the revision in the Draft Final Rule that would require emergency response plans to include the location and monitoring of emergency shut off valves located along "temporary pipelines" cross references Section 78a.68b, which has been revised to remove all references to "temporary pipelines." The commentator reiterates its prior comment here that these sections for pipelines are beyond the scope of Chapter 78, are unnecessary and should be stricken from rule. (213)

Response: Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103). The Pennsylvania Fish and Boat Commission has jurisdictional responsibilities over waters of the Commonwealth, as well as DEP, therefore it is within the intent of the rulemaking for the Pennsylvania Fish and Boat Commission to be provided a copy of the PPC Plan because

pollutants may be released to waters of the Commonwealth. Additionally, it is in the best interest of the landowner to be provided a copy of the PPC Plan so they understand the activities and potential pollutants and how they will be controlled in the event of a pollution release.

The Department has corrected the references to well development pipelines from § 78a.55(i)(5)(i)(I).

880. Comment: § 78.55 Site Specific PPC plans

This section appeared in the 2013 version. However, in informal conversation following 2014 testimony, and in response to our statement that this proposed section would generate high cost for little or no benefit, PADEP employees stated this section was not intended to require PPC plans at each conventional well site. Nevertheless, when the 2015 version was published, language remained requiring a “site specific” plan that meets the requirements in 25 Pa. Code 91.34 and 102.5(1). Section 91.34 applies to locations where pollutants are both “produced” and “stored.” Section 102.5(1) applies to oil and gas activities, which include pipelines and processing. Therefore, a logical reader would conclude that the site specific requirement would apply to both individual wells and to tank locations, and any pipeline or equipment in between.

Accordingly, we submit these comments. Under current practice, conventional operators employ a generic PPC plan that meets the requirements of existing section 78.55. Among other items, the generic plan lists the company contacts and internal spill cleanup resources and lists the outside contractors who might be called upon to assist in the response.

This information is and has been a sufficient guide on how to handle materials and respond to releases or threatened releases because (i) conventional well and tank sites are small, (ii) the volume of material that could be released from an accidental spill is small, and (iii) there are fewer different materials on site at conventional versus unconventional operations to manage.

The site specific proposal will have a serious debilitating effect on the conventional industry. While individual conventional sites are very small and treat with very small quantities of materials, conventional sites are numerous. Including wells and tanks, the estimated number is 200,000. (This number excludes pipelines—we cannot discern how or where PPC plans would be maintained on pipelines.) To achieve initial compliance, the cost will range between \$33 million and \$100 million. Thereafter, the annual burden of keeping 200,000 paper plans both legible and updated will also be financially debilitating. The estimated annual cost of maintaining all these pieces of paper (and their storage units) is \$25 million.

There are three key problems with the proposed regulation. First, the DEP never engaged in any discussion of the purpose of such additional burden in the context of conventional operations. Given the large number of conventional wells and tanks, the cost is extraordinary, but the benefit would be small-if not nonexistent. In addition to containing small amounts of materials, conventional well and tank locations are highly similar. There do not exist unique chemicals or other pollutants, from site to site, which would render a site specific plan useful in the conventional well context. Instead, the critical information of who to contact and where to locate cleanup resources is already contained in the generic plans.

Second, the DEP never engaged in any discussion or analysis of the costs of compliance. Nowhere has the DEP provided its estimate of the cost to initially prepare each plan and install a

storage unit; it has not provided its estimate of the number of individual sites; and it has not provided its estimate of the cost to annually update the plan and repair the storage units.

The DEP's failure to discuss both the purpose and cost makes it now impossible to comment meaningfully. The comments are intended to be a reflection, responsive to an articulated need. The intended process is to include technical input from the industry as well as cost estimates that can be vetted. This site specific requirement is being made applicable to the conventional industry without either of these precedent steps having been taken by the DEP.

Because the process is thus tainted, we can only speculate as to what the DEP might intend and "respond" accordingly. But, in fact, one will never know what the comments might have looked like had the process unfolded properly. And, indeed, new regulations will eventually be adopted with that taint in place, and with uninformed comments being the basis of same.

Nowhere is that procedural failure more evident than in the third problem, namely, the failure to consider alternatives for small businesses under the RRA. Pennsylvania law requires the DEP to consider the disproportionate burden this proposed change would impose upon small businesses and to specifically consider whether less stringent requirements are balanced by the recognition that the regulatory culture must change to recognize the differences in scale and resources of regulated businesses. This proposed regulatory change is a prime fit for such discussion since the generic plans presently in use substantively meet the objectives of the planning requirement and because the cost of the new burden is so dramatically out of balance with the benefit (if any) that might be achieved.

Indeed, we believe that, with the application of technology, one or more alternatives might be conceived which do away with paper altogether and thus offer the opportunity for information sharing with cost savings. But without the DEP beginning the process with its statement of need for change, and without their having been a dialogue of how to adapt the regulatory culture to the needs of small business, it is quite impossible to comment on alternatives that meet the DEP's goals-whatever those goals might be in this instance of change. (212)

Response: It is necessary to ensure that the PPC plan is appropriate to address site specific conditions for each site. There may be instances where the operator finds that a PPC plan prepared for one site is applicable to another site but the plan must be analyzed prior to making such a determination.

Subsection (a) simply reiterates the requirements already existing in Chapters 91.34 and 102.5(l). Since subsection (a) does not establish any new requirements, no cost was attributed to this subsection.

- 881.** Comment: The direct and indirect costs of the new proposed standards requiring site-specific PPC plans are so high that they will put small, independent conventional well operators out of business when combined with the other costs generated by the draft final rule. Under the Department's Guidelines for the Development and Implementation of Environmental Emergency Response Plans, specifically referenced in section 78.55(f) of the draft final rule, the Department contemplates the need of some operators who lack engineering experience to hire an outside consultant to prepare a PPC plan. See Document No. 400-2200-001, p. 6. The cost of hiring an outside consultant to prepare a PPC plan is estimated to be \$500. Under existing regulations, that cost is the same regardless of the number of well sites maintained by a conventional well operator. Under the new proposed standards, that cost is fifty times higher if the operator maintains 50 well sites and 100 times higher if the operator maintains 100 well sites. Factor in the

cost of installation (\$25 per site), annual update/repair costs (\$125 per site) and the cost per additional site maintained by an operator skyrockets to \$650 per site.

The new proposed standards requiring a site-specific PPC plan will have a severe effect on the productivity of small, independent conventional well operators. When the cost of developing, installing, updating, and repairing a site-specific PPC plan is factored into all of the other costs that will be generated by the draft final rule, conventional well operators will be discouraged from drilling new wells. This in turn will negatively affect the conventional well operator's total production of oil. (201)

Response: While the guidance document referenced does contemplate use of an outside consultant for the development of a PPC plan, it is not a requirement and therefore costs incurred by operators that hire an outside consultant should be considered voluntary. In addition, it is not the intent of this rulemaking to ensure that each PPC plan developed for a different well site must be unique. It is necessary to ensure that the PPC plan is appropriate to address site specific conditions for each site. There may be instances where the operator finds that a PPC plan prepared for one site is applicable to another site but the plan must be analyzed prior to making such a determination. It is also not the intent of this rulemaking to ensure that all PPC plans are revised every year. In many cases, if conditions at the site do not change, there will be no need to make revisions to the PPC plan. Finally, a PPC plan that is not available at the site when it is needed is not useful and since operators cannot predict when an incident will occur, it is necessary to maintain the PPC plan on the site. Section 78.55 only requires the plan to be maintained on site.

Subsection (a) simply reiterates the requirements already existing in Chapters 91.34 and 102.5(l). Since subsection (a) does not establish any new requirements, no cost was attributed to this subsection.

882. Comment: The new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should the standards in the proposed final rule become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10-15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: See response to comment 880.

883. Comment: The Department's regulatory analysis form does not reflect the direct and indirect costs of the proposed standards requiring site-specific PPC plans at conventional well sites. Once again, the form is completely silent on this point. As noted above, the cost of hiring an outside consultant to prepare a PPC plan is estimated to be approximately \$500. Factor in the cost of installation (\$25 per site), annual update/repair costs (\$125 per site) and the cost per additional site maintained by a conventional well operator skyrockets to \$650 per site. This cost was not considered by the Department. (201)

Response: See response to comment 880.

884. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to achieving the goal of ensuring that conventional well operators are taking steps to prevent harm to the environment and are prepared to respond to accidental spills when they occur. As noted in IRRC's comments on the proposed rulemaking issued April 14, 2014, allowing conventional well operators to prepare a single PPC plan for multiple sites would lessen the fiscal impact of the regulation. (201)

Response: The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

885. Comment: Finally, requiring site-specific PPC plans for small conventional well operators raises concerns about fairness in Departmental enforcement. Differing interpretation about the requirements of the proposed standard raises concerns that this regulation will become an "NOV trap" for unsuspecting conventional well operators, allowing the Department to rack up fines and costs at alarming rates. (201)

Response: The intent of the requirement to have site-specific PPC Plans is to prevent pollution from being released to resources of the Commonwealth. Also, subsection (a) simply reiterates the requirements already existing in Chapters 91.34 and 102.5(l). Since subsection (a) does not establish any new requirements, no cost was attributed to this subsection.

886. Comment: Currently, I work as an independent contractor in oil & gas industry. My business career background is thirty four years in the community banking business here in Warren County. The majority of that time was spent working with small businesses. I can assure you that small rural businesses face a myriad of challenges every day. Most small business folks just want to get up and go to work each day, but when faced with limited staffs, meeting payroll, the ever changing economic environment and challenging regulatory issues that cannot always be the case. I am personally familiar with countless hours of time and energy, and by extension money, spent exploring and interpreting the changes associated with the proposed new regulations.

A major challenge currently facing small businesses engaged in producing oil and natural gas is the increased burden imposed upon conventional operators generated by the site specific PPC plans proposed in section 78.55 of Chapter 78. Most conventional operators employ a generic PPC plan that meets the requirements of existing section 78.55. Among other items, the generic plan lists the company contacts and internal spill cleanup resources and also lists outside contractors who might be called upon to assist in the response. This information has been and still is a sufficient guide on how to handle materials and respond to releases or threatened releases because # 1, conventional well and tank sites are extremely small compared to the unconventional sites, #2 the volume of material that could be released from an accidental spill from a

conventional site are extremely small compared to an unconventional site and #3, there are fewer and less hazardous materials on site at a conventional vs. unconventional operations to manage.

The proposed regulation elevates the burden substantially by requiring a “site specific” plan that meets the requirements in 25 Pa.Code Code 102.5(l) for each well and tank location.

Pennsylvania (for now at least !) is fortunate to have a large number of conventional oil and natural gas production sites. The positive affect on the Commonwealth's economic condition is obvious. Much of this production is managed and operated by small business owners. It is important to note that these conventional pads are highly similar, particularly relating to not having unique chemicals from site to site compared to the unconventional producers. Critical information of whom to contact and where to locate cleanup resources is generally provided to the very same contractor from site to site. Costs to the conventional operators to initiate site specific PPC plans will at a minimum be staggering with little if any measurable benefit. Certainly, today's low commodity prices emphasize this point.

Moreover, because virtually every conventional well operator is a small business, Pennsylvania law requires the DEP Analysis to consider the disproportionate burden the proposed site specific PPC change would impose upon small business and to specifically consider whether less stringent requirements are more balanced.

I would like to congratulate the conventional oil & natural gas producers of Pennsylvania. I avidly fish trout streams in Warren, Forest, McKean and Elk Counties. The streams are clean and the aquatic insects are more abundant every year. I urge the DEP to work with the industry and other stakeholders across the Commonwealth to ensure that we provide a reasonable, competitive path forward for a long term responsible conventional oil and natural gas development. (324)

Response: See response to comment 880.

- 887.** Comment: § 78.55 (b) The use of the term “regulated substance” in this subsection is unclear and is difficult to apply to the oil and gas industry. The potential for an overly broad interpretation is high with the Department’s proposed definition, which includes literally thousands of substances, many of which are naturally occurring and many of which are environmentally benign. In addition, the proposed paragraph appears to include some grammatical confusion, which should be clarified.

Commentator’s suggested amendatory language:

(b) Preparation and implementation of plan for well sites. The well operator shall prepare a site specific PPC plan, in accordance with §§ 91.34 and 102.5(l), as applicable, prior to storing, using, generating or transporting substances subject to those provisions to, on or from a well site. (210)

Response: Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103).

- 888.** Comment: (b) Requirements of the plan should be a review of the pressure barrier policy developed by the operator by a professional engineer to determine its appropriateness relative to a given site. (161)

Response: 78a.55(d) requires an operator to develop and provide a pressure barrier policy; however, it is not required to be developed by a professional engineer nor does the Department believe this is necessary.

889. Comment: 78.55 With regards to PPC plans... (b) What is a “pressure barrier policy” as it relates to conventional well operations during drilling or after in the production phase? Will this be defined? (204)

Response: The Department is currently developing a pressure barrier policy guidance document.

890. Comment: (e) Copies should be provided to other agencies as well with the connecting word being and/or not just or. (161)

Response: The operator must provide copies of the PPC Plan to the Department, however, it is incumbent the PA Fish and Boat Commission and/or landowner request the PPC Plan should they determine they need a copy.

891. Comment: § 78a.55(f)(5)(i)(I) THE LOCATION OF AND MONITORING PLAN FOR ANY EMERGENCY SHUTOFF VALVES LOCATED ALONG TEMPORARY PIPELINES IN ACCORDANCE WITH § 78a.68b (RELATING TO TEMPORARY PIPELINES FOR OIL AND GAS OPERATIONS). Act 9 of 2012 (“Requiring Operator of Each Permitted Unconventional Well in Pennsylvania to Post Certain 911 Response Information at Entrance to Each Unconventional Well Site”) was promulgated into the Department’s regulations as the current 25 Pa. Code § 78.55(f). The Legislature intended for the requirements set by Act 9, including the requirement to develop and submit an emergency response plan, to apply to unconventional wells only. Act 9 defines “unconventional wells” as “[a] borehole drilled or being drilled for the purpose of or to be used for the production of natural gas from an unconventional formation.” This definition and the intent of Act 9 does not contemplate the application of emergency response plans to well development pipelines, as proposed to be defined in Section 78a.1. The proposed subsection (I) is therefore beyond the scope of the Legislature’s intent for Act 9. Additionally, the commentator respectfully questions the need for adding this new subsection. Given the specific requirements outlined in Section 78a.68b(e) to limit that maximum discharges and Section 78a.68b(i) to require daily inspections, there appears to be no need to require modification of emergency response plans for these lines. Section 78a.68b will already have sufficient protective measures in place. Lastly, the location of the shutoff valve locations for well development pipelines are typically not known by an operator until several days before completion of the unconventional well. As such, the commentator recommends the proposed subsection (I) be deleted. (199, 210)

Response: The Department does not agree that daily inspections offer the same protection of a site as an Emergency Response Plan. The daily inspection may reveal a potential pollution event or threat that would need a well-planned Emergency Response Plan to enable quick action to ensure appropriate response to be addressed, when necessary.

It is important for the Operator to plan the location(s) of valve(s) as much as possible in advance of the project so they are located in areas that will protect waterways and other resources in the event of a release of pollutants form the project.

The Department has revised the definition to be “well development pipelines” instead of “temporary pipelines”. Additionally, the definition of “oil and gas operations” has been

revised to be consistent with the definition of “well development pipelines” and therefore they apply to this requirement.

The Department has not deleted proposed subsection (I) from the rulemaking.

- 892.** Comment: §78a.55(f) requires the well operator to provide the PPC plan to, in addition to the Department, the Pennsylvania Fish and Boat Commission or the landowner upon request. We repeat the comment previously submitted that this is unreasonable. The Fish and Boat Commission and the landowner have no jurisdiction to access PPC plans. The Department should not by regulation give them authority they do not have otherwise, or be placed in a situation by those parties that would require the Department to take enforcement action for violations of this section. It is strongly recommended that the proposal to provide copies of the PPC plan to the Fish and Boat Commission and the landowner be deleted. (193)

Response: The Pennsylvania Fish and Boat Commission has jurisdictional responsibilities over waters of the Commonwealth, as well as DEP, therefore it is within the intent of the rulemaking for the Pennsylvania Fish and Boat Commission to be provided a copy of the PPC Plan. It is not unreasonable to provide them a copy of an oil and gas site’s PPC plan, so they may investigate any areas of concern that fall under their jurisdiction. Additionally, landowners have a vested interest in the contents of the PPC plan and should have access to the plan. Therefore, it is in the best interest of the landowner to be provided a copy of the PPC Plan so they understand the activities and potential pollutants and how they will be controlled in the event of a pollution release.

- 893.** Comment: § 78.55 (f) Since the parties listed in (f) have no jurisdiction over operations at the well site, the commentator objects to a requirement that the well operator provide a copy of the PPC plan to the Pennsylvania Fish and Boat Commission or the landowner.

Commentator’s suggested amendatory language:

(f) Copies. A copy of the well operator’s PPC plan shall be provided to the Department upon request and shall be available at the well site during drilling and completion activities for review. (210)

Response: See response to comment 892.

- 894.** Comment: 78a.55(f). Copies of well operator’s PPC Plan should be provided electronically to DEP, the other agencies listed and to local government units. The copies should also be made publicly available on an easily accessible web platform. (182)

Response: See response to comment 892.

- 895.** Comment: (f) The PPC plan should be supplemented by the Control and Disposal Planning as the Pollution Prevention and Contingency plan, in and of itself, is inadequate. Each plan should be site-specific taking into consideration the unique features of the location. (161)

Response: The Department acknowledges the comment and notes that subsections 78.55(c) and 78a.55(d) require control and disposal planning.

- 896.** Comment: § 78a.55 (g) Guidelines. With the exception of the pressure barrier policy required under subsection (d), a PPC plan developed in conformance with the Guidelines for the

Development and Implementation of Environmental Emergency Response Plans, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 400-2200- 001, as amended and updated, will be deemed to meet the requirements of this section. As previously commented, the commentator has serious concerns with the practice of codifying guidance and future updates to guidance into regulation, as it does not receive the same scrutiny and public participation statutorily required for rulemaking. Additionally, in regards to this particular guidance, “Guidelines for the Development and Implementation of Environmental Emergency Response Plans,” much of the document is outdated and does not apply to oil and gas development. The commentator recommends that the Department updates its oil and gas operators manual or develop guidelines specifically for oil and gas that better reflects its current practice of requiring site specific information within a PPC plan and/or tailor a template for oil and gas specific PPC plans. In addition, the commentator recommends the Department strike Section 78a.55(g) from the regulations. (199)

Response: The Department agrees that the Operators Manual should be kept up to date. However, the Department disagrees with the commentator that 78a.55(g) should be removed from the rulemaking. With the potential changes of technology and evolving nature of the oil and gas extraction industry, the ability to adapt is vital and necessary changes to Guidance Documents is much more achievable than it changing regulatory language.

897. Comment: §78a.55 (i)(5)(i)(H) requires, as part of the operator's emergency response plan, the location of and monitoring plan for any emergency shutoff valves located along temporary pipelines in accordance with §78a.68b. It is clear that §78a.68b(f) requires flagging at regular intervals, not greater than 75 feet, along the entire length of these pipelines. It is not clear that there is any relationship between these two sections. It is also unclear and questionable why DEP would require the operator to locate and monitor emergency shutoff valves along temporary pipelines as part of an emergency response plan for a well.

These temporary pipelines usually carry freshwater and are temporary in nature. The environmental benefit compared to the cost is questionable. It is recommended that §78a.55(i)(5)(i)(H) be deleted. (193)

Response: The temporary pipes do not always carry freshwater and are frequently placed as a temporary crossing of streams, wetlands and other potentially sensitive areas. Therefore, it is necessary to include emergency shutoff valves as a means to reduce the potential impact of a release of pollution waters of the Commonwealth.

898. Comment: § 78a.55 (i) (5) (i) (I)

Further clarification is required regarding the definition of a “temporary pipeline”. The section references 78a.68b., which refers to “well development pipelines” not “temporary pipelines”.

Site Specific Emergency Response Plans are completed well in advance of the knowledge of specific locations of emergency shut-off valves. With respect to the requirement to locate shut-off valves, locations are already prescribed in the proposed regulations. Furthermore, construction, drilling, and completions operations are temporary in nature and, therefore, the operator should have flexibility to locate and re-locate pipelines due to changing site conditions. It should be sufficient to provide a “typical” layout. (209)

Response: It is important for the Operator to plan the location(s) of valve(s) as much as possible in advance of the project so they are located in areas that will protect waterways and other resources in the event of a release of pollutants from the project. The Department has revised the definition to be “well development pipelines” instead of “temporary pipelines”. Additionally, the definition of “oil and gas operations” has been revised to be consistent with the definition of “well development pipelines” and therefore they apply to this requirement.

The Department has corrected the references to well development pipelines from 78a.55(i)(5)(i)(I).

- 899.** Comment: §78a.55.(i)(5)(i)(I) We recommend the operator of an unconventional well include in their emergency response plan location and monitoring plan for emergency shut-off valves located along temporary pipelines. Emergency Response Planning is very important. While ‘rare and unexpected’ events happen they are not the norm. When they do occur, that is not the time to scramble and wish valves were included in the plan. We appreciate the Department recognizing the importance of adequate pipeline regulations even for “temporary” pipelines. The state of North Dakota has been dramatically affected by the lack of pipeline regulations and oversight. This is not an experience we want to see duplicated in Pennsylvania. We still need regulatory oversight on Class 1 Area high pressure, large diameter gathering lines. (170)

Response: The Department disagrees that a pipeline monitoring plan is a necessary part of the Emergency Response Plan. Regulatory oversight of Class 1 Area high pressure, large diameter gathering lines is beyond the scope of this rulemaking. The Department has revised the definition to be “well development pipelines” instead of “temporary pipelines”. Additionally, the definition of “oil and gas operations” has been revised to be consistent with the definition of “well development pipelines” and therefore they apply to this requirement.

The Department has corrected the references to well development pipelines from 78a.55(i)(5)(i)(I).

- 900.** Comment: § 78a.55 (i) (5) (i) (I) - Further clarification is required regarding the definition of a “temporary pipeline”. The section references 78a. 68b. which refers to “well development pipelines” not “temporary pipelines”. Site Specific Emergency Response Plans are completed well in advance to the knowledge of the location of emergency shut-off valves. Based on the requirements for locating shut-off valves their location is already prescribed, furthermore these operations are temporary and operator should have flexibility to locate and re-locate pipelines due to changing site conditions. (187)

Response: It is important for the Operator to plan the location(s) of valve(s) as much as possible in advance of the project so they are located in areas that will protect waterways and other resources in the event of a release of pollutants from the project. The Department has revised the definition to be “well development pipelines” instead of “temporary pipelines”. Additionally, the definition of “oil and gas operations” has been revised to be consistent with the definition of “well development pipelines” and therefore they apply to this requirement.

The Department has corrected the references to well development pipelines from 78a.55(i)(5)(i)(I).

901. Comment: Section 78a.55(i)(5)(i)(I) - Control and Disposal Planning; Emergency Response

Replace the term “temporary pipelines” with the Department's replacement term “well development pipelines.” Please also see the commentator's questions and concerns below about whether freshwater pipelines fall within the definition “well development pipelines.” (222)

Response: The Department has corrected the references to well development pipelines from 78a.55(i)(5)(i)(I).

§§ 78.56 and 78a.56 Temporary storage

902. Comment: § 78a.56 Commentator strongly supports the Department’s prohibition on the use of pits for temporary containment. Above-ground tanks and containers are more dependable than earthen pits. Above-ground tanks and containers can be located on liners and fitted with secondary containment. Spills and leaks are more readily spotted using above-ground tanks and containers so that actions to prevent environmental harm can be taken more promptly. In addition, without adequate supervision at the time of liner installation, there would be little or no assurance that liners were properly installed without leaks or tears. (231a)

Response: The Department acknowledges the comment.

903. Comment: 78a.56(a). We support the prohibition of open pits for storage of waste or other potentially hazardous materials. The use of pits on wells sites for storage of flowback, produced water, and hydraulic fracturing fluids has been the source of numerous incidents of water and air pollution at oil and gas sites. Pits should be prohibited for conventional drilling sites as well as unconventional drilling sites; dangerous chemicals and other hazardous substances are used in conventional drilling and are produced by drilling in conventional formations, making it essential that pits be prohibited at conventional drilling sites as well to prevent pathways of pollution to water, air and the environmental resources of the State.

One of the reports cited in comments above shows water well contamination located 1 to 3 km from shale gas wells in Pennsylvania. The gas well not only had a leak at the well bore but also an open waste pit was reported to have leaked (the operator was cited with violations for the well bore leak and the pit leak by DEP).

Tests revealed foaming from unknown chemicals in three water wells (DEP determined no cause for the foaming). Comprehensive testing of the well water by researchers showed 2-n-Butoxyethanol, a chemical commonly used in drilling and fracking. Researchers concluded that the chemical compounds found in the water wells (2-n-Butoxyethanol and glycols) were likely caused by drilling and fracking of the gas wells. The use of a waste pit on these well sites led to a leak and aquifer contamination. If no pit had been employed, it is possible this pollution could have been avoided.

Air emissions result from open pits, threatening the health of area residents. Polycyclic aromatic hydrocarbons (PAH) were found by researchers in Ohio near natural gas wells in higher levels closer to gas wells and at higher levels than previously found in rural areas. PAH was found above the U.S. EPA’s acceptable risk level, posing a significant health risk from air pollutants emitted at gas extraction sites.

The opportunity for pollution to be released is greater when these pits are utilized to hold hazardous substances such as these highly toxic pollutants that can be released through liner tears,

seeps or holes. DEP should not allow open pits on either conventional or unconventional well sites. A recent report by the United States Geologic Survey concluded that a closed storage system was safest for wastewater storage due to the presence of volatile organic compounds (VOCs). Sampling conducted by the agency on gas wells in Pennsylvania found that the presence of VOCs was not predictable, leading to the recommendation that open pits are not safe unless accompanied by extensive testing of the waste as it is produced. This protocol is not included in this proposed rulemaking. The use of closed and sealed containers for temporary storage should be required by DEP. (182)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department believes that the technical standards for temporary pits prescribed under §78.56 ensure protection. Air emissions from oil and gas operations are regulated under Article III. Regulation of air emission from oil and gas operations is beyond the scope of this rulemaking.

904. Comment: Prohibit open-air pits for waste or flowback of any kind. All waste/flowback must be placed in closed-system tanks. (131)

Response: See responses to comments 903, 1027 and 1365.

905. Comment: Within a year of this rulemaking the contents of all current open-air pits must be transferred to closed system tanks and the pits must be removed. (131)

Response: See responses to comments 903, 1027 and 1365.

906. Comment: Concerning standards for fracking wastewater pits and impoundments (Sections 78.56, 78.57, 78.58 and 78.59): DEP should prohibit operators both unconventional and conventional from using any open air pits or tanks regardless of size and location, whether for storage or treatment of wastes, whether at individual well sites or multi-well collection sites. (155)

Response: See responses to comments 903, 1027 and 1365.

907. Standards for frack pits and impoundment

- Prohibit operators from using any open-air pits and tanks, regardless of size or location, for storage and treatment of regulated wastes. Waste should be stored and treated only in closed, aboveground systems. Waste from UNGD operations is toxic and should be treated as such, not be allowed to lay around in open pits or containers, increasing the likelihood of spills and emissions. (218)

Response: See responses to comments 903, 1027 and 1365.

908. Standards for frack pits and impoundment

- Require that tanks used for the storage of waste to be completely enclosed. Open storage of waste is not a Best Practice. (218)

Response: See responses to comments 903, 1027 and 1365.

909. Comment: We support the prohibition of open pits but DEP should make clear that no open tanks are allowed as well. All tanks should have sealed lids and be vented with filtration equipment that will remove air pollutants to ensure that these tanks are not sources of air emissions of substances that have the potential for adverse human health effects or negative environmental impacts. Other studies cited in comments above at 78a.15 (f.1.vi.) and 78a.15 (f.1.vii.) support the prohibition of open pits, open tanks or other open containers. (182)

Response: See responses to comments 903, 1027 and 1365. Additionally, §78.56(a)(15) and §78a.56(a)(10) require that condensate, whether separated or mixed with other fluids at a concentration greater than 1 percent by volume may not be stored in any open top structures or pits.

910. Comment: Prohibit operators from using any open-air pits and tanks for storage or treatment of drilling or any other fracking waste products. (85, 179, 325)

Response: See responses to comments 903, 1027 and 1365.

911. Comment: Require that tanks used for the storage of waste be completely enclosed. The revisions give operators the option of using tanks “without lids” to store waste on well sites—one step forward, another step back! Polluting spills and air emissions will still be able to escape.

Due to the inherent risks of all oil and gas development, DEP should require all operators of all wells to:

End the use of all open-air production pits for the storage of waste and immediate conversion to closed tanks. DEP is proposing to continue to allow conventional operators to store their waste in pits and to bury waste at well sites despite the opportunity for pollution. Many spills, leaks, and other problems involving conventional pits have occurred statewide. If the waste is potentially toxic and harmful to water, air, soil, and health, the type of well it came from shouldn't determine how it's managed and where it ends up. (84, 111, 130, 294, 299)

Response: See responses to comments 903, 1027 and 1365.

912. Comment: All “open-air” well-site pits should be eliminated under Sections 78 and 78a. These facilities have been cited by the DEP as a cause of contaminated water and their immediate closure and future elimination is imperative to public safety. Ecologic damage in the immediate vicinity of the pits due to volatile chemicals also predicts human health exposure in close proximity. (157)

Response: See responses to comments 903, 1027 and 1365.

913. Comment: Ban open-air pits and tanks for storage and treatment of regulated substances and require all waste storage tanks to be completely enclosed (151, 218)

Response: See responses to comments 903, 1027 and 1365.

914. Comment: Require that tanks used for the storage of waste be completely enclosed. The revisions give operators the option of using tanks “without lids” to store waste on well sites—one step forward, another step back! Polluting spills and air emissions will still be able to escape. (111, 299)

Response: See responses to comments 903, 1027 and 1365.

915. Comment: Open containment storage pits should be controlled. (75, 196)

Response: See responses to comments 903, 1027 and 1365.

916. Comment: In revising Chapter 78, the PA DEP needs to protect Pennsylvania's natural resources by prohibiting operators from using open pits (that are known to leak) for storage of contaminants. (19, 22, 26, 28, 35, 38, 52, 57, 106)

Response: See responses to comments 903, 1027 and 1365.

917. Comment: Fracking waste pits are blight on our communities and our environment. They leak toxic chemicals into our water and poison our air. (148, 3122-4840)

Response: See responses to comments 903, 1027 and 1365.

918. Comment: The revisions give operators the option of using tanks “without lids” to store waste on well sites allowing spills to occur and air emissions to escape. Tanks used for the storage of waste must be completely enclosed. (130)

Response: See responses to comments 903, 1027 and 1365.

919. Comment: We welcome the proposal to eliminate open pits for temporary storage of regulated substances and gas development wastes at well sites (§ 78a.56). (211)

Response: The Department acknowledges the comment.

920. Comment: Standards for frack pits and impoundments

- Prohibit operators from using ANY open-air pits and tanks, regardless of size or location, for storage and treatment of regulated wastes,
- Require all waste impoundments to be properly closed immediately upon the effective date of the regulations.
- Require that tanks used for the storage of waste be completely enclosed (250)

Response: See responses to comments 903, 1027 and 1365 regarding use of non-enclosed tanks.

The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

921. Comment: No more frack pits or waste impoundments! (Sections 78.56, 78.57, 78.58, and 78.59) Frack pits have contaminated water and resulted in the largest state fines ever against a driller in Pennsylvania, both over \$4 million, to Range Resources and XTO for leaking pollutants. DEP should amend the final regulations to:

Prohibit operators from using ANY open-air pits and tanks, regardless of size or location, for storage and treatment of drilling and fracking wastes, including wastewater, drill cuttings, and

dangerous substances that return to the surface after fracking. The new revisions prohibit the use of production pits at shale gas well sites, an important change that should be supported. But the use of huge open impoundments to service multiple wells would still be allowed. Waste should be stored and treated only in closed, aboveground systems with mandatory requirements for effective containment, monitoring and spill prevention measures.(84, 111, 299)

Response: See responses to comments 903, 1027 and 1365. Additionally, §78.56(a)(15) and §78a.56(a)(10) require that condensate, whether separated or mixed with other fluids at a concentration greater than 1 percent by volume may not be stored in any open top structures or pits.

Tanks regulated under 78.56 and 78a.56 are providing temporary storage while wells are being drilled and completed on a well site. The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55.

Spill or leak response and remediation is regulated under §78.66 and §78a.66. The final rulemaking allows the use of centralized impoundments, but requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX.

922. Comment: We need to eliminate open pits for temporary storage of regulated substances and gas development wastes at well sites (§ 78a.56). The ban on open pits should be extended to conventional drilling activities. We urge the Department to prohibit the use of all pits, centralized impoundments, and open tanks (or approved storage structures) as well as the use of underground tanks. We recommend the use of above-ground closed-loop tank systems for waste management at all well sites and for centralized waste storage serving multiple wells. Pits, impoundments, and underground tanks carry unnecessary risks of contaminating soil, groundwater, and surface water. (183)

Response: See responses to comments 903, 1027 and 1365.

Continued use of underground storage tanks at oil and gas well sites will be allowed under the final rulemaking. However, there are thousands of these underground storage tanks at well sites across the Commonwealth, and proper standards for operation and maintenance of these storage tanks are critical for protection of the environment from spills and releases. For example, Section 3218.4(b) of the 2012 Oil and Gas Act establishes that permanent aboveground and underground tanks must comply with the applicable corrosion control requirements in the Department's storage tank regulations. Provisions in §§ 78.57(e) and 78a.57(e) require underground or partially buried storage tanks used to store brine or other fluids produced during operation of the well shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. Additionally these tanks must be inspected by the operator quarterly and documented on forms provided by the Department. The final rulemaking includes language establishing these and other appropriate standards.

923. Comment: §78.56. Temporary storage.

We strongly support the new proposed prohibition on production pits for unconventional drillers in §78a.56, including the requirement that all pits be closed within six months of adoption of the regulations. In order to achieve regulatory consistency and effectiveness, this same standard and closure period should be included in §78.56. (Prohibiting all production pits for all forms of waste containment would also provide clarity in §78.57, discussed below.)

We object to the continued allowance of production pits for the temporary storage of liquid and solid waste at conventional well sites. The “best management practice” of closed-loop systems reflects the risk of both air emissions and spills from pits. Given the strong potential for such environmental impacts occurring wherever waste is created and managed, conventional operators—who use modern technologies to drill, fracture, and develop wells—should also be required to adopt current best practices.

A review of DEP inspection reports show that between January 2010 and August 2013, notices of violations were issued for the improper management and disposal of waste in pits for at least 48 well sites statewide, including conventional ones. The violations were issued for problems such as structural instability; improper encapsulation; liner holes and tears; leakage of fluid into springs, ponds, and streams; seepage of contaminated fluids to the surface; and erosion and runoff.

We object to the continued allowance of any open-top structures for temporary waste storage (§78.56(5) and §78a.56(5)). The allowance of open-top storage structures should be removed from these sections due to the risks of spills, leaks, and overflow of waste into surface and groundwater resources and soil, as well as the release of toxic vapors into the air. Operators should be required to immediately convert their operations to the use of closed tanks; any other storage structures that DEP eventually approves should also provide complete containment of wastes. (188)

Response: See responses to comments 903, 1027 and 1365.

924. Comment: 78.56-78a.56 would eliminate the use of temporary storage pits for production fluids generated at fracking sites. The fact that this barbaric practice has been allowed in PA is absolutely without justification. Allowing open-air pits filled with poisonous liquid only a few hundred feet from residences is an atrocity. (118)

Response: See responses to comments 903, 1027 and 1365.

925. Comment: Section 78.56 should be revised to prohibit use of pits for temporary storage of any regulated substances or production wastes from conventional oil and gas operations. Pits are subject to leakage regardless of the source of waste stored in them. (211)

Response: See response to comment 903.

926. Comment: All natural gas waste should be stored in completely enclosed tanks. We should take a lesson from the federal Bureau of Land Management who just this year released final rules to support safe, responsible hydraulic fracturing activities on public and tribal lands. One of the new requirements charges operators with the duty to manage recovered fluids in rigid enclosed, covered or netted and screened above-ground storage tanks, with very limited exceptions that must be approved on a case-by-case basis.

Clearly, industry should not be allowed to use tanks that have no lids; this simply creates an above ground impoundment that embodies many of the same concerns like overflowing and evaporation that come with earthen impoundments. (164, 247)

Response: See response to comment 1365.

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department believes that the technical standards for temporary pits prescribed under §78.56 ensure protection. Air emissions from oil and gas operations are regulated under Article III. Regulation of air emission from oil and gas operations is beyond the scope of this rulemaking.

The Department acknowledges the comment. Sections 78.57(a) and 78a.57(a) eliminate the use of pits for the collection of production fluids irrespective of the type of operation.

927. Comment Replacing current open frack pits with sturdier, above ground open frack tanks is a very small step. All open frack pits, in ground and above ground, should be banned. They are a hazard to our health. They off gas organic compounds into the air. This becomes an air pollution problem, and the organic compounds are termed Hazardous Air Pollutants. A Closed Loop System is what is needed here. Closed Loop systems are used in other parts of the country. And this needs to happen in PA as soon as possible. I would propose that all open pits be banned. Don't put this off for years by taking a tiny step forward, and condemning us to many more years with open pits that are above ground. Let's require these huge companies to conduct business in PA in a safe way. I have to follow certain rules in my business, and some of those rules require an expense. Please uphold the natural gas industry to stricter standards! Please protect PA. I have already had 2 friends move out of state because fracking moved in close to their homes. (145)

Response: See responses to comments 903, 1027 and 1365.

928. Comment: DEP should expand the list of substances that must be contained. Many substances used in well development, particularly hydraulic fracturing, are not regulated under Safe Drinking Water Act or EPA standards. These chemicals fall into the category of "unregulated" chemicals despite that they may have adverse health effects. Researchers from the U.S. Geological Survey and the Environmental Protection Agency found eighteen unregulated contaminants of concern in one third of the water utilities sampled in the U.S. in 2013. The health effects of many of the 80,000 chemicals in use today are not well studied or understood.

Endocrine disrupting chemicals (EDC) used in hydraulic fracturing fluids and found in flowback now stored in open pits are of special concern due to the biological effects of these constituents at extremely low concentrations. Scientists and health professionals are beginning to analyze these materials and measure their impacts on human health in a different way, testing these compounds at very low levels in the range of human exposures and at various endpoints. In an effort to protect human health from these very dangerous materials, scientists are concluding that there are no safe doses for endocrine disrupters; the fact that they have biological effects proves that EDC's have biological activity – what the induced effects are is the question.

DEP should amend the underlined text at this section to "...the operator shall contain regulated substances, potentially harmful chemicals and wastes from..." (182)

Response: The use of the term "regulated substance" was intentionally selected to be very broad and cover all substances that may cause pollution and is sufficient to address the commenter's concern.

- 929.** Comment: 78.56 - Mounting violations and the potential for water and air pollution have already led some companies to transition away from pits and standardize the use of closed loop systems for the storage and treatment of waste. Issues with Frack pits have led to contaminated water and resulted in the largest state fines ever against a driller in Pennsylvania, both over \$4 million, to Range Resources and XTO for water contamination due to leaking. DEP should amend the final regulations to:

Prohibit operators from using ANY open-air pits and tanks regardless of size or location for storage and treatment of regulated wastes, including wastewater, drill cuttings, and substances (like gels and cement) that return to the surface after fracking. The new revisions prohibit the use of production pits at shale gas well sites, an important change that should be supported.

Require that tanks used for the storage of waste be completely enclosed. The revisions give operators the option of using tanks "without lids" to store waste on well sites-making it more likely that polluting spills and emissions will occur. (290, 291, 292, 294, 299, 4870-4914)

Response: See responses to comments 903, 1027 and 1365.

The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking.

Additionally, §78.56(a)(15) and §78a.56(a)(10) require that condensate, whether separated or mixed with other fluids at a concentration greater than 1 percent by volume may not be stored in any open top structures or pits.

- 930.** Comment: 78.56 - Regarding standards for frack pits and impoundments, it is a start that production pits are prohibited at shale gas well sites. This has been a major source of pollution resulting in very large fines. However, the same risks for pollution exist at conventional sites when these are used. Both conventional and unconventional well sites should be covered. Closed loop systems should be used for the storage and treatment of waste, including wastewater, drill cuttings, and production fluids. (230)

Response: See response to comment 903.

- 931.** Comment: Prohibit using frack pits which often leak toxic chemicals into groundwater and soil. Ban the use of all open frack pits. All drilling waste should be stored in enclosed tanks. Additionally, all existing open frack pits should be closed and cleaned up immediately. (4841-4869)

Response: See responses to comments 903, 1027 and 1365.

The Department disagrees that the compliance timeframes proposed by the commentator are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing onsite pits to evaluate alternatives and adjust their operations in order to comply with the new requirements.

The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking.

932. Comment: 78a.56 Temporary Storage – A timeframe, such as six (6) months, should be included to define “temporary.” (161)

Response: The Department disagrees and believes that the proposed title is appropriate. A timeframe is established under § 78a.65.

933. Comment: Section 78a.56. authorizes and sets standards for “temporary” pits that may contain regulated substances, including “brines”, while 78a.57. prohibits the construction of 'open top' structures and phases out existing ones. Section 78a.57a. provides for “centralized storage facilities” to service multiple well pads. I think these three sections are confusing to operators and the public, and clarification is needed. The oil and gas industry has for far too long enjoyed using substandard facilities to store hazardous materials, and this practice must stop. Storage of all regulated substances should be prohibited in open top structures or pits, and the storage of regulated substances should be limited to enclosed tanks or structures designed and engineered specifically for the storage of regulated substances. These designs need to be subjected to a rigorous review by DEP prior to any written permit issued. The standard for an oil or gas industry storage facility of regulated substances should be no less stringent than one for any other industrial facility in the state of Pennsylvania. (295)

Response: See responses to comments 903, 1027 and 1365 regarding use of open topped structures. Section 78a.57a has been removed from the rulemaking.

934. Comment: Specifically, I recommend that DEP ban open-air pits and tanks for storage and treatment of regulated substances and require all waste storage tanks to be completely enclosed. (241)

Response: See responses to comments 903, 1027, and 1365.

935. Comment: Stop the use of open pit storage of toxic contaminants. These structures are KNOWN to leak. (273)

Response: See responses to comments 903, 1027, and 1365.

936. Comment: 78a.56(a)(1) Pollutational substances should be reinserted as opposed to regulated. It is a more inclusive and protective. Further, with any storage structure, there should be secondary containment required as well as protection from third-party action. (161)

Response: The use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution. The Department believes that the requirements in this section combined with §§78a.64 and 78a.64a are adequate to provide necessary protection to the environment and public health and safety.

937. Comment: 78a.56(a)(1). DEP should prescribe specific standards for “other approved storage structures”. This vague language does not provide needed clarity about the standards such structures must meet and leaves the public in the dark. Any request regarding equivalent or superior practices should be included in a permit, noticed for public comment and subject to a full public review process. The request and approval regarding equivalent or superior practices should be made publicly available on an easily accessible web platform. (182)

Response: The criteria for approval are currently contained in the regulations at § 78a.56(a)(1)-(10) and § 78.56(a)(1)-(11). Section 78.56(b) and 78a.56(b) allows an operator to request through a form on the Department’s website the ability to use practices that provide equivalent or superior protection than those outlined in subsection (a), and therefore the procedure and evaluating criteria are included in § 78.56. Requests to use modular aboveground storage structures are tracked in the Department’s eFACTS system.

938. Comment: This section should be clearly entitled to reflect the scope of the provisions, which are limited to the use of pits and tanks for temporary storage. In addition, the use of the term regulated substances is overly broad and creates uncertainty under this subsection, which should be better focused on the substances at well sites that would be contained in pits, tanks or other approved storage structures.

Commentator’s suggested amendatory language:

§ 78a.56. Temporary storage in pits, tanks and other approved storage structures (a) Except as provided in §§ 78a.60(b) and 78a.61(b) (relating to discharge requirements; and disposal of drill cuttings), the operator shall contain substances generated from and used for the drilling, altering, completing, recompleting, servicing and plugging well(s) at the well site or other authorized location where the substances or wastes are generated or will be beneficially reused, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a tank or series of tanks or other approved storage structures. The operator shall install or construct and maintain the pit, tank or series of pits and tanks or other approved storage structures in accordance with the following requirements: (210)

Response: Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103). The use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution.

939. Comment: § 78a.56. (a) (1) As noted above, the use of the term regulated substances is overly broad and creates uncertainty under this subsection. In addition, the proposed language does not account for loading and unloading of the referenced structures during operations at a well pad. For example, the same tank might be used repeatedly during drilling, completion, servicing and plugging activities, and would not be of “sufficient capacity to contain all regulated substances which are used” in total during those activities. (210)

Response: The commenter’s interpretation that pits and tanks must be of sufficient capacity to hold all of the regulated substances that are used or produced during drilling, altering, completing, recompleting, servicing and plugging the well at the same time is unreasonable. The use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution.

940. Comment: § 78a.56. (a) (2) As noted above, the use of the term regulated substances is overly broad and creates uncertainty under this subsection. Also, the proposed pre-approved list will need to be vendor specific.

It is not clear whether PADEP has qualified personnel to complete the evaluation and approval process for these types of above ground structures. Additionally, the threshold for modular aboveground storage structures should be at least 25,000 gallons capacity and not 20,000 gallons. (210)

Response: The use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution.

The Department’s website will list approved modular structures but authorization of the process will still be required to ensure proper siting of the facility.

The Department believes that the proposed threshold for modular above ground storage structure volume is appropriate. The Department evaluates proposed modular aboveground storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection. The Department reviews not only modular designs but also site specific construction and topographic conditions.

941. Comment: 78a.56(a)(2) All modular storage systems should require department approval regardless of size or capacity. (161)

Response: The Department does not believe that modular aboveground storage structures with a capacity of less than 20,000 gallons must be reviewed and approved by the Department prior to use.

942. Comment: We request further clarification of the below subsection given the ambiguous nature of the proposed language.

§ 78a.56(a)(2): Does the Department interpret a series of closed, steel containers (e.g., those commonly referred to as “frac tanks”) that are connected by a series of manifolds and piping to be modular aboveground storage structures that exceed 20,000 gallons capacity? That is, will a series of tanks that are plumbed together be treated a single structure or, for the purposes of volumetric thresholds, will each tank be treated as individual structures? (195)

Response: Modular Aboveground Storage Structure is defined in Chapter 78a as an aboveground structure used to store wastewater that requires final assembly at a well site to function and which can be broken down and moved to another well site after use. Closed, steel containers that do not require assembly to function do not meet the definition.

943. Comment: § 78a.56 (a) (2) - Will specific manufacturer names and model numbers be included on the list or will the list only be inclusive of general tank types/styles? (187, 209)

Response: The Department’s website will list approved modular structures but authorization of the process will still be required to ensure proper siting of the facility.

944. Comment: § 78a.56(a)(2) Modular aboveground storage structures that [are assembled onsite] EXCEED 20,000 GALLONS CAPACITY may not be utilized to store regulated substances

without PRIOR Department approval. The Department will maintain a list of approved modular storage structures on its web site.

The Department should strike the language saying “The Department shall maintain a list of approved modular storage structures on its website” and instead establish minimum requirements for modular aboveground storage structures. This would maintain the Department’s desired standard, but allow operators flexibility to determine the best available options at any given time for their circumstances. Additionally, the Department should issue guidance as to the approval process required for modular above ground storage structures assembled on site. Lastly, the commentator requests that the capacity limit be changed to 21,000 gallons to align with typical tank sizing. (199)

Response: Sections 78.56(b) and 78a.56(b) allow an operator to request through a form on the Department’s website the ability to use practices that provide equivalent or superior protection than those outlined in subsection (a). The Department evaluates each proposed practice on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection.

Each site requires its own authorization from the Department. Because of the potential for large-scale releases if a problem develops, the Department reviews not only modular designs but also site-specific construction and topographic conditions. The Department’s website will list approved modular structures but authorization will still be required to ensure proper siting of the facility.

The Department disagrees that the threshold for review of a modular aboveground storage structure must align with typical tank standards, given the key differences between storage tanks and aboveground modular structures.

945. Comment: Commentator supports the addition of new subsections 78.56(a)(3) and 78a.56(a)(3) requiring the operator to receive Department approval for site specific installation of modular aboveground storage structures. (231)

Response: The Department acknowledges the comment.

946. Comment: §78a.56(a)(3). Temporary storage -This section requires the operator to obtain siting approval for site- specific installation of modular aboveground storage structures for each well site where its use is proposed. No siting criteria are proposed. It is highly recommended that the required criteria be developed and adopted as part of this proposal. (193)

Response: The Department evaluates proposed modular aboveground storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection. The Department reviews not only modular designs but also site-specific construction and topographic conditions. The Department’s website will list approved modular structures but authorization of the process will still be required to ensure proper siting of the facility.

947. Comment: §78a.56.(a)(3) We support and recommend the Department having a mechanism to issue a permit for these facilities. The Department needs to track and enforce compliance on these facilities. The Department needs to ensure they are established in such a way that protects public health and safety and the environment. (170)

Response: The Department evaluates proposed modular aboveground storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection. Reviews are conducted by qualified staff. Requests to use modular aboveground storage structures are tracked in the Department's eFACTS system. After obtaining approval to utilize a modular aboveground storage structure, subsection 78.56(a)(4) and 78a.56(a)(4) requires the operator to notify the Department at least 3 business days before the beginning of construction.

948. Comment: § 78a.56 (a) (3) and (4) - What is the siting approval process for the installation of a Modular Above Ground Storage Structure? The operator may not know the exact sitting location on the well pad or tank pad; this would not allow for locational adjustments in the field.

Submitting notification to the department for the construction of a department approved structure is overly burdensome and unnecessary. (187, 209)

Response: As per subsection 78.56(a)(3) and 78a.56(a)(3) the operator must obtain siting approval from the Department for site specific installation of all modular aboveground storage structures for each individual well site where use of the modular aboveground storage structure is proposed. The Department evaluates proposed modular aboveground storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection. The Department reviews not only modular designs but also site-specific construction and topographic conditions. The Department's website will list approved modular structures but authorization of the process will still be required to ensure proper siting of the facility. After obtaining approval to utilize a modular aboveground storage structure, subsection 78.56(a)(4) and 78a.56(a)(4) requires the operator to notify the Department at least 3 business days before the beginning of construction. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

949. Comment: § 78a.56. (a) (3) The proposed provision is vague and unnecessarily broad. Specifically, the term "siting approval" is not defined or discussed elsewhere. If an operator drills multiple wells on a single well site, it is unclear whether approval is required for each individual structure used on the well site each time it is used or only once, for the entire well site.

The commentator recommends that this provision be revised to allow for the deemed approval of a siting request by an operator if PADEP does not act upon a timely request within a specified time period, e.g., 10 calendar days. (210)

Response: As per subsection 78.56(a) (3) and 78a.56(a)(3) the operator must obtain siting approval from the Department for site specific installation of all modular aboveground storage structures for each individual well site where use of the modular aboveground storage structure is proposed. There can be multiple wells on a single well site. The Department does not agree that use of modular aboveground storage structure should be deemed approved under any circumstances.

950. Comment: § 78a.56. (a) (4) We recommend that the notification requirement be removed. It is unnecessary to require notification when the modular aboveground storage structure has already been approved for use by PADEP and the location of the structure is shown on approved erosion and sediment control documents. (210)

Response: 78.56(a) (4) and 78a.56(a)(4) requires the operator to notify the Department at least 3 business days before the beginning of construction. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

951. Comment: Section 78.56(a)(4) The three (3) business days of notification to the Department for the assembly of an on-site modular above ground storage structure doesn't appear to be enough time for the Department to accurately determine if the site is in compliance, is properly prepared to assemble the proposed structures, etc. Is there any pre-authorization, site inspection, etc. needed for an applicant to use a structure of this type? In addition; is there any maximum size of these on-site modular storage structures? 250,000 gallons, 500,000 gallons? Any size or capacity limitation placed on each structure/well site? Any location that these modular above ground storage structures and/or constructed pits cannot be installed? Outside of a Floodway and/or Floodplain? They need to be X-feet from residence, building, utility line, etc.? Are there slope limitations? In addition; there doesn't appear to be any reference to a specific requirement(s) for the applicant/owner/operator to monitor, inspect and remediate for leaks, spills, contamination in this section for these pits/tanks/modular above ground storage structures. (9)

Response: See response to comment 948.

Subsection 78.56(a)(2) and 78a.56(a)(2) requires Department approval to use modular aboveground storage structure that exceeds 20,000 gallons capacity. The Department evaluates proposed modular aboveground storage structures on a case-by-case basis.

These tanks/pits/modular above ground storage structures are only providing temporary storage while wells are being drilled and completed on a well site. The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa.Code § 78.55 and 25 Pa.Code § 78a.55.

Modular aboveground storage structures must be located on a well site and are therefore subject to well site setback requirements.

952. Comment: Section (a)(4) is overly burdensome. Submitting a 3-day notification to the Department for the construction of a Department-approved structure is overly burdensome and unnecessary. What is the environmental benefit? Similar comment regarding the re-notification requirement if the date of installation is extended. (209)

Response: After obtaining approval to utilize a modular aboveground storage structure, subsection 78.56(a) (4) and 78a.56(a)(4) requires the operator to notify the Department at least 3 business days before the beginning of construction. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

953. Comment: § 78a.56(a)(4) AFTER OBTAINING APPROVAL TO UTILIZE A MODULAR ABOVEGROUND STORAGE STRUCTURE AT A SPECIFIC WELL SITE, [The] THE owner or operator shall notify the Department at least 3 business days before the beginning of construction of these storage structures. The notice shall be submitted electronically to the Department through its web site and include the date the storage structure installation will begin. If the date of installation is extended, the operator shall re-notify the Department with the date

that the installation will begin, which does not need to be 3 business days in advance.

Commenter believes the requirement to provide notice of construction for a structure that just received approval to construct offers no meaningful value to the public nor the environment and instead adds a needless burden upon the operator. The commentator requests that the Department strike this provision. (199)

Response: See response to comment 952.

- 954.** Comment: Once the Modular Aboveground Storage Structure has been approved for use with the Department and the location of the structure is shown on ESCGP-2 approved documents why is it necessary to create a new notification 3 days prior to commencement of construction? Recommend that the Notification requirement be removed. (232)

Response: See response to comment 952.

- 955.** Comment: 78a.56(a5). DEP should not allow any open structures or tanks, as discussed above. Size and number of tanks on one site should be limited to allow for effective maintenance and operation; allowing over 20,000 gallon capacity requires more oversight, management and monitoring to protect health and safety. Because of the high toxicity of the materials being contained, DEP should require alarm systems with remote sensors for all storage structures in case of spills or breaks to provide rapid response to leaks and spills as part of the Pollution Prevention Plans for sites. (182)

Response: See responses to comments 903, 1027 and 1365.

- 956.** Comment: 78a.56(a)(5) Open storage structures should not be allowed given their impact on air quality. If the subsection is violated, the operator should be required to revamp the containment system and fix it to prevent any future incident. (161)

Response: See responses to comments 903, 1027 and 1365.

- 957.** Comment: § 78a.56. (a) (5) It appears the word “standby” was inadvertently omitted from the next to last sentence in subsection (5) in association with the “storage structure.”

In addition, the term “regulated substance” should be replaced in accordance with the comment above to provide clarity with respect to the obligations under this section. (210)

Response: The use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution. The Department agrees and has added the word “standby” to the respective section.

- 958.** Comment: 78a.56(a)(6) The word “reasonably” protected should be deleted and a surrounding fence (as omitted in original (5) should be re-inserted into the text. (161)

Response: The intent of the section is to prevent unauthorized acts by third parties. The Department acknowledges that fencing will not prevent unauthorized acts of third parties in all cases. The Department believes that the changes made to section 78.56 to remove the requirement to install equipment to prevent unauthorized access by third parties and changes in section 78a.56 are appropriate.

959. Comment: 78a.56 (a)(7) The word “reasonable” is fraught with subjectivity. The reinsertion of the deleted language from (5) should correct this problem. (161)

Response: The intent of the section is to prevent unauthorized acts by third parties. The Department acknowledges that fencing will not prevent unauthorized acts of third parties in all cases. The Department believes that the changes made to section 78.56 to remove the requirement to install equipment to prevent unauthorized access by third parties and changes in section 78a. 56 are appropriate for conventional operations.

960. Comment: 78a.56 (a7). There is no definition of freshwater; freshwater should be defined numerically as comments above under Definitions. Freshwater impoundments should only contain uncontaminated water; otherwise, the fire prevention and spill response requirements should apply to all fluids in tanks. (182)

Response: While the term “freshwater” is not defined, the term “freshwater impoundment” is defined by the materials that may be stored within the impoundment which includes surface water, groundwater and other Department approved sources which the Department must review and approve based on a variety of factors including the quality of the water and the risks of storage of the water.

961. Comment: § 78a.56 (a) (7) - Remove this section as it is a duplication of 78a.56 (a) (6). The language included in 78a.56 (a) (6) is the appropriate language. (187, 209)

Response: The Department believes that the provisions in sections 78a.56(a)(6) and 78a.56(a)(7) are appropriate to provide necessary protection to the environment and public health and safety from unauthorized acts of third parties.

962. Comment: § 78.56(a)(7) Unless an individual is continuously present at the well site, operators shall equip all tank valves and access lids to regulated substances with reasonable measures to prevent unauthorized access by third parties such as locks, open end plugs, removable handles, retractable ladders or other measures that prevent access by third parties. Tanks storing ONLY freshwater, fire prevention materials and spill response kits are excluded from the requirements of this paragraph.

As previously referenced in our general comments about the drawbacks of overly prescriptive language, commenter suggests that the phrase “such as locks, open end plugs, removable handles, retractable ladders or other measures that prevent access by third parties” be stricken. Additionally, a lock, plug, or handle may not be able to absolutely ensure “prevention” of unauthorized acts by third parties or damage by wildlife. As such, for additional clarity, commenter recommends replacing the word “prevent” with “discourage” The requirement that operators take reasonable measures to discourage third party access provides clear direction while allowing operators flexibility to determine the best protections for their specific circumstances. (199)

Response: The intent of the section is to prevent unauthorized acts by third parties. The Department acknowledges that fencing will not prevent unauthorized acts of third parties in all cases but replacing “prevent” with “discourage” would not satisfy the intent of the section. 78a.56(a)(7) allows for alternatives to tank lid locks, specifically it allows measures other than those listed to be utilized to prevent access by third parties.

963. Comment: 78a.56(a)(8) The words “identifying its contents” needs to be clarified to include

specific chemicals and substances that are included. For example, flowback is inadequate. If low-level radioactive materials are contained, this must also be specified. This would be important for emergency personnel who may need to respond to an incident. Warning information is essential but data sheets are more instructive in the event of injury or spill response. (161)

Response: The operator shall display the sign on the tank or other approved storage structure identifying the contents and an appropriate warning of the contents such as flammable, corrosive or similar warning so that an individual who is not familiar with the well site should be able to understand the content in the tank or any other storage structure. Displaying a chemical characterization of the contents of tank is not necessary to meet the intent of the regulation.

964. Comment: § 78a.56(a)(8) The operator of an unconventional well site shall display a sign on or near the tank or other approved storage structure identifying the contents, and containing an appropriate warning of the contents such as flammable, corrosive or a similar warning.

As previously referenced in our general comments about the benefits of streamlined program, commenter suggests that the Department strike the language in Section 78.56(a)(8) which is duplicative of federal regulation. Operators are already required by the Occupational Safety and Health Administration's Hazard Communication Standard, which aligns to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Standard, to provide hazard information by putting labels on containers and preparing safety data sheets.(199)

Response: It is appropriate to include this health and safety provision in the rulemaking.

965. Comment: § 78a.56. (a) (8) We recommends the removal of unnecessarily prescriptive language by striking "such as flammable, corrosive, or a similar warning." Lastly, the requirements in this provision may be covered by the OSHA Hazcom standard.

Commentator's suggested amendatory language:

(8) The operator shall display a sign on or near the tank or other approved storage structure identifying the contents, and as applicable, containing an appropriate warning of the contents. (210)

Response: The proposed revisions remove necessary specificity of the regulation and have not been adopted.

966. Comment: § 78a.56(a)(8) Temporary storage - The "or near" option for the signs should be reinserted, as in the original proposal. DEP has provide no justification for removing that option, and as long as the sign is clearly associated with the tank or other structure that it applies to, there is no reason a sign near the tank would not suffice. Requiring that the sign be physically "on" the tank or storage structure may unnecessarily limit the options for the sign construction materials, require less durable signs, or increase the likelihood of loss of the sign depending on the method of attachment. (210, 213)

Response: The Department believes that the placement of sign on the tanks or other approved storage structure is more appropriate to prevent confusion when multiple storage structures are located in close proximity on a well site.

967. Comment: Pit liner. Current regulations require the use of a 20 mils thick pit liner that costs

approximately \$915.00. Under section 78.56(a)(8)(ii) of the new proposed standards, small conventional well operators must use a 30 mils thick liner that costs approximately \$1,864.00. This is an additional \$949.00 or 103.7% increase in liner cost. (201)

Response: The Department notes that prior to this rulemaking the regulations did not specify a minimum thickness for pit liners under § 78.56 but § 78.62 relating to disposal of residual wastes in a pit has required the use of a 30 mil liner or an alternate material if approved by the Department since Chapter 78 was initially promulgated in 1989. The Department acknowledges that when disposing of cuttings by land application, a liner thickness is not specified but the Department notes that disposal of cuttings in a pit is far more common than land application. The Department has approved a number of liner products with a 20 mil thickness since Chapter 78 was initially promulgated but does not believe that the exception should define the rule. Due to these requirements, the Department presumes that most conventional oil and gas operators are already using 30 mil liners.

In addition, the commenter does not provide detailed specifications for the liner described in the comment but the commenter notes in comment 987 that the pits used in conventional well operations are typically no larger than 10 feet by 30 feet and hold less than 4,200 gallons. The liner required for a pit of that size is conservatively 650 ft², however, based on liner pricing data available to the Department, the commenter is clearly not basing the cost estimates of \$915 for 20 mil and \$1,864 for 30 mil on what the commenter describes as a typical pit used in conventional well operations. In fact, the cost data appear to the Department to be based on providing a liner for a much larger pit, possibly as large as 6,000 ft² or 9 times the area of a pit identified by the commenter to be typical. A pit requiring a liner of 3,800 ft² size has been represented to the Department by the Conventional Oil and Gas Advisory Committee (COGAC) as the largest pit used during conventional operations in Pennsylvania. The Department believes that the example given by the commenter is an extreme example and is therefore not an accurate representation of the impact of a 30 mil liner requirement on the conventional oil and gas industry.

The Department believes that the proposed requirements for liner thickness are appropriate to ensure protection. The subsections allows for a liner to be approved if the manufacturer demonstrates that an alternative thickness is at least as protective as a 30 mil liner. A list of alternative liners shall be maintained on the Department's web site.

- 968.** Comment: § 78.56(a)(9) Temporary storage - The Department has proposed that all pits must be structurally sound and the interior slopes of a pit with footprint of 1,000 square feet or more must have a slope no steeper than 2 horizontal to 1 vertical. We appreciate the Department considering a limitation of less than 1,000 square feet, but the reality is that this is simply too small for most conventional oil and gas operations, especially those in the southwest Pennsylvania region. Pits built with 2:1 interior slopes will need to be more than 60% larger to contain the same amount of material as a pit built with steeper slopes. Therefore, pad size and area of disturbance will increase proportionately. It is important to recognize that pits associated with conventional operations are open and in use for a relatively short amount of time compared to their unconventional counterparts. One of the undeniable positive aspects associated with conventional operations is their small operational footprint and the short amount of time associated with construction. Commenter proposes that only pits with a footprint of more than 3,000 square feet and that will remain open and in use for more than 90 calendar days would have a slope no steeper than 2 horizontal to 1 vertical. (213, 251)

Response The Department disagrees that the proposed requirements will result in an increase of the aerial extent of on-site pits to the extent indicated in the comment. The Department has revised subsection 78.56(a) to remove minimum slope requirements for pits less than 3,000 ft² or 125,000 gallons of capacity. For pits with greater aerial extent or capacity, operators must obtain authorization from the Department prior to construction.

969. Comment: § 78a.56. (a) (9) It is unnecessary to require that tanks and approved storage structures “be impermeable”.

Presumably, all such structures are impermeable. (210)

Response: The Department agrees that all such structures should be impermeable. This is a performance-based standard that does need to be stated in the event the standard is not achieved so that enforcement actions can be initiated.

970. Comment: § 78.56(a)(9) A [pit] [or][, tank] TANK or other approved storage structure that contains drill cuttings from below the casing seat, [pollutional] regulated substances[, wastes] or fluids other than top-hole water, fresh water and uncontaminated drill cuttings shall be impermeable [and comply with the following:]

(10) Condensate, whether separated or mixed with other fluids, may not be stored in any open top structure or pit. ABOVEGROUND TANKS [Tanks] used for storing or separating condensate during well completion shall be monitored and have controls to prevent vapors from exceeding the lower explosive limits of the condensate outside the tank. Tanks used for storing or separating condensate shall be grounded.

The commentator supports the Department’s removal of overly prescriptive language in this section and instead simply requiring impervious storage structures. This change provides clear direction while allowing operators flexibility to determine the best means of meeting that direction for their site specific circumstances.

The commentator does have concerns about the section prohibiting any condensate storage in an open-topped structure without any specification for a de minimis amount. The ability to stage and temporarily store flowback or produced water is critical for operators to maximize the reuse or recycling of water in their future operations. While all reasonable efforts will have been made to separate hydrocarbons from water produced prior to storage, trace amounts of hydrocarbons could remain. Therefore, an absolute prohibition on condensate storage without a de minimis exception could significantly inhibit prudent operators from being able to stage sufficient water for reuse to economically justify the costs of a water recycling/reuse program. While such a program could technically be accomplished using aboveground tanks, the number of tanks required would be substantial. The costs of tanks and related trucking required increases emissions and could make such a program uneconomic for operators depending on the current commodity environment. For these reasons, some de minimis exception should be added to account for the possibility of trace amounts of hydrocarbons and preserve the ability to stage water in open topped containers. Lastly, the commenter asks that the Department clarify what defines “storage of water” for the purpose of this regulation. (199)

Response: The Department acknowledges the comment and has revised the rulemaking accordingly. Condensate, whether separated or mixed with other fluids at a concentration greater than 1 percent by volume, may not be stored in any open top structure or pit.

971. Comment: 78a.56(a9). ALL tanks containing any substances, including drill cuttings from above the casing seat, should be impermeable and impervious to prevent a pathway for pollution. Given the nature of the material stored and the expense associated with clean up, a double liner system with leak detection between layers must be considered. The leak detection system is the critical part of the double liner system. (182)

Response: The Department disagrees that the scope of leak detection systems proposed in the comment is necessary to ensure environmental protection. These tanks are only providing temporary storage while wells are being drilled and completed on a well site. The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55.

972. Comment: 78.56(a)(9) Regarding Temporary Storage (§ 78.56) and the >1,000 square feet actuation footprint necessitating a 2 to 1 slope, the Department is essentially mandating a much larger location footprint to accommodate the drill cuttings and fluid returns. This will both displease landowners and increase the cost of exploration resulting in a feasibility tipping point. If the pit footprint could be enlarged to 2,500 square feet before the 2 to 1 slope actuation, this would permit the conventional operators to continue to appease the landowners while efficiently managing their drilling returns. (212, 245)

Response: The Department has revised subsection 78.56(a) to remove minimum slope requirements for pits less than 3,000 ft² or 125,000 gallons of capacity. For pits with greater aerial extent or capacity, operators must obtain authorization from the Department prior to construction.

973. Comment: 78.56(a)(10) - Soil scientist. Current regulations require the bottom of the pit to be “at least 20 inches above the seasonal high groundwater table, unless the operator obtains approval under subsection (b) for a pit that exists only during dry times of the year and is located above groundwater.” Section 78.56(a)(4)(iii) (current). The new proposed standards require a “soil scientist or other similarly-trained person” to make this determination for every pit containing drill cuttings or other residual waste. Section 78.62(a)(9). This cost of hiring a soil scientist to perform this task is estimated to cost \$3,000 to \$5,000. (201)

Response: The Department acknowledges the comment and notes that the rulemaking allows “other similarly trained persons” to make the determination as well, which may represent a substantial cost savings to the operator. .

974. Comment: 78a.56(a)(10) Aboveground tanks needs secondary containment and protection from third party activity. (161)

Response: The Department believes that the requirements in this section combined with §§78a.64 and 78a.64a are adequate to provide necessary protection to the environment and public health and safety.

975. Comment: 78a.56(a)(10). We support secondary containment for condensate tanks but it should be clear that ALL tanks containing regulated substances or other substances used in well development require secondary containment to prevent pollution from being released into the environment. DEP should also require sealed lids for all condensate tanks that prevent vapors

from being released. A redundantly protective filter system should be provided to remove all air pollutants and meet air quality regulations should vapors escape. (182)

Response: See response to comment 974. Air quality issues are regulated under 25 Pa. Code Article III and are beyond the scope of this rulemaking.

976. Comment: Section 78.56 (a) (11) The determination of seasonal high groundwater table should be made by and certified by an engineer, not a soil scientist or other similarly trained person. The engineer should provide a certification with P.E. seal and signature for this determination. (9)

Response: The Department believes that proposed requirements for the determination of seasonal groundwater table is appropriate. Seasonal High Ground Water conditions can be determined through observation of soil characteristics in the field by a soil scientist or other similarly qualified person.

977. Comment: Section 78.56 (a) (12) This item indicates and lists only stormwater and excludes surface water. Both should be addressed. (9)

Response: Setbacks from surface waters are addressed in other portions of the rulemaking.

978. Comment: Section 78.56 (a) (16) The three business day notification of installing the pit liner to the Department is incredibly short if the Department has any intent of inspecting or approving the site prior to liner installation. What is the Department's intent? (9)

Response: The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

979. Comment: Section 78.56 (a) (17) There is not any reference to any requirement for spill or leak containment or double wall construction. (9)

Response: These tanks are only providing temporary storage while wells are being drilled and completed on a well site. The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55. Spill or leak response and remediation is regulated under §78.66 and §78a.66.

980. Comment: Continuous personnel presence or fencing requirements were dropped from both 78.56 and 78a.56 final drafts for open pits. Unmonitored and unsecured open pits at a drill site present a clear danger to the health and safety of nearby residents, domestic animals and wildlife. (103)

Response: The Department does not believe fencing is necessary to secure pits at conventional well sites. In addition, the Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department agrees that changes to section 78.56 to remove the requirement to install equipment to prevent unauthorized access by third parties are appropriate for conventional operations. The Department believes that the provisions in §§ 78a.56(a)(6) and 78a.56(a)(7) are adequate to provide protection against unauthorized acts of third parties.

981. Comment: 78.56-78a.56 and 78.57-78a.57 would eliminate the use of temporary storage pits for

production fluids generated at fracking sites, however it does not address the on-going problem of what to do with the toxic liquid waste. What comes out of a gas well is more toxic than what goes in. What is the remedy for closing of existing temporary storage pits? How will the disposal of the plastic liner be handled - bury it is not an option? What are the restoration plans for temporary storage pits? Will contaminated soil be removed, if so, where will it go? If not, what are the responsibilities and liabilities of the corporate owners and property owner where the temporary storage pits are located? Should the property be sold, will disclosure of the temporary storage pits be required? (119)

Response: The rulemaking addresses the commenter's concerns regarding site restoration, waste management/disposal and remediation of spills and releases under sections §§ 78.55-78.63 and 78.65 and 78a.55-78a.63 and 78a.65.

982. Comment: 78.56-78a.56 allow for the use of buried tanks for toxic liquid waste storage. Little else is mentioned about the maintenance or allowable time period correlated with the existence of buried waste tanks. (118)

Response: Buried tanks and structures are more permanent in nature. Sections 78.56 and 78a.56 have provisions for temporary storage of regulated substances and wastes from drilling, altering, completing, recompleting, servicing and plugging wells at the well site. The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55.

983. Comment: All gas facilities including tanks, pits, wells, and compressor stations should have monitors designed and operated by a third party, functioning 24 hours a day, and recording findings that are directly available to the DEP and public.

The gas industry should not be responsible for conducting this monitoring but should be financially responsible for payment of the implementation and conduction of that process. 78.56 (17): (130)

Response: The Department disagrees that the scope of monitoring proposed in the comment is necessary to ensure environmental protection.

984. Comment: § 78a.56 (i) - Inspection programs and operator specific forms of record keeping are already in place, having to duplicate this information on department specific forms is administratively burdensome and unnecessary. (187)

Response: The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55.

985. Comment: The commentator Supports a Number of Recommendations in the Draft Changes to Chapter 78 of the Pennsylvania Code Proposed in March 2015. The commentator is pleased to have the opportunity to comment on the revised proposed changes to Chapter 78, which are now bifurcated into Chapter 78 – Conventional Oil and Gas Wells, and Chapter 78a – Unconventional

Oil and Gas Wells. Overall, the commenter is pleased with the bifurcation of the rules and with the additional proposed changes set forth in the March 2015 version of the proposed rules. Specifically, the commentator would like to commend the Wolf Administration for making the following improvements in the rules proposed in March 2015:

Curbing the use of open pits for wastewater treatment and management; curbing the use of open pits, are important steps toward preventing the contamination of Pennsylvania's waters, including the Delaware River. The commentator supports these additions to the proposed rules. (175)

Response: The Department acknowledges the comment.

986. Comment: The provisions of the proposed final rule governing pits - as set forth in section 78.56 (temporary storage), 78.61 (disposal of drill cuttings), 78.62 (disposal of residual waste - pits), and 78.63a (alternative waste management) - are not in the public interest and should be withdrawn. (201)

Response: The Department believes that the provisions in § 78.56, § 78.61, § 78.62, and § 78.63a are adequate to provide environmental protection.

987. Comment: There are important differences between the pits used by small, independent conventional well operators to temporarily store brine and other production fluids and the pits used by large, billion-dollar corporations in unconventional well operations. The pits used in conventional well operations are typically no larger than 10 feet by 30 feet and hold less than 4,200 gallons. By contrast, the pits used in unconventional well operations can exceed one acre in size and hold millions of gallons. The pits used in conventional operations typically remain open for two weeks before they are closed. However, the pits used in unconventional operations can remain open for a year before they are closed. Like storage tanks, there is no comparison between conventional and unconventional well pits. (201)

Response: The Department acknowledges the comment and notes that there are substantial differences between the temporary storage requirements in Chapters 78 and 78a. These differences account for the fact that the type and scope of use of pits by the conventional oil and gas industry is substantially different than that of the unconventional oil and gas industry.

988. Comment: There are also important differences in chemistry and salinity between conventional and unconventional production water.

Substance	Shallow Oil Well	Marcellus Shale Well
Barium	48.4	6,500
Calcium	6,179	18,000
Iron	53	60
Lithium	2.2	150
Manganese	4.2	5.0
Potassium	90	Not Measured
Sodium	19,879	48,000
Strontium	110	4,000
Bromine	638	Not Measured
Chlorine	42,954	116,900
Total Dissolved Solids	80,106	195,000

Angelika Cubbon, M.S. Environmental Engineering (April 2011). (201)

Response: The Department acknowledges the comment. See response to comment 1067 regarding the difference between water quality of conventional and unconventional produced waters in Pennsylvania.

989. Comment: The new proposed standards governing use of pits in conventional well operations are not supported by acceptable data and will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. According to the Department's online compliance reports, the Department conducted 13,445 well inspections in 2014, a 78% increase over 2008. During that same period (2008-2014), there was an 83% decrease in new conventional drilling. Of the 13,445 inspections conducted in 2014, only 23 inspection reports identified pits that were improperly constructed in conventional well operations. This represents .0017 percent of all well inspections conducted in 2014. Of those 23 inspection reports, only 3 identified torn or damaged pit liners. This represents .00022 percent of all well inspections conducted in 2014. This is hardly justification for more stringent and expensive regulations on the use of pits in conventional well operations. The direct and indirect costs of the new proposed standards are so high that they will put small, independent conventional oil and gas well operators out of business. (201)

Response: The Department does not agree with the commenter's assessment of inspection data and notes that the Department has observed significantly more than 7 torn or damaged pit liners since 2008. In response to comments from the conventional industry, the Department has revised subsection 78.56(a) to remove minimum slope requirements for pits less than 3,000 ft² or 125,000 gallons of capacity. For pits with greater aerial extent or capacity, operators must obtain authorization from the Department prior to construction. The Department believes that the proposed requirements for pit construction are appropriate to ensure protection.

990. Comment: The new proposed standards will have a severe adverse effect on the productivity of small, independent conventional well operators. As explained above, the cumulative effect of these new costs alone will drive these small operators out of business. (201)

Response: The Department considered all conventional operators to be small businesses during development of this rulemaking. In response to comments from the conventional

industry, the Department has removed a significant number of originally proposed requirements. Detailed analysis of the estimated costs likely to be observed have been provided in the Regulatory Analysis Form.

- 991.** Comment: Moreover, there are provisions in the proposed standards that will be impossible for small conventional operators to comply with, irrespective of cost. For example, a 30 mils thick liner is 184 pounds heavier than a 20 mils thick liner. This is important because conventional operators typically spread these liners manually without the use of machinery. (201)

Response: The Department acknowledges that 30 mil liners are heavier per unit area than 20 mil liners. Based on the best information available to the Department and assuming use of vertical walls and a high density polyethylene (HDPE) liner, a pit liner where the difference in weight between a 20mil thickness and a 30 mil thickness is 184 lbs. has an aerial extent of approximately 3,800 ft² with the 20 mil liner weight being approximately 368 lbs. and the 30 mil liner weight being approximately 552 lbs. The weight of a 20 mil pit liner of this size is substantial enough to require machinery and/or a multi-person crew to install. A pit of this size has been represented to the Department by the Conventional Oil and Gas Advisory Committee (COGAC) as the largest pit used during conventional operations in Pennsylvania. In addition, the example provided by COGAC included vertical walls that are 8 feet tall which would make installation of even a 20 mil liner very difficult without machinery or a multi-person crew.

In addition, the commenter notes in comment 987 that the pits used in conventional well operations are typically no larger than 10 feet by 30 feet and hold less than 4,200 gallons. The liner required for a pit of that size is conservatively 650 ft² with the 20 mil liner weight being approximately 62 lbs. and the 30 mil liner weight being approximately 95 lbs. which is a weight difference of only 33 lbs.

The Department believes that the example given by the commenter is an extreme example and consequently, the Department does not believe that the example of a 184 lb. weight difference is an accurate representation of the impact of a 30 mil liner requirement on the conventional oil and gas industry. In addition, the Department does not believe that an increase in weight of 33 lbs. for a typical pit or 184 lbs. for a very large pit is overly burdensome for conventional operators to manage.

Finally, the subsection allows for a liner to be approved if the manufacturer demonstrates that an alternative thickness is at least as protective as a 30 mil liner. A list of alternative liners shall be maintained on the Department's website.

- 992.** Comment: while section 78.56 does indicate that the Department may approve the use of a 20 mils liner if the manufacturer establishes that it is as effective as a 30 mils liner, there is no requirement that the Department do so. (201)

Response: The Department believes that the proposed requirements for liner thickness are appropriate to ensure protection. The subsection allows for a liner to be approved if the manufacturer demonstrates that an alternative thickness is at least as protective as a 30 mil liner. The Department will make forms and guidance available prior to adoption of the final rule in order to address this concern. A list of approved alternative liners shall be maintained on the Department's website.

- 993.** Comment: The new proposed standards will have an adverse effect on competition because small,

independent conventional well operators will be driven out of business should these standards become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10- 15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: The Department considered all conventional operators to be small businesses during development of this rulemaking. In response to comments from the conventional industry, the Department has removed a significant number of originally proposed requirements regarding temporary storage. Please see the final regulatory analysis form for further explanation.

994. Comment: The Department's regulatory analysis form does not demonstrate a need for the new proposed standards governing the use of pits in conventional well operations. To the contrary, the Department frames the need for new standards entirely on the changes brought about by the “dramatic increase in the total number of unconventional wells drilled throughout the Commonwealth.” To the extent that the Department references the conventional oil and gas industry at all in explaining the need for the new proposed standards, it is as a point of comparison - to show how unconventional well operations have changed Pennsylvania's energy landscape. This is evident from several statements in the form: (1) “Conventional well operators are much smaller in scope and they generate far less waste than unconventional drilling, therefore the potential impact to the environment is significantly less.”; (2) “[T]he area of earth disturbance at an unconventional well site during drilling and hydraulic fracturing stages is at least 10 times the size of earth impacted at a conventional well site.”; (3) “Throughout the history of conventional oil and gas development, brine has been beneficially used in dust suppression and road stabilization [By contrast,] [t]he road spreading of brine from unconventional wells is not approved as a beneficial use in the Commonwealth.” (201)

Response: See the Department’s response to question 10 in the final Regulatory Analysis Form for the Department’s explanation of the need for the pit standards in the final rule.

995. Comment: The Department's regulatory analysis form does not reflect the Department's consideration of the direct and indirect costs of the proposed standards or the economic impact that those standards would have on small businesses. The Department's cost estimates for conventional operators make no mention of the 103.7% increase in the cost of every pit liner or the additional cost of \$3,000 to 5,000 to employ a soil scientist. (201)

Response: The Department does not agree with the commenter’s assertion that the requirement to use a soil scientist or other similarly trained person to identify the elevation of the seasonal high groundwater table represents a new cost of \$3,000-\$5,000 to the conventional oil and gas industry. The revised provision does not add any new requirements because the existing regulation implies that an accurate seasonal high groundwater determination is made. The Department also notes that the rulemaking allows “other similarly trained persons” to make the determination as well, which may represent a

substantial cost savings to the operator. Please see the final regulatory analysis for further explanation and the Department’s analysis on the economic impact of this provision.

996. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to prevent leakage of brine and other fluids from pits used in conventional well operations. While the Department does make brief mention in the form about providing free training to operators to avoid the cost of a soil scientist, there is nothing in the draft final rule requiring the Department to provide such training and no details about the availability of such training prior to the proposed standard taking effect. (201)

Response: Regarding requirements to determine the elevation of the seasonal high groundwater table, see response to comment 995. Please see the final regulatory analysis further explanation and the Department’s analysis on the economic impact of this provision.

997. Comment: In 2013, the EQB proposed allowing certain types of temporary tanks and approved storage structures (“temporary storage”) to be used at the well site, along with new monitoring, fencing, sign, and pit construction requirements. In 2015, PADEP improved § 78a.56 to prohibit the use of pits for temporary containment and proposed removal of all existing temporary pits within six months of rule approval (with the exception of uncontaminated drill cuttings in accordance with § 78a.61.) (211)

Response: The Department acknowledges the comment.

998. Comment: Finally, the new proposed standards for pits used in conventional well operations so far exceed the enhanced environmental standards already contained in Act 13 of 2012 that they represent a policy decision of such a substantial nature that they require an act of the General Assembly before they can become law. Nothing in Act 13 requires an increase in pit liner thickness, the employment of a soil scientist or similarly trained person to determine the distance between the bottom of the pit and the seasonal high water table, or a three-day notice requirement prior to constructing a pit, or disposing of drill cuttings or residual waste in a pit. If Pennsylvania is to be the first to impose such complex and onerous regulations on the use of pits in conventional well operations, it should not do so on the backs of small, independent conventional well operators who are least able to absorb the increased costs. (201)

Response: Chapters 78 and 78a are promulgated under the authority of several environmental laws including the 2012 Oil and Gas Act; Article I, Section 27 of the Pennsylvania Constitution; the Clean Streams Law; the Dam Safety and Encroachments Act; the Solid Waste Management Act; the Pennsylvania Law Recycling and Environmental Remediation Standards Act; the Radiation Protection Act; the Administrative Code of 1929; the act of July 10, 2014 (P.L. 1053, No. 126); and the Unconventional Well Report Act, the act of October 22, 2014 (P.L. 2853, No. 173). The Clean Streams Law provides the statutory authority for these requirements in § 78.56.

Please see the Department’s response to question 10 in the final regulatory analysis form for an explanation of the need for the revised liner thickness requirements in § 78.56.

999. Comment: The Department should impose a time limit, such as 60 days, for on-site storage of substances and wastes covered by this section. (225)

Response: The Department does not believe an arbitrary time limit is necessary for on-site temporary storage of regulated substances and waste generated from the drilling, altering, completing, recompleting, servicing and plugging as long as the requirements of this section are being followed.

1000. Comment: The Department should make it expressly clear in this section that Modular Aboveground Storage Structures are subject to the containment, integrity, and inspection requirements in §78a.57, and other special requirements if appropriate. (225)

Response: Modular aboveground storage structures used for temporary storage on the well site are subject to the requirements outlined in § 78a.56. Section 78a.57 applies to control, storage, and disposal of production fluids.

1001. Comment: Section 78a.56 - Temporary Storage - Commenter supports the Department's exemption for modular storage tanks that store only fresh water. We believe that this exemption is also appropriate for proposed regulations dealing with well development pipelines (see section 78.68b). (222)

Response: The Department acknowledges the comment.

1002. Comment: We are pleased to see that pits will no longer be allowed for storage of regulated substances and wastes. This should be much more effective in protecting the land and waters of the Commonwealth.

We do still have a number of questions and concerns about this section. The term “temporary” is undefined. Many of the horizontal wells in the Commonwealth are planned to contain a number of wellheads, to be drilled over a period of time. Given both the lack of pipelines to move product to market in some locations, and the low price for natural gas at this time, a number of wells are shut in, or planned wells remain undrilled. The potential exists for “temporary storage” of substances or wastes generated onsite or to be beneficially reused to last many years, perhaps decades. We recommend the Department define “temporary”, and set a time limit for onsite storage.

We are also concerned over the lack of requirements for secondary containment for these materials, and leak detection systems for these tanks. Given the long timeframe they may be onsite, both secondary containment and leak detection systems would seem prudent to protect Commonwealth resources. We also recommend that the quality of the tanks language from the first sentence of § 78a.57(d) on page 49 be added to this section.

§ 78a.56(a)(5) - This section stipulates that open tanks or open storage structures can be used to contain regulated substances. However, § 78a.57(a) says open top structures may not be used to store brine and other fluids produced during operation of the well. Please clarify the materials that can be stored in open tanks and open top structures. We also recommend that open tanks include mesh on top to prevent negative impacts to wildlife. The Upper Delaware Scenic and Recreational River, as well as other NPS units in the Commonwealth, have bats and birds that are protected species. Mesh covering the openings could prevent negative impacts to these species. (200)

Response: §78.56 and §78a.56 regulates temporary storage of regulated substances and waste from the drilling, altering, completing, recompleting, servicing and plugging wells at the well site where the substances or wastes are generated or will be beneficially reused.

§78.57 and §78a.57 regulates the control, storage and disposal of production fluids produced during operation of the well.

The time limit for restoration of these facilities is well defined through this rulemaking and is consistent with requirements in the 2012 Oil and Gas Act. Temporary is not defined in Chapter 78a, however this Chapter has been developed under the authority of the Solid Waste Management Act (SWMA), 35 P.S. § §6018.101, et seq. In Section 103, “storage” is defined as “the containment of any waste on a temporary basis in such a manner as not to constitute disposal of such waste. It shall be presumed that the containment of any waste in excess of one year constitutes disposal. This presumption can be overcome by clear and convincing evidence to the contrary.” If the regulated substance that is being stored under §78.56(a) is waste, the definition of “storage” under SWMA provides clarification on the meaning of temporary. For other regulated substances, the definition of “temporary” in the dictionary may be used. Temporary is defined as lasting for only a limited period of time, not permanent.

Under §78.56(a)(6) and §78a.56(a)(6), pits, tanks and other approved storage structures must be maintained to be structurally sound and reasonably protected from unauthorized acts of third parties. Operators are required to outline their monitoring and inspection requirements and frequency in site specific PPC Plan under §§78.55 and 78a.55. The Department is not mandating inspections as these tanks are typically only located on active well sites where operator personnel are present regularly while the tank is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55.

Spill response and remediation are regulated under §78.66 and §78a.66. Containment practices and systems at well site are regulated under § 78a.64a.

1003. Comment: 78a.56(b). Any request regarding equivalent or superior practices should be noticed for public comment and subject to a full public review process. The request and approval regarding equivalent or superior practices should be made publicly available on an easily accessible web platform. (182)

Response: The Department evaluates proposed modular aboveground storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection. Reviews are conducted by qualified staff. Requests to use modular aboveground storage structures are tracked in the Department’s eFACTS system.

1004. Comment: 78a.56(b) The operator requesting equivalent or superior protection must provide proof of such claim. (161)

Response: Sections 78.56(b) and 78a.56(b) allow an operator to request through a form on the Department’s website the ability to use practices that provide equivalent or superior protection than those outlined in subsection (a). Reviews are conducted by qualified staff. The Department evaluates proposed storage structures on a case-by-case basis to determine whether the proposed structure will provide equivalent or superior protection.

1005. Comment: The same comment as 78.55(b) applies to this section. It is suggested that the language be revised to state “...which are used [or anticipated to be] produced...” (232)

Response: The storage facilities must be constructed and maintained with sufficient capacity to contain all regulated substances which are used or produced during drilling, altering, completing, recompleting, servicing or plugging the well whether anticipated or not.

1006. Comment: 78a.56(c) Tests should be required to determine if the drill cuttings are “uncontaminated?” (161)

Response: Disposal of uncontaminated drill cuttings in a pit or by land application shall comply with § 78.61 and § 78a.61. Uncontaminated drill cuttings are drill cuttings that are not contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

1007. Comment: 78a.56(c). We oppose the disposal of any materials generated by oil and gas well development, including oil and gas well drilling and fracking, by land burial in a pit on a well site or through land application. All waste should be disposed of in facilities designed and permitted for this purpose off the well site. See comments below at 78a.57. (182)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The requirements include that the drill cuttings are not contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water or gases.

1008. Comment: § 78a.56(c) Temporary storage - This paragraph (c) dealing with disposal of drill cuttings is not necessary here in the § 78a.56 “Temporary Storage” section since it has nothing to do with temporary storage, and it duplicative of the requirements already contained in § 78a.61, and so should be deleted. (199, 210, 213)

Response: The intent of § 78a.56(c) is to reference the requirements of § 78a.61 for the disposal of uncontaminated drill cuttings.

1009. Comment: Commentator is especially supportive of the Department’s proposal to mandate the closure of all existing pits within six months of the effective date of the regulations. Allowing existing pits to remain in place unnecessarily exposes the Commonwealth’s water resources to the threat of pollution. Better technology for the storage of these materials is available, and it should be used as soon as possible. (231a)

Response: The Department acknowledges the comment.

1010. Comment: 78a.56(d)This could be interpreted as being applicable to freshwater impoundments / pits. Recommend adding (for regulated substances) to the end of the first sentence. (232)

Response: Provisions in § 78a.56 applies to the temporary storage of regulated substances and wastes from the drilling, altering, completing, recompleting, servicing and plugging wells at the well site where the substances or wastes are generated or will be beneficially reused. §78.56 does not apply to storage of freshwater. Freshwater impoundments are regulated under § 78.59a and § 78a.59a.

1011. Comment: All existing pits which contain fracking wastewater, drill cuttings, and other substances that return to the surface must be moved to close above ground systems within one year of this regulation, not buried on-site. (325)

Response: See responses to comments 903, 1027 and 1365. The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements. The Department has revised subsection 78a.56(d) to include requirements for proper pit closure in accordance with appropriate restoration standards no later than six months from the effective date of this regulation.

1012. Comment: 78a.56(d). We support the removal of existing and currently used pits for temporary containment. We support immediate closure of existing pits, no later than the six months recommended in this section. The use of existing pits by both conventional and unconventional wells for waste and fluid containment threatens public health and the environment. According to STRONGER in its most recent state review of DEP oil and gas regulations (September 2013) DEP reported to the review team that there are about 1600 drilling production pits in Pennsylvania. These represent a substantial risk of pollution and degradation and should be closed immediately. (182)

Response: See responses to comments 903, 1027 and 1365. The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1013. Comment: 78a.56(d) - PITS MAY NOT BE USED FOR TEMPORARY CONTAINMENT. AN OPERATOR USING A PIT FOR TEMPORARY STORAGE AT THE EFFECTIVE DATE OF THESE REGULATIONS SHALL PROPERLY CLOSE THE PIT IN ACCORDANCE WITH APPROPRIATE RESTORATION STANDARDS NO LATER THAN ____ (EDITOR'S NOTE: THE BLANK REFERS TO A DATE SIX MONTHS FROM THE EFFECTIVE DATE OF THIS REGULATION).

NEW PIG ENERGY comment:

See issue with "primary containment" and "secondary containment" definitions.

NEW PIG ENERGY's suggested amendatory language:

PITS MAY NOT BE USED FOR TEMPORARY PRIMARY CONTAINMENT. AN OPERATOR USING A PIT FOR TEMPORARY STORAGE AT THE EFFECTIVE DATE OF THESE REGULATIONS SHALL PROPERLY CLOSE THE PIT IN ACCORDANCE WITH APPROPRIATE RESTORATION STANDARDS NO LATER THAN ____ (EDITOR'S NOTE: THE BLANK REFERS TO A DATE SIX MONTHS FROM THE EFFECTIVE DATE OF THIS REGULATION). (115)

Response: The Department has revised the subsection from temporary containment to temporary storage.

1014. Comment: §78a.56.(d) We support and recommend the discontinuance and prohibition of pits. (170)

Response: The Department acknowledges the comment.

1015. Comment: § 78a.56(d) Temporary storage - Commenter objects to the closure within six months of existing pits that temporarily store flowback, especially where the Draft Final Rule would require closure of centralized impoundments and add new obligations for the use of pipelines, tanks or other facilities for the storage of substances generated by and necessary for oil and gas operations. The Draft Final Rule should not apply retroactively to existing operations without express legislative direction or compelling justification. Existing pits on well sites were built in accordance with applicable law, and will be closed and restored according to existing law. Chapter 78a should not impose unnecessary burdens on this industry. (213)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

The Department disagrees with the commenter's assertion that the regulations impose considerable constraints on the oil and gas industry's ability to store, transport and reuse/recycle fluids. The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX which will ensure that Chapter 78 and 78a do not result in disparate requirements or disproportionate costs on one particular economic or extractive sector.

1016. Comment: § 78a.56. (d) This provision, in addition to the proposed closure of centralized impoundments and additional restrictions on tanks, aboveground storage structures, and well development pipelines, will put considerable constraints on the oil and gas industry's ability to store, transport and reuse/recycle fluids. Commenter objects to the closure of existing pits used for temporary storage within six months from the effective date of the proposed regulation. The Department has not provided any justification (or Legislative intent) for this proposed requirement, particularly why it should apply retroactively to temporary storage pits that were built pursuant to current law. It is also not clear how the Department arrived at its proposed six month requirement to close and restore these existing pits. The Department should not require the universal closure of these pits prior to the conclusion of their permitted use, and should allow these pits to be restored according to the operator's restoration plan. (210)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

The Department disagrees with the commenter’s assertion that the regulations impose considerable constraints on the oil and gas industry’s ability to store, transport and reuse/recycle fluids. The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX which will ensure that Chapter 78 and 78a do not result in disparate requirements or disproportionate costs on one particular economic or extractive sector.

1017. Comment: § 78a.56 (d) [Unless a permit under The Clean Streams Law (35 P.S. §§ 691.1—691.1001) or approval under § 78a.57 or § 78a.58 (relating to control, storage and disposal of production fluids; and existing pits used for the control, storage and disposal of production fluids) has been obtained for the pit, the]

Commenter has significant concerns that this section could be interpreted as excluding the use of centralized impoundments (Section 78a.59c). Centralized impoundments play a critical role in facilitating a robust water recycling program which in turn provides relief to water use and disposal demands in the region. It has been a stated goal for the Commonwealth to promote the responsible recycling and reuse of oil and gas wastes to reduce the demand on fresh water resources for oil and gas development and operations. If forced to abandon the use of centralized impoundments for collecting produced water to stage for reuse, companies would have to supplant that storage with a series of storage tanks that drive up operational costs and total a much larger footprint or else turn to a greater use of freshwater. Instead, we support proposed language for a new section addressing temporary storage: “§ 78a.56a. Alternate temporary storage” (199)

Response: See response to comment 1016. The rulemaking clearly differentiates between temporary pits and centralized impoundments.

1018. Comment: Also, section 78.56(e) requires a conventional owner or operator to notify the Department “at least 3 business days before commencing construction of a pit used during servicing, plugging or recompleting a well.” When a conventional well requires servicing, it must be worked on right away. When this need arises, an operator cannot wait three days before taking action. Equally important, when plugging a well it is very difficult to know for sure when to move to the next well. Bad weather or other problems can alter the timing of this process. A three-day delay is completely impractical in this situation as well. (201)

Response: The Department acknowledges the comment and has modified the rulemaking to allow the Department to waive the 3 business day notification requirement in the event of an emergency.

1019. Comment: In 2013, the EQB proposed allowing certain types of temporary tanks and approved storage structures (“temporary storage”) to be used at the well site, along with new monitoring, fencing, sign, and pit construction requirements. In 2015, PADEP improved § 78a.56 to prohibit the use of pits for temporary containment and proposed removal of all existing temporary pits within six months of rule approval (with the exception of uncontaminated drill cuttings in accordance with § 78a.61.)

We appreciate PADEP’s incorporation of the recommendation in the 2014 Comments to prohibit the use of pits for onsite temporary storage; this is a significant improvement. We support PADEP’s requirement that any existing temporary pits be removed within six months of rule approval. We also support the improved language that makes it clear that the type and siting of a temporary storage structure must be approved by PADEP.

In 2015, PADEP added a new regulation requiring specific temporary tank storage requirements for tanks used at a centralized tank storage area (§ 78a.57a). It is not clear why PADEP's proposed standards for temporary storage at a centralized storage location are more robust than a similar type of tank at a well pad. PADEP did not set limits on the number and type of tanks that could be used for temporary storage at a well or production pad; therefore tanks covered under this temporary storage regulation (§ 78a.56) could have similar impacts as tanks covered under a centralized tank storage area (§ 78a.57a). We recommend temporary storage requirements have parity in regulation or that PADEP provide justification for lower tank standards at the well and production pads.

In our 2014 Comments, we recommended the regulation clarify that buried tanks and structures are prohibited. The regulations still do not clearly prohibit the use of buried tanks and structures for temporary storage. We appreciate, and support that PADEP's prohibition of buried tanks for centralized tank storage areas (§ 78a.57a) and do not understand why a similar prohibition is not set at the well and production pad.

We do not support land application of drill cuttings, and have recommended this exception be deleted from § 78a.56. Please see our additional recommendations below in our comments on the proposed regulation at § 78a.61.

We remain concerned about the proposed use of open top tanks and other temporary storage structures and the pollution hazards posed. Open top temporary storage contributes to air pollution, and poses a risk of land and water pollution if the storage overflows. Oil and Gas Operations can be located very close to homes, and nearby residents should be protected from inhaling toxic vapors from these operations. Closed-loop tank systems should be used to contain volatile materials and wastes. Direct venting should be prohibited. If tank pressure must be reduced, tank vapor recovery systems must be installed to mitigate air pollution. Vapors should be preferably routed to power generation, or routed to an incinerator or flare, if there is good cause.

Closed containment systems such as tanks can be preferable to impoundments for air and water quality, but they are not risk-free and require strong regulation and oversight. Any facility that holds flowback water, brine, and other gas wastes, and from which substances are transported, can pose threats to the environment and health. For tanks to be beneficial, their location and size must be appropriate for the site in question. Tanks must be enclosed to prevent air pollution, have sufficient containment to prevent leaks and subsequent water and soil contamination, and be consistently and properly inspected and maintained.

The 2014 Comments supported the EQB's proposal to require lined containment areas to be placed under temporary storage. We do not understand why the liner requirement was deleted in the 2015 proposed rule, and do not support this change. A temporary tank poses a greater environmental risk than a stationary tank, because temporary tanks are relocated many times during their operating lives, increasing the potential for tank damage during transit and the likelihood of tank appurtenance (e.g., valves, connections) leakage. Liners should be impervious and impermeable (not allowing fluid to pass through).

The proposed regulations still lack monitoring and control systems and inspection standards for temporary storage. While we appreciate PADEP's inclusion of new, more stringent standards for Centralized Tank Storage (new regulation § 78a.57a), it is not clear why PADEP would propose a

lesser standard for temporary storage tanks located at a well site than temporary storage tanks located at a centralized storage pad.

The monthly inspection standard proposed by PADEP in § 78a.57 should also be required for temporary storage on the well pads at § 78a.56.

We recommend the following changes to the proposed regulations at § 78a.56:

§ 78a.56. [Pits and tanks for temporary containment] Temporary storage.

(a) Except as provided in §§ 78a.60(b) ~~and 78a.61(b)~~ (relating to discharge requirements; ~~and disposal of drill cuttings~~), the operator shall contain [pollutional] regulated substances and wastes from the drilling, altering, completing, recompleting, servicing and plugging **WELL(S) AT the well SITE WHERE THE SUBSTANCES OR WASTES ARE GENERATED OR WILL BE BENEFICIALLY REUSED**, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a [pit,] tank or series of ~~[pits and] tanks or other approved storage structures~~. **CLOSED-LOOP ABOVEGROUND SYSTEMS SHALL BE USED FOR TEMPORARY STORAGE. THE USE OF BURIED TANKS AND BURIED MODULAR STRUCTURES IS PROHIBITED.** The operator shall install or construct and maintain the [pit,] tank or series of ~~[pits and] tanks or other approved storage structures~~ in accordance with the following requirements:

(1) The [pit,] tank [or], series of ~~[pits and] tanks, or other approved storage structure~~ shall be constructed and maintained with sufficient capacity to contain all [pollutional] regulated substances which are used or produced during drilling, altering, completing, **recompleting, servicing** and plugging the well. **TANKS OR OTHER AUTHORIZED STORAGE EQUIPMENT MAY NOT BE LOCATED IN A MAPPED FLOODPLAIN OR WITHIN 50 FEET OF THE TOP OF BANK OF ANY WATERCOURSE.**

[no revisions recommended for (2) through (4)]

~~[(2)] [(3)] (5) [A pit shall be designed, constructed and maintained so that at least 2 feet of freeboard remain at all times.]~~ **OPEN TANKS ARE PROHIBITED. ABOVEGROUND TANKS AND MODULAR STORAGE STRUCTURES CONTAINING VOLATILE MATERIALS AND WASTES SHALL BE DESIGNED AND OPERATED TO CAPTURE AIR POLLUTION. ROUTINE VENTING OF VAPORS IS PROHIBITED. VAPORS SHALL BE ROUTED TO POWER GENERATION EQUIPMENT (PREFERABLY), OR UPON DEMONSTRATION OF GOOD CAUSE, SHALL BE ROUTED TO AN INCINERATOR OR FLARE.** ~~If open tanks or open storage structures are used, the tanks and storage structures shall be maintained so that at least 2 feet of freeboard remain at all times unless the tank or storage structure is provided with an overflow system to a standby tank [or pit] with sufficient volume to contain all excess fluid or [waste] regulated substances. If an open standby tank or open storage structure is used, it shall be maintained with 2 feet of freeboard. If this subsection is violated, the operator immediately shall take the necessary measures to ensure the structural stability of the [pit, or] tank or other storage structure, prevent spills and restore the 2 feet of freeboard.~~

~~[(3)] [(4)] (6) [Pits] [and], [tanks]~~ **TANKS and other approved storage structures shall be designed, constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties. [(5) For unconventional well sites, unless an individual is**

~~continuously present at the well site, a fence must completely surround all pits to prevent unauthorized acts of third parties and damage caused by wildlife.]~~ EACH TANK SHALL BE INSPECTED BY A CERTIFIED TANK INSPECTOR AND EACH MODULAR STRUCTURE SHALL BE INSPECTED BY A STRUCTURAL ENGINEER AT LEAST ONCE EVERY FIVE YEARS. THE INSPECTION SHALL EXAMINE STRUCTURAL CONDITIONS, DOCUMENT CORROSION OR DAMAGE, AND IDENTIFY NECESSARY REPAIRS BEFORE RETURNING IT TO SERVICE.

OVERFLOW ALARMS SHALL BE INSTALLED. ALARM SYSTEMS SHALL BE INSTALLED ON ALL LIQUID STORAGE TANKS OR OTHER APPROVED STORAGE STRUCTURES. THE SYSTEMS SHALL INCLUDE: HIGH-LIQUID-LEVEL ALARMS THAT SOUND AND DISPLAY IN AN IMMEDIATELY RECOGNIZABLE MANNER; HIGH-LIQUID-LEVEL AUTOMATIC PUMP SHUTOFF DEVICES, WHICH ARE DESIGNED TO STOP FLOW AT A PREDETERMINED TANK CONTENT LEVEL; AND A MEANS OF IMMEDIATELY DETERMINING THE LIQUID LEVEL OF TANKS.

(7) AN INDIVIDUAL MUST BE CONTINUOUSLY PRESENT AT THE WELL SITE DURING WELL CONSTRUCTION, WELL WORKOVERS, AND WELL STIMULATION OPERATIONS. FOR OTHER OIL AND GAS OPERATIONS. Unless an individual is continuously present at the well site, operators shall equip all tank valves and access lids to regulated substances with reasonable measures to prevent unauthorized access by third parties such as locks, open end plugs, removable handles, retractable ladders or other measures that prevent access by third parties. Tanks storing ONLY freshwater, fire prevention materials and spill response kits are excluded from the requirements of this paragraph.

(8) The operator [of an unconventional well site] shall display a sign on [or near] the tank or other approved storage structure identifying the contents and an appropriate warning of the contents such as flammable, corrosive or a similar warning.

[(4)] (9) A [~~pit~~] [or], ~~tank~~ TANK or other approved storage structure that contains drill cuttings from below the casing seat, [~~pollutional~~] regulated substances[, wastes] or fluids other than tophole water, fresh water and uncontaminated drill cuttings shall be impermeable [and comply with the following:].

[(i) The pits] (10) [~~Pits shall be constructed with a synthetic flexible liner [with] that covers the bottom and sides of the pit. Liners used in a pit or other approved storage structures must comply with the following:~~

(i) ABOVEGROUND STORAGE TANKS AND OTHER APPROVED STORAGE STRUCTURES MUST BE SET ON TOP OF A SYNTHETIC FLEXIBLE LINER THAT IS SUFFICIENT IN SIZE AND TYPE TO CAPTURE ANY LEAKS OR DRIPS THAT MAY OCCUR FROM THE TANK OR STORAGE STRUCTURE OR ITS VALVES AND CONNECTIONS.

(ii) THE LINER MUST BE IMPERVIOUS, IMPERMEABLE, AND AT LEAST 30 MILS THICK. THE LINER SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED SO THAT THE PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE LINER ARE NOT ADVERSELY AFFECTED BY THE REGULATED SUBSTANCE STORED

THEREIN AND THE LINER IS RESISTANT TO PHYSICAL, CHEMICAL, AND OTHER FAILURE DURING TRANSPORTATION, HANDLING, INSTALLATION, AND USE. LINER COMPATIBILITY MUST SATISFY ASTM METHOD D5747, COMPATIBILITY TEST FOR WASTES AND MEMBRANE LINERS.

(iii) ADJOINING SECTIONS OF LINERS SHALL BE SEALED TOGETHER TO PREVENT LEAKAGE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. THE INTEGRITY OF ALL SEAMS OF THE ADJOINING SECTIONS OF LINER SHALL BE TESTED PRIOR TO USE. RESULTS OF THE TESTS SHALL BE AVAILABLE UPON REQUEST.

(iv) PRIOR TO PLACING STORAGE TANKS OR MODULAR STRUCTURES ON THE LINER, THE LINER SHALL BE INSPECTED FOR LACK OF UNIFORMITY, DAMAGE, AND OTHER IMPERFECTIONS THAT MAY CAUSE THE LINER TO LEAK. THE WELL OPERATOR SHALL CORRECT DAMAGE OR IMPERFECTIONS BEFORE PLACING ANY MATERIAL IN STORAGE TANKS OR MODULAR STRUCTURES ON THE LINER.

(v) IF A LINER BECOMES TORN OR OTHERWISE LOSES ITS INTEGRITY, STORAGE TANKS OR APPROVED STORAGE STRUCTURES MUST BE CONTINUOUSLY MONITORED FOR LEAKS BY ONSITE PERSONNEL WHILE THE LINER IS REPAIRED. IF REPAIR OF THE LINER IS NOT PRACTICAL OR POSSIBLE, THE STORAGE TANK OR APPROVED STORAGE STRUCTURE CONTENTS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED WASTE DISPOSAL FACILITY.

(vi) THE WELL OPERATOR SHALL NOTIFY THE DEPARTMENT AT LEAST 3 BUSINESS DAYS BEFORE THE INSTALLATION OF THE LINER. THE NOTICE SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE AND INCLUDE THE DATE THE LINER WILL BE INSTALLED. IF THE DATE OF INSTALLATION IS EXTENDED, THE OPERATOR SHALL NOTIFY THE DEPARTMENT OF THE NEW DATE OF INSTALLATION. A LICENSED PROFESSIONAL ENGINEER OR GEOLOGIST SHALL DESIGN THE WELL SITE AND SHALL SUBMIT A STATEMENT ON FORMS PROVIDED BY THE DEPARTMENT CERTIFYING THAT THE LINER, AS BUILT, IS COMPLIANT WITH THIS SECTION. THIS CERTIFICATION SHALL BE SUBMITTED WITHIN 10 BUSINESS DAYS OF INSTALLATION OF THE LINER.

[no revisions recommended to deletions of prior (9)(i)-16]

[(17)] (10) Condensate, OIL, NATURAL GAS, OR OTHER VOLATILE SUBSTANCES, whether separated or mixed with other fluids, may not be stored in any open top structure or pit. ABOVEGROUND TANKS [Tanks] used for storing or separating condensate, OIL, NATURAL GAS, OR OTHER VOLATILE SUBSTANCES during well completion shall be GROUNDED, monitored and have controls to CAPTURE VAPORS. ROUTINE VENTING OF VAPORS IS PROHIBITED. VAPORS SHALL BE ROUTED TO POWER GENERATION EQUIPMENT (PREFERABLY) OR, UPON DEMONSTRATION OF GOOD CAUSE, SHALL BE ROUTED TO AN INCINERATOR OR FLARE TO prevent vapors from exceeding the lower explosive limits of the condensate outside the tank. Tanks used for storing or separating condensate shall be grounded.

(b) The operator may request to use practices other than those specified in subsection (a) which provide equivalent or superior protection by submitting a request to the Department for approval. **USE OF PITS OR UNCOVERED STORAGE CONTAINERS SHALL NOT BE DEEMED EQUIVALENT OR SUPERIOR PROTECTION.** The request shall be made **ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEBSITE** on forms provided by the Department.

~~(c) Disposal of uncontaminated drill cuttings in a pit or by land application shall comply with § 78a.61. [A pit used for the disposal of residual waste, including contaminated drill cuttings, shall comply with § 78.62. Disposal of residual waste, including contaminated drill cuttings, by land application shall comply with § 78.63.]~~

(d) [Unless a permit under The Clean Streams Law (35 P.S. §§ 691.1—691.1001) or approval under § 78.57 or § 78.58 (relating to control, storage and disposal of production fluids; and existing pits used for the control, storage and disposal of production fluids) has been obtained for the pit, the] [~~The~~]~~owner or operator shall remove or fill the pit within 9 months after completion of drilling, or in accordance with the extension granted by the Department under section~~ [206(g) of the act (58 P.S. § 601.206(g))] ~~[3216(g) of the act (relating to well site restoration) and § 78.65(d) (relating to site restoration).]~~ [~~Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90~~] [~~calendar~~] ~~[days of construction.]~~

PITS MAY NOT BE USED FOR TEMPORARY CONTAINMENT. AN OPERATOR USING A PIT FOR TEMPORARY STORAGE AT THE EFFECTIVE DATE OF THESE REGULATIONS SHALL PROPERLY CLOSE THE PIT IN ACCORDANCE WITH APPROPRIATE RESTORATION STANDARDS NO LATER THAN ____ (EDITOR'S NOTE: THE BLANK REFERS TO A DATE SIX MONTHS FROM THE EFFECTIVE DATE OF THIS REGULATION). ANY SPILLS OR LEAKS DETECTED SHALL BE REPORTED AND REMEDIATED IN ACCORDANCE WITH § 78a.66 (RELATING TO REPORTING AND REMEDIATING SPILLS AND RELEASES) PRIOR TO PIT CLOSURE.

(e) TEMPORARY STORAGE MUST BE INSPECTED BY THE OPERATOR AT LEAST ONCE PER CALENDAR MONTH AND DOCUMENTED ON FORMS PROVIDED BY THE DEPARTMENT. ANY DEFICIENCIES IDENTIFIED DURING THE INSPECTION MUST BE REPORTED TO THE DEPARTMENT WITHIN 3 DAYS OF THE INSPECTION AND REMEDIATED PRIOR TO CONTINUED USE OF THE TANK. INSPECTION RECORDS SHALL BE MAINTAINED FOR 1 YEAR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. (211)

Response: Sections 78.57a and 78a.57a, Centralized Tank Storage, have been removed from the draft rulemaking. Due to concerns with this section by the oil and gas industry and the regulatory authority of the Department's Bureau of Waste Management related to the storage of residual waste, this section of the rulemaking is not necessary.

Buried tanks and structures are more permanent in nature. Sections 78.56 and 78a.56 have provisions for temporary storage of regulated substances and wastes from drilling, altering, completing, recompleting, servicing, and plugging wells at the well site.

Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The requirements include

that the drill cuttings are not contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water or gases.

See responses to comments 903, 1027 and 1365. Additionally, §78.56(a)(15) and §78a.56(a)(10) require that condensate, whether separated or mixed with other fluids at a concentration greater than 1 percent by volume may not be stored in any open top structures or pits.

These tanks are only providing temporary storage while wells are being drilled and completed on a well site. The Department is not mandating inspection types and schedules as these facilities are typically only located on active well sites where operator personnel are present regularly while the facility is in operation. Operators are required to outline their monitoring and inspection requirements and frequency in site-specific PPC plans under 25 Pa. Code § 78.55 and 25 Pa. Code § 78a.55. Spill or leak response and remediation is regulated under §78.66 and §78a.66.

1020. Comment: NEW § 78a.56a. Alternate temporary storage

The regulations should encourage and facilitate the processing, recycling and beneficial reuse of fluids and other waste materials at well sites. The Department has maintained on several occasions that it is a goal for the Commonwealth, where appropriate, to promote the responsible recycling and reuse of oil and gas wastes to reduce the demand on fresh water resources for oil and gas well development and operations. The establishment of regulatory provisions to govern the recycling and reuse of oil and gas wastes will protect public health, safety and the environment, as well as be a benefit to the oil and gas industry. Commenter's suggested amendatory language below clarifies that operators may conduct processing, recycling and beneficial reuse activities at well sites under the jurisdiction of the Department's Office of Oil and Gas Management.

Commenter's suggested amendatory language:

NEW § 78a.56a. Alternate temporary storage

(a) The Department supports the processing, recycling, and beneficial reuse of fluids and other materials generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells, where the processing of the fluids or other materials for recycling or beneficial reuse will not result in pollution of land or waters of the Commonwealth. In addition to the activities described in Section 78a.56, an operator may process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. Such processing may not result in pollution of land or waters of the Commonwealth.

(b) An operator may temporarily store and/or process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of an oil or gas well at a well site other than the well sites where the fluids were generated or are to be ultimately reused, so long as the following conditions are met:

(1) The well site where the storage or processing is to occur is permitted and bonded;

- (2) The well site maintains a current PPC plan that is consistent with the Department's regulations;
- (3) The operator maintains accurate transportation records of the fluids entering and leaving the well site, consistent with 58 P.S. § 3218.3;
- (4) Temporary storage occurs in approved storage structures in accordance with applicable requirements of Sections 78a.56 and 78a.57;
- (5) Processing of fluids is conducted in accordance with this section;
- (6) Temporary storage and/or processing will not exceed a single consecutive six month period; all onsite activity incidental to temporary storage and/or processing must occur within this timeframe;
- (7) The operator must notify the Department of locations where temporary storage and/or processing will occur a minimum of three (3) days prior to the commencement of activity. This notice shall be submitted electronically to the Department through its website and include the intended date(s) of activity commencement;
- (8) An operator that stores, processes or beneficially reuses fluids pursuant to this section in accordance with this paragraph shall be deemed to have a residual waste permit by rule under Subpart D, Article IX;
- (9) An operator subject to a permit by rule under this section is not required to apply for a permit under Subpart D, Article IX or comply with the operating requirements of Subpart D, Article IX so long as the authorized storage, processing and beneficial reuse activities are conducted in accordance with this Chapter. (210)

Response: The Department disagrees with the commenter's proposed revisions. The proposed revisions would essentially create centralized waste processing facilities outside the scope of existing residual waste regulations. They also fail to address many of the regulatory requirements under those regulations, including landowner consent, public notice and financial assurance. Operators may obtain coverage under Subpart D, Article IX to conduct the activities described in the proposed revisions.

1021. Comment: § 78.56 and § 78a.56 Temporary storage - Commenter also supports our comment and recommendations to allow temporary storage on any well site. This option must be made available because the Draft Final Rule would create new and excessive restrictions on pits, pipelines, impoundments, and tanks, all of which will have the net effect of forcing additional trucking and disposal of fluids that could be recycled or reused. (213)

Response: See response to comment 1020.

1022. Comment: Our fresh water is in danger with open pit leaking that will inevitably happen over time. (20)

Response: The Department acknowledges the comment.

1023. Frack pits should be prohibited. Frack pits leak and emit hazardous air pollutants, polluting both air and water. DEP should amend the final regulations to: prohibit operators from utilizing any

open-air pits and tanks regardless of size or location for storage and treatment of drilling and fracking wastes, including wastewater, drill cuttings, and dangerous substances (like gels and cement) that return to the surface after fracking. The new revisions prohibit the use of production pits at shale gas well sites, an important change that should be supported, but the use of huge open impoundments to service multiple wells will still be allowed. This latter situation is not acceptable. (354, 382)

Response: Air emissions from oil and gas operations are regulated under 25 Pa. Code Article III. Revisions to Article III are beyond the scope of this rulemaking.

See responses to comments 903, 1027 and 1365. Additionally, §78.56(a)(15) and §78a.56(a)(10) require that condensate, whether separated or mixed with other fluids at a concentration greater than 1 percent by volume may not be stored in any open top structures or pits.

Sections 78.61 and 78a.61 allow only uncontaminated drill cuttings to be buried or land-applied at the well site while contaminated drill cuttings from a conventional well may be buried on site in accordance with Section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Under §§ 78a.62 and 78a.63, the owner or operator of an unconventional well may not dispose of residual waste, including contaminated drill cuttings, at the well site by land application or in a pit unless the land application or the pit is authorized by a permit or other approval is obtained from the Department.

The final rulemaking allows the use of centralized impoundments but requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX.

§§ 78.57 and 78a.57 Control, storage and disposal of production fluids

1024. Comment: 78a.57(a). We support the prohibition of pits and open top structures for storage of production fluids. (182)

Response: The Department acknowledges the comment.

1025. Comment: Commentator strongly supports the elimination of the use of pits to manage brine and production fluids (§§ 78.57(a) and 78a.57(a)). Commentator is especially supportive of the Department’s proposal to mandate the closure of all existing pits within one year of the effective date of the regulations. Allowing existing pits to remain in place unnecessarily exposes the Commonwealth’s water resources to the threat of pollution. Better technology for the storage of these materials is available, and it should be used. (231, 231a)

Response: The Department acknowledges the comment.

1026. Comment: 78.57-78a-57 would eliminate the use of temporary storage pits for production fluids generated at fracking sites. The fact that this barbaric practice has been allowed in PA is absolutely without justification. Allowing open-air pits filled with poisonous liquid only a few hundred feet from residences is an atrocity. (118)

Response: The Department acknowledges the comment.

1027. Comment: **78.57** - Regarding standards for frack pits and impoundments, it is a start that production pits are prohibited at shale gas well sites. This has been a major source of pollution resulting in very large fines. However, the same risks for pollution exist at conventional sites when these are used. Both conventional and unconventional well sites should be covered. Closed loop systems should be used for the storage and treatment of waste, including wastewater, drill cuttings, and production fluids. Permitted Central Tank Storage is an improvement over open impoundments. Any tanks for storage should be completely enclosed. (230)

Response: The Department acknowledges the comment. Sections 78.57(a) and 78a.57(a) eliminate the use of pits for the collection of production fluids irrespective of the type of operation.

1028. Comment: Section 78.57 Has the Department taken into account the natural evaporation of contained, open topped, 250,000 to 500,000 gallon brine filled pits on the local air quality, particulate collection in surroundings that could contaminate Commonwealth waters, impact habitat, and potentially cause harm to the environment? This section does not limit the size of these brine filled pits, thus they could be in excess of several acres which certainly impacts the surrounding environment, impacts habitat and would certainly lead to particulates being evaporated and carried off-site. How is this addressed in these new regulations? (9)

Response: The Department acknowledges the comment. Sections 78.57(a) and 78a.57(a) eliminate the use of pits for the collection of production fluids irrespective of the type of operation.

1029. Comment: DEP should require that tanks used for the storage of waste be completely enclosed. The revisions give operators the option of using tanks “without lids” to store waste on well sites-making it more likely that harmful spills and emissions will occur. (384)

Response: See responses to comments 903, 1027, and 1365.

1030. Comment: Section 78.57 (c), (1), (2) (ii). The 100 feet away from a stream, wetland, or body of water doesn't appear to provide an adequate buffer or protection zone from a 250,000 to 500,000 gallon minimum capacity. In the event of a leak or spill, there would not be adequate land area to construct a containment location, sump, or erosion control prior to impact to the receiving stream, wetland or body of water. The 100 feet buffer should be increased to a minimum of 300 feet. (9)

Response: The provision referenced in the comment is contained in a portion of the existing rulemaking that is being deleted.

1031. Comment: Section 78.57 (c), (1), (2) (x) Surface water vs. stormwater. This section is not consistent with previous sections. Both surface and stormwater should be addressed in all sections. (9)

Response: The provision referenced in the comment is contained in a portion of the existing rulemaking that is being deleted.

1032. Comment: 78a.57(c). DEP should require that dikes or other methods of secondary containment include impermeable and impervious liners that are compatible with the materials to be contained. Given the nature of the material stored and the expense associated with clean up, a double liner

system with leak detection between layers must be considered. The leak detection system is the critical part of the double liner system. (182)

Response: Sections 78.57(c) and 78a.57(c) require secondary containment for new, refurbished and replaced aboveground tanks or other aboveground containment structures approved by the Department at well sites. The Department believes that the requirements in this section combined with §§78a.64 and 78a.64a are adequate to provide necessary protection to the environment and public health and safety.

1033. Comment: (c) Secondary containment capable of preventing tank contents from entering waters of the Commonwealth is required for all new, refurbished or replaced ABOVEGROUND tanks or other aboveground containment structures approved by the Department, including their associated manifolds, that contain brine and other fluids produced during operation of the well. If one tank in a series of tanks is added, refurbished or replaced, secondary containment is required for the entire series of tanks. The secondary containment area provided by dikes or other methods of secondary containment open to the atmosphere must have containment capacity sufficient to hold the volume of the largest single ABOVEGROUND tank, plus an additional 10% of volume for precipitation. Compliance with § 78a.64 (relating to containment around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary container fulfill the requirements in this subsection.

Commentator's comment:

See issue with "primary containment" and "secondary containment" definitions.

Commentator's suggested amendatory language:

(c) Secondary containment capable of preventing tank contents from entering waters of the Commonwealth is required for all new, refurbished or replaced ABOVEGROUND tanks or other aboveground primary containment structures approved by the Department, including their associated manifolds, that contain brine and other fluids produced during operation of the well. If one tank in a series of tanks is added, refurbished or replaced, a secondary containment is required for the entire series of tanks. The secondary containment area provided by dikes or other methods of secondary containment open to the atmosphere must have capacity sufficient to hold the volume of the largest single ABOVEGROUND tank, plus an additional 10% of volume for precipitation. Compliance with § 78a.64 (relating to containment systems around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary container fulfill the requirements in this subsection. (115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

1034. Comment: Commentator disagrees with the Department's new proposal to allow the use of underground storage tanks to manage brine and production fluids. Although underground tanks are preferable to the use of pits, they are inferior to above-ground storage tanks. It is easier to detect and contain leaks from above-ground storage tanks, which makes them less likely to release pollutants to the soil and water table. We recommend that the Department revert back to the prohibition on the use of underground tanks for the storage of brine and production fluids that it proposed in December 2013. Alternatively, if the Department chooses to allow the use of underground storage tanks, we suggest that the Department adopt release detection requirements similar to those for underground storage tanks at 25 Pa. Code §§ 245.441 - 245.446. (231, 231a)

Response: The Department acknowledges the economic impacts of the proposed provision requiring removal of underground storage tanks at well sites suggested in the proposed language in December 2013 and so has amended the final rulemaking accordingly. Continued use of underground storage tanks at oil and gas well sites will be allowed under the final rulemaking. However, there are thousands of these underground storage tanks at well sites across the Commonwealth, and proper standards for operation and maintenance of these storage tanks are critical for protection of the environment from spills and releases. For example, Section 3218.4(b) of the 2012 Oil and Gas Act establishes that permanent aboveground and underground tanks must comply with the applicable corrosion control requirements in the Department's storage tank regulations. Provisions in §§78.57(e) and 78a.57(e) require underground or partially buried storage tanks used to store brine or other fluids produced during operation of the well shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. Additionally these tanks must be inspected by the operator quarterly for conventional operation and monthly for unconventional operation and documented. The final rulemaking includes language establishing these and other appropriate standards.

1035. Comment: § 78a.57(e) -We also are concerned that it appears underground or partially buried storage tanks are now allowed, when in past versions of these proposed regulations they were not allowed. Please clarify the reason(s) for this change. Brine and other fluids produced during operation of the well could go on for thirty or more years. Despite corrosion standards, we are concerned with the potential for leaks which could ultimately impact Commonwealth and NPS resources and lands. We recommend that either the use of underground or partially buried storage tanks be disallowed, or a requirement for a leak detection system is included. (200)

Response: See response to comment 1034.

1036. Comment: 78.57-78a.57 allow for the use of buried tanks for toxic liquid waste storage. Little else is mentioned about the maintenance or allowable time period correlated with the existence of buried waste tanks. (118)

Response: Sections 78.57 and 78a.57 eliminate the use of open top structures for the collection of production fluids during the operation of the well. Control, storage and disposal of fluids during other times is regulated pursuant to section 78.56 (see sections 78.56(a)) and 78a.56. Provisions in §§78.57(e) and 78a.57(e) require underground or partially buried storage tanks used to store brine or other fluids produced during operation of the well shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. All new, refurbished or replaced underground storage tanks that store brine or other fluid produced during operation of the well must comply with the applicable corrosion control requirements in § 245.432 with the exception of use of Department-certified inspectors to inspect interior linings. The Department requires that the tanks storing brine or other fluid produced during operation of the well must be inspected by the operator quarterly for conventional operation and monthly for unconventional operation and documented. Deficiencies identified during the inspection must be reported to the Department within 3 days of the inspection. Unconventional operators need to remedy the deficiencies prior to continued use of the tank. The Department has amended the provisions in §§ 78.57(h) and 78a.57 (i) accordingly.

1037. Comment: 78a.57(e). DEP should not allow tanks to be buried or partially buried. This makes inspection more difficult and can delay the detection of leaks. (182)

Response: See response to comment 1034.

1038. Comment: 78a.57(e) Underground or partially buried storage tanks should be certified by a professional engineer of the operator. This certification should be included as a part of required forms to the department. (161)

Response: The Department's standards are performance-based, and do not require review prior to permitting. The Department's waste management regulations concerning tank storage of residual waste in 25 Pa. Code § 299.122 do not require prior review or licensed professional engineer certification for storage of residual waste in tanks. The final rulemaking includes language establishing these and other appropriate standards.

1039. Comment: §78a.57(e) We do not support the use of underground or partially buried storage tanks. While Pennsylvania has one of the most stringent tank programs in the nation, still we are challenged with staffing issues at the Department. With two or more tanks on every well pad, we hesitate to support their use due to inadequate staffing levels at the Department. Which program will be responsible for compliance issues with tanks on well pads? Will the Oil & Gas Program be responsible, or will it involve the Tank Program? Will Oil & Gas field staff be monitoring for leaks with the underground and partially buried tanks?

All of these tanks will age on the same calendar which is also a concern. Certain soils create opportunities for tank corrosion, brine is also corrosive. Tanks will be affected by both internal and external corrosion. What type of leak detection program will be installed at all these tank locations?

We prefer the use of above ground tanks with secondary containment that may be easily monitored for leaks. Should the Department determine that the underground or partially buried storage tanks will remain in use and possibly be expanded throughout the gas fields, we recommend that once the Department receives the data and organizes the inventory that this information would be readily available with internet access.

Rural folks concerned about water supplies hundreds of feet away would appreciate knowing what types of infrastructure may be buried or partially buried with a potential to impact their private water supply. (170)

Response: See response to comment 1034.

Secondary containment is important to protect all waters of the Commonwealth, including groundwater. Sections 78.57(c) and 78a.57(c) require secondary containment for new, refurbished or replaced aboveground tanks at well sites. Operators must employ secondary containment when conducting such operations. Routine inspections are a standard part of every tank installation program and are retained in the final rulemaking, however the timeframes have been adjusted to more closely match the inspection timeframes in Chapter 245. The Department believes that the inspections can be performed quarterly by the operator and documented on forms provided by the Department. Deficiencies identified during the inspection must be reported to the Department within 3 days of the inspection and remedied prior to continued use of the tank.

1040. Comment: It is critical that secondary containment around tanks be of sufficient capacity to retain the maximum volume that may be released from a single tank or interconnected tanks that act as one tank in addition to a reasonable volume of precipitation that may have accumulated within the secondary containment. (225)

Response: Sections 78.57(c) and 78a.57(c) require secondary containment for new, refurbished and replaced aboveground tanks at well sites. Operators must employ secondary containment when conducting such operations and the proposed language is retained in the final rulemaking. If secondary containment is properly designed, constructed, maintained and operated in compliance with §78.64 or §78a.64, the Department believes the volume of the largest tank plus an additional 10 percent of volume for precipitation secondary containment capacity requirement is adequate to protect the environment.

1041. Comment: § 78a.57(c) - This section requires secondary containment “sufficient to hold the volume of the largest single aboveground tank, plus an additional 10 % of volume for precipitation.” Considering the likelihood of extreme weather events coupled with the possibility of events resulting in the rupture of more than one tank in any given secondary containment area, the commenter suggests the Department adopt a standard of requiring a secondary containment “with the sufficient perimeter and height to hold 1.5 times the volume of the largest tank.” We believe this enhanced requirement will better protect lands and waters of the Commonwealth and adjacent areas and has long been employed by the National Park Service for nonfederal oil and gas operations conducted under our regulations found at 36 CFR Part 9, Subpart B (9B). We are happy to discuss our experiences with this section of the 9B regulations with PA regulators.

We also request clarification on whether the above listed requirement applies to all existing operations or only new operations? We suggest this more protective standard be required of both existing and new drilling operations. (200)

Response: See response to comment 1040.

1042. Comment: The secondary containment volume is specified as the volume of the largest tanks plus 10% for precipitation. Later it is mentioned that tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple tanks. It is important to note that 10% may not be sufficient for potential precipitation. The 10% factor should be a minimum, with good engineering judgment used to determine if additional volume should be included. (225)

Response: See response to comment 1040.

1043. Comment: 78a.57(f) Above ground tanks require a secondary containment system as well as protection from third-party activity. (161)

Response: Provisions of section 78a.57(c) require secondary containment to all new, refurbished, or replaced aboveground tanks. Also section 78a.57(h) requires all new, refurbished or replaced tanks storing brine or other fluids produced during operation of the unconventional well must be reasonably protected from unauthorized acts of third parties. Unless the tank is surrounded by a fence, tank valves and access lids must utilize locks, open end plugs or removable handles and ladders on tanks must be retractable or other measures that prevent access by third parties.

1044. Comment: 78a.57(g) Underground tanks require a secondary containment system as well as protection from third-party activity. (161)

Response: Section 78a.57(h) requires all new, refurbished or replaced tanks storing brine or other fluids produced during operation of the unconventional well must be reasonably protected from unauthorized acts of third parties. Unless the tank is surrounded by a fence, tank valves and access lids must utilize locks, open end plugs or removable handles and ladders on tanks must be retractable or other measures that prevent access by third parties.

1045. Comment: The proposed requirement for secondary containment capable of preventing tank contents from entering waters of the Commonwealth for all new, refurbished, or replaced aboveground tanks is concerning and will be extremely costly. This one size fits all regulation is excessive when applied to many conventional wells. On one hand, the Department encourages the road spreading of conventional brine, but on the other hand, the Department perceives that the environmental risk is great enough that secondary containment is necessary in all cases of new, refurbished, or replaced tanks associated with conventional wells. This rule should focus on the need for secondary containment on wells whose production includes a liquid hydrocarbon component and/or is located within a certain distance from surface water. Building off of the language already contained in Chapter 78.64 that addresses containment around oil and condensate tanks, if an operator installs a new or replaces an existing tank capable of containing less than 1,320 gallons used for brine production, those tanks, like the ones that contain oil and condensate, should not need secondary containment. (251)

Response: Sections 78.57(c) and 78a.57(c) require secondary containment for new, refurbished and replaced aboveground tanks at well sites. Operators must employ secondary containment when conducting such operations and the proposed language is retained in the final rulemaking.

Provisions in section 78.70 include environmental controls including maximum application rates and source information. These controls were designed to protect public health and safety and the environment. Additionally the Department reviews the road spreading plans on an annual basis. Finally, monthly reporting is necessary to ensure compliance with the approved plans and applicable regulations.

The regulation requires notice to the Department at least 24 hours prior to commencement of road-spreading. Additionally, the regulation requires the approved road-spreading plan to be maintained in the vehicle during road-spreading and any changes to the approved road-spreading must be submitted to the Department for approval. Finally, the regulation requires the person identified on the road-spreading plan to submit a monthly report listing the locations, frequency, and amount of brine spread during the previous month. The Department believes that the regulation allows for sufficient oversight to ensure that protection of public health and safety and the environment.

1046. Comment: PA DEP encourages the road spreading of low salinity brine in one instance but requires doubled walled tanks or secondary containment for new tanks. Documented monthly inspections could be done quarterly and included as part of MIA reporting. Administratively, the on line MIA reporting process would be an efficient and effective way to accomplish this goal. We do not see the need to do documented monthly inspections as our pumpers check our tanks every time they visit the well which is on a weekly basis. As far as documented inspections are concerned the surrounding states require documented inspections to be done on an annual basis. In addition, under PA Spill Reporting Requirements any brine spills that may cause or threaten

pollution to the waters of the Commonwealth must be reported within 24 hours and small spills (less than 42 gallons) not causing or threatening pollution to the waters of the Commonwealth at a well site must be remediated quickly. (367)

Response: The Department believes that the tanks storing brine or other fluid produced during operation of the well shall be inspected quarterly by the operator and documented on forms provided by the Department. Any deficiencies identified during the inspection must be reported to the Department within 3 days of the inspection and remedied prior to continued use of the tank. Inspection records shall be maintained for one year and made available to the Department upon request.

Provisions in section 78.70 include environmental controls including maximum application rates and source information. These controls were designed to protect public health and safety and the environment. Additionally the Department reviews the road spreading plans on an annual basis. Finally, monthly reporting is necessary to ensure compliance with the approved plans and applicable regulations. The regulation requires notice to the Department at least 24 hours prior to commencement of road-spreading. Additionally, the regulation requires the approved road-spreading plan to be maintained in the vehicle during road-spreading and any changes to the approved road-spreading must be submitted to the Department for approval. Finally, the regulation requires the person identified on the road-spreading plan to submit a monthly report listing the locations, frequency, and amount of brine spread during the previous month. The Department believes that the regulation allows for sufficient oversight to ensure that protection of public health and safety and the environment.

1047. Comment: The ability to immediately isolate manifolded tanks in the event of a release is critical in determining sufficient secondary containment volume. Without the ability to immediately isolate manifolded tanks, the total volume of the manifolded tanks or the volume of the largest tank, whichever is greater, should be used as the non-precipitation volume of secondary containment. (225)

Response: The commenter's concern is addressed under subsections 78.57(d) and 78a.57(d) which requires tanks that are manifolded together to be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

1048. Comment: Document and track all well and drilling waste in a cradle-to-grave tracking system. Operators must report the location of the waste every week. (131)

Response: The Department does not believe that a manifest system similar to that required for handling of hazardous wastes is necessary in these regulations. However, in accordance with the recently enacted Act 173 of 2014 which requires monthly resource production reporting, the Department has added a provision to section 78a.122 of the final rulemaking requiring monthly waste reporting for unconventional wells to the Department. The Department is also pursuing requiring receiving facilities to report receipt of oil and gas wastes on a monthly basis to facilitate tracking reconciliation. However, those efforts are outside of the scope of this rulemaking.

1049. Comment: We recommend that DEP ban open-air pits and tanks for storage and treatment of regulated substances and require all waste storage tanks to be completely enclosed as soon as possible. While we are glad that DEP is addressing this issue we feel it could be safely done

within a year and doesn't go far enough. Allowing additional time risks additional pollution to our water and soil from leaks and to our air from aeration. (144)

Response: See responses to comments 903, 1027 and 1365.

The Department disagrees that the compliance timeframes proposed by the commentator are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1050. Comment: I appreciate and support DEP's prohibition the use of production pits at unconventional shale gas well sites. But DEP should prohibit BOTH conventional and unconventional operators from using ANY open-air pits and tanks, regardless of size or location, for storage, treatment, and disposal of regulated wastes. Wastewater, drill cuttings, fluids, and other substances should be stored and treated only in closed, aboveground systems and removed from the site for proper disposal. (2848-3056)

Response: See responses to comments 903, 1027 and 1365.

1051. Comment: All storage tanks should have lids. Existing pits, especially those which have been buried with flow-back, tailings and brine in them, should be transferred to closed above ground tanks ASAP (within one year if possible). (155)

Response: See responses to comments 903, 1027 and 1365.

The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1052. Comment: The revisions to sections 78.57-.59 dealing with open impoundments for the storage of natural gas waste are an improvement, but don't go far enough. I urge you to take the proposed rule a step further such as they have in the state of Illinois by banning the use of all frack pits regardless of size or location. To ban open impoundments for wastewater storage on well sites, but to still allow the industry to use huge open pits off-site to service multiple wells does not make sense. In Pennsylvania, open frack pits have been known to leak when the plastic liner tears. They've also been known to cause spills when they overflow from flooding or other high water events. These issues have led to contaminated surface water and resulted in the Department levying the largest fines against drillers in Pennsylvania, both over \$4 million, to Range Resources and XTO for water contamination due to leaking.

Companies should also be required to immediately close their pits or bring them under the standards of a residual waste permit. The three years from the implementation of the regulations that operators are being given is too long. These open impoundments have a history of incurring violations and a track record of water contamination. We simply can't wait three years to stop or improve this antiquated practice. (164, 247)

Response: See responses to comments 903, 1027, and 1365.

The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1053. Comment: We are also concerned by the new regulations on production tanks that will be very expensive to our local producers, and again it is our understanding that there has only been one violation in the past 10 years on production tanks, so my question would be, does one violation in 10 years warrant changing the regulations that will affect 99% of those oil producers that haven't had a violation? (153)

Response: There has been more than one violation in the past 10 years relating to production tanks. Revisions to 78.57 and 78a.57 are consistent with applicable regulations and statutes and provide appropriate protections for public health and safety, and the environment and the economy.

1054. Comment: 78a.57 Control, storage and disposal of production fluids. The removal of pits is to be applauded. However, further conditions need to be included. (161)

Response: The Department acknowledges the comment.

1055. Comment: 78a.57(d) Tanks, series of tanks or above ground storage structures should be certified by a professional engineer of the operator prior to being submitted for the approval by the Department. (161)

Response: The Department's standards are performance-based, and do not require review prior to permitting. The Department's waste management regulations concerning tank storage of residual waste in 25 Pa. Code § 299.122 do not require prior review or licensed professional engineer certification for storage of residual waste in tanks. The final rulemaking includes language establishing these and other appropriate standards.

1056. Comment: 78a.57(h) Forms submitted should be supplemented with dated photographs as additional documentation in the event of an incident. (161)

Response: It is unnecessary for color photographs to be included as documentation of quarterly maintenance inspections.

1057. Comment: §78a.57 Control, storage and disposal of production fluids. - We support and recommend the discontinuance and prohibition of pits. (170)

Response: The Department acknowledges the comment.

1058. Comment: §78a.57 (i) The Department needs an inspection policy on all tanks, relying on the operator's monthly inspections until a deficiency is reported is insufficient. Maintaining inspection records for a 5 year period will provide better information should there be an unforeseen leak. Maintaining these in an electronic data base solves the paper storage issue and creates an easier purge as well.

We recommend the addition of two provisions noted below.

§78a.57 (j) All underground and partially buried tanks used to store brine or other fluids produced during the operation of the well shall be equipped with a leak detection system that includes an alarm.

§78a.57 (k) Landowners shall be notified two weeks in advance when underground and partially buried tanks used to store brine or other fluids produced are scheduled to be installed on their property.

Underground and partially buried tanks used to store brine or other fluids produced during the operation of multiple wells on an unconventional well pad may be in use for many decades. We are not considering the new tank installed today, but rather multiple locations with simultaneous aging infrastructure. Underground and partially buried tanks are not the best environmental option for tanks. Aboveground tanks are a better option and provide sufficient and adequate environmental protection. Aboveground tanks need to be encouraged not discouraged by providing for the use of lesser environmentally sound options. There are numerous cases of aging leaking tanks across Pennsylvania, a new generation prone to age on the same or similar time table is not acceptable.

Landowners utilize land adjacent to well pads with a variety of land use activities. Some of these activities may not be suitable with nearby underground or partially buried tanks lacking leak detection. Therefore, the landowner needs to receive notice that such an installation is scheduled on their property.

Additionally, some interested landowners may want to be present to observe at a distance the installation. They will need adequate notice to arrange for time off from work and other obligations.

It is possible that had landowners been aware that their property would serve to host underground storage tanks, as stewards of their lands, they may have negotiated provisions prohibiting underground or partially buried storage tanks. So much information was not provided during the leasing phase. Essentially, a landowner may have a well pad located on their property where they may prefer above ground tanks with secondary containment. The Department has an obligation to promote the environmental practices that will balance the environmental, public health and safety, and industry needs. The utilization of underground and partially buried storage tanks does not meet that obligation. (170)

Response: See response to Comment 1034. Any deficiencies identified during the inspection must be reported to the Department within 3 days of the inspection. Unconventional operators need to remedy the deficiencies prior to continued use of the tank. Inspection records shall be maintained for one year and made available to the Department upon request.

1059. Comment: §78.57 and §78a.57. Control, storage, and disposal of production fluids.

We strongly support the proposed prohibition on the use of pits and open--top structures for the control, storage, and disposal of production fluids. The Marcellus Shale Coalition urges operators to consider “[u]sing ‘closed loop’ fluids management systems (i.e., eliminating the need for lined earthen pits at the drilling site)” The Center for Sustainable Shale Development states that operators “shall contain drilling fluid and flowback water in a closed loop system at the well pad.”

We also note that §78.57 contradicts §78.56 on temporary waste storage. §78.57(b) states that operators may not use pits for storage of brine and other fluids produced during operations, but according to §78.56(a), conventional operators are allowed to temporarily store brine and stimulation, treatment, and servicing fluids in pits. This lack of clarity in effect creates a loophole that operators could exploit in order to store brine and fluids in pits by claiming they are for “temporary storage,” rather than for the “storage” that is implied—but left undefined—in §78.57. This loophole would also make it virtually impossible for DEP to enforce §78.57. As indicated above, we strongly recommend regulatory consistency by prohibiting all production pits for all forms of waste containment at both conventional and unconventional well sites.

We oppose the removal from the final drafts of both §78.57 and §78a.57 of the prohibition on the underground burial of waste storage tanks. As with pits dug into the ground, buried tanks pose risks to groundwater and soil through leaks, overflow, and failure of structural integrity. Detecting and repairing such problems are more difficult when tanks are buried below the surface. (188)

Response: The requirements under 78.56 and 78.57 clearly define when each section applies to oil and gas operations. See response to comment 1034.

1060. Comment: § 78a.57(a): As currently written, it is unclear whether or not the proposed subsection intends to eliminate “open top structures” for the storage of brine and other production fluids IF these structures can be permitted under the Residual Waste Management regulations (e.g., Chapters 287-289, 293, 299). It is recommended that the Department clarify the intention of this provision and the impacts to an operator’s ability to obtain authorization through another program. (195)

Response: Subsection 78a.57(a) prohibits the use of open top structures and pits for the storage of brine and other fluids produced during operation of the well under the authority of Chapter 78. The revisions were not intended to modify what activities may or may not be conducted under the authority of the residual waste management regulations.

1061. Comment: 78a.57 (h) - The language in this section should be consistent and similar to the language in 78a.56 (a) (6). (187, 209)

Response: Facilities regulated under Section 78a.57 are long-term facilities are often left unattended for extended period of time. The security measures prescribed in 78a.57 are appropriate for the type of storage regulated under that section.

1062. Comment: § 78a.57 (i) - Inspection programs and operator-specific forms of record keeping are already in place. Having to duplicate this information on Department-specific forms is administratively burdensome and unnecessary, as is the 3-day reporting requirement. It should be sufficient to maintain a copy of inspection records. (209)

Response: The Department acknowledges the comment and has revised Subsections 78a.57(i) and 78.57(h) to allow use of forms other than forms provided by the Department.

1063. Comment: (a) Unless a permit has been obtained under § 78a.60(a) (relating to discharge requirements), the operator shall collect the brine and other fluids produced during operation[, service and plugging] of the well in a tank[, pit] or a series of [pits or] tanks, or other device approved by the Department for subsequent disposal or reuse. Open top structures may not be used to store brine and other fluids produced during operation of the well. AN OPERATOR

USING A PIT FOR STORAGE OF PRODUCTION FLUIDS AT THE TIME OF THE EFFECTIVE DATE OF THESE REGULATIONS SHALL REPORT THE USE OF THE PIT TO THE DEPARTMENT NO LATER THAN (Editor's Note: The blank refers to a date six months from the effective date of this regulation) AND SHALL PROPERLY CLOSE THE PIT IN ACCORDANCE WITH APPROPRIATE RESTORATION STANDARDS NO LATER THAN (Editor's Note: The blank refers to a date one year from the effective date of this regulation). ANY SPILLS OR LEAKS DETECTED SHALL BE REPORTED AND REMEDIATED IN ACCORDANCE WITH § 78a.66 (RELATING TO REPORTING AND REMEDIATING SPILLS AND RELEASES) PRIOR TO PIT CLOSURE. Except as allowed in this subchapter or otherwise approved by the Department, the operator may not discharge the brine and other fluids on or into the ground or into the waters of this Commonwealth.

Similar to the previous comment, commenter has serious concerns about preserving its ability to utilize robust water recycling and reuse program. There are significant environmental benefits of such a program, not the least of which are reduced emissions and community impacts from truck traffic. The ability to maximize water reuse depends on the ability to store and stage water efficiently and cost effectively. Under this section, operators will be greatly limited in storage options by eliminating open- top tanks for brine and reused water storage. The options for staging and storing water for reuse have been significantly constrained to the point that it may no longer be economic for operators, particularly in this low commodity price environment. The result of such constraints will mean more trucks on the road, more disturbed surface area for aboveground storage tanks, increased disposal, greater competition for water sources, and most likely more public complaints. The commentator therefore requests that the Department reconsider its position with respect to storage and staging water for reuse and preserve this practice the state has been pushing operators to utilize. (199)

Response: Operators may obtain a residual waste permit under Subpart D, Article IX for the operation of the centralized impoundment or centralized tank storage facility. The Department believes that the provisions in Chapter 78 and Chapter 78a provide appropriate flexibility to encourage the water recycling and reuse program.

1064. Comment: § 78a.57(f) All new, refurbished or replaced ABOVEGROUND tanks that store brine or other fluid produced during operation of the well must comply with the applicable corrosion control requirements in §§ 245.531 – 245.534 (relating to corrosion and deterioration prevention), WITH THE EXCEPTION OF USE OF DEPARTMENT-CERTIFIED INSPECTORS TO INSPECT INTERIOR LININGS OR COATINGS.

(g) ALL NEW, REFURBISHED OR REPLACED UNDERGROUND STORAGE TANKS THAT STORE BRINE OR OTHER FLUID PRODUCED DURING OPERATION OF THE WELL MUST COMPLY WITH THE APPLICABLE CORROSION CONTROL REQUIREMENTS IN §245.432 (RELATING TO OPERATION AND MAINTENANCE INCLUDING CORROSION PROTECTION) WITH THE EXCEPTION OF USE OF DEPARTMENT-CERTIFIED INSPECTORS TO INSPECT INTERIOR LININGS.

This section would make tanks used by oil and gas operators subject to the Administration of the Storage Tank and Spill Prevention Program requirements for Pennsylvania according to 25 PA Code Chapter 245.531. However, under the definitions section of that same Code (25 PA Code 245.1) “Tanks which are used to store brines, crude oil, drilling or frac fluids and similar substances or materials and are directly related to the exploration, development or production of crude oil or natural gas regulated under the Oil and Gas Act” are specifically exempted from that definition. It is inappropriate for a state agency to establish two conflicting regulatory regimes for

the exact same activity. Moreover, it is duplicative and inefficient for an agency to regulate the same activity under two separate programs. This section should be stricken. (199)

Response: Section 3218.4(b) of the 2012 Oil and Gas Act requires all aboveground and underground tanks to comply with the applicable corrosion in the Department’s storage tank regulations. This section is intended to implement that statutory requirement.

1065. Comment: § 78a.57(i) TANKS STORING BRINE OR OTHER FLUIDS PRODUCED DURING OPERATION OF THE WELL MUST BE INSPECTED BY THE OPERATOR AT LEAST ONCE PER CALENDAR MONTH AND DOCUMENTED ON FORMS PROVIDED BY THE DEPARTMENT. ANY DEFICIENCIES IDENTIFIED DURING THE INSPECTION MUST BE REPORTED TO THE DEPARTMENT WITHIN 3 DAYS OF THE INSPECTION AND REMEDIED PRIOR TO CONTINUED USE OF THE TANK. INSPECTION RECORDS SHALL BE MAINTAINED FOR 1 YEAR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

Commenter is concerned about the requirement that “any deficiency” must be “remedied prior to continued use” of a tank. Certainly any deficiency that compromises a tank’s integrity should be remedied prior to continued use. However, a strict reading of the section could require operators to empty tanks and place them out of service even for minor deficiencies such as such as a tank label fading. This type of result would be unreasonable and would not serve a public good. Commenter suggests the agency more clearly define what will be considered a deficiency for this purpose and clarify that minor deficiencies may be remedied without placing the tank out of service. Additionally, commenter recommends that the requirement to use “forms provided by the Department” be stricken as a copy of this form has not been provided, as required by Section 5(a)(5) of the Regulatory Review Act. As a result, industry is unable to review any inspection requirements that may be contained in this form and therefore unable to comment appropriately.

The commentator supports suggested amendatory language: “(i) Tanks storing brine or other fluids produced during operation of the well must be inspected by the operator at least once per calendar month and documented. Any deficiencies identified during the inspection must be remedied in a timely manner. Inspection records shall be maintained for 1 year and made available to the Department upon request.” (199)

Response: The Department acknowledges that not all deficiencies identified during monthly maintenance inspections will necessitate removing the tank from service and has amended the language to accommodate such situations.

The Department revised Subsections 78a.57(i) and 78.57(h) to allow use of forms other than forms provided by the Department.

1066. Comment: §78a.57. Control, storage and disposal of production fluids - Subsection (i) would require operators to report any deficiencies to DEP within 3 days of the inspection and remedy prior to continued use of the tank. Does this mean that tanks will need to be taken out of service for any deficiency or only those that could result in a leak? DEP needs to clarify “deficiency” in this subsection. (193)

Response: See response to comment 1065.

1067. Comment: The provisions of the proposed final rule governing the use of storage tanks in conventional well operations - set forth in section 78.57(d)-(h) (control, storage, and disposal of

production fluids) and section 78.57a (centralized tank storage) - are not in the public interest and should be withdrawn.

There are important differences between the storage tanks used by small, independent conventional well operators and the storage tanks used by large, billion-dollar corporations in unconventional well operations. There are four basic types of storage tanks used in conventional operations: (1) oil storage tanks, which range from 100-210 barrels; (2) oil and water separator tanks, which range from 1-5 barrels; (3) water production tanks a/k/a brine tanks, which range from 140-210 barrels; and (4) gas well condensate tanks, which average approximately 100 barrels. These tanks are not permanent. When a well is plugged, the tanks are removed. Simply put, comparing storage tanks used in conventional and unconventional well operations is like comparing apples to oranges. There simply is no comparison.

These are also important differences in chemistry and salinity between conventional and unconventional production water.

Substance	Shallow Oil Well (mg/L)	Marcellus Shale Well
Barium	48.4	6,500
Calcium	6,179	18,000
Iron	53	60
Lithium	2.2	150
Manganese	4.2	5.0
Potassium	90	Not Measured
Sodium	19,879	48,000
Strontium	110	4,000
Bromine	638	Not Measured
Chlorine	42,954	116,900
Total Dissolved Solids	80,106	195,000

Angelika Cubbon, M.S. Environmental Engineering (April 2011). (201)

Response: Regarding centralized tank storage concerns, see the Department’s response to comments submitted on §§ 78.57a and 78a.57a.

Regarding the commenter’s issues with subsections 78.57(d)-(h), the Department disagrees that the production tanks used by conventional operators are significantly different than those used by unconventional operators. Additionally, the Department disagrees that production tanks at conventional well sites are not permanent as they may be in service for several decades.

Regarding the difference in water quality between conventional and unconventional wells in Pennsylvania, the USGS provides an alternative source of data on the following webpage:

<http://energy.usgs.gov/EnvironmentalAspects/EnvironmentalAspectsofEnergyProductionandUse/ProducedWaters.aspx#3822349-data>

At the bottom of the page is a link to download the Complete List of Provisional National Produced Waters Geochemical Database Materials:

http://energy.usgs.gov/Portals/0/Rooms/produced_waters/tabular/USGSPWDB_v2.1.xlsx

The following data show a comparison between the data provided in the PIPP letter and appropriate data extracted from the USGS spreadsheet:

Substance	Shallow - PIPP	Conventional - USGS	Marcellus - PIPP	Unconventional - USGS	ratio of unconventional over conventional	
					PIPP	USGS
Barium	48.4	397	6500	1149	134.3	2.9
Calcium	6179	14075	18000	7410	2.9	0.5
Iron	53	114	60	39	1.1	0.3
Lithium	2.2	6.1	150	60	68.2	9.8
Manganese	4.2	13.4	5	3.5	1.2	0.3
Potassium	90	894		435		1.8
Sodium	19879	27327	48000	35459	2.4	1.3
Strontium	110	994	4000	1489	36.4	1.5
Bromine	628	752		1081		1.4
Chlorine	42954	87562	116900	50085	2.7	0.6
TDS	80106	140236	195000	85293	2.4	0.6
average ratio:					28.0	1.8

In the preceding table, the two columns to the right compare the ratios of contaminants in produced fluid from deep wells over shallow wells. For example, PIPP asserts the barium in produced fluid from Marcellus wells is 134.3 times greater than from shallow wells. According to the USGS data, that ratio is 6 instead. Overall, data presented by PIPP suggests the contaminants in produced fluid from Marcellus wells average 28 times greater in concentration compared to shallow wells, whereas the USGS data show the average contaminant concentration from unconventional wells is only 1.8 times greater than from conventional wells. For calcium, iron, manganese, chlorine, and TDS, the data provided by PIPP indicates greater concentrations from unconventional wells, whereas the data from USGS shows greater concentrations from conventional wells. Although the data source selected by PIPP claims the concentration of contaminants in produced fluid from unconventional wells is greater than from conventional wells for every substance listed, the USGS data show a near even split with five substances out of eleven in greater concentration from conventional wells compared to unconventional wells. The differences in contaminant concentrations between conventional and unconventional produced fluids is insufficient to warrant lax regulatory standards for control, storage and disposal of production water from conventional wells.

The Department believes that the requirements in Section 78.57 regarding control, storage and disposal of production fluids are appropriate and protective of public health and safety and the environment.

Note: Commenters table on production water chemistry contains an apparent typo error. “CHLORINE” listed under substance most likely should be “CHLORIDE”.

1068. Comment: The new proposed standards governing use of storage tanks in conventional well operations are not supported by acceptable data and will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. Indeed, these provisions are a solution looking for a problem. Commenter estimates that there are approximately 175,000 storage tanks in use in the conventional oil and gas industry. According to the Department's online compliance reports, the Department conducted 13,445 well inspections in 2014, a 78% increase over 2008. During that same period (2008-2014), there was an 83% decrease in new conventional drilling. Of the 13,445 inspections conducted in 2014, only 8 revealed leaking tanks in use in conventional well operations. This represents a mere .00059% of all well inspections conducted in 2014. It also represents just .000045% of the approximately 175,000 storage tanks in use in conventional well operations today. This is hardly justification for more stringent and expensive regulations on the use of storage tanks in conventional well operations. (201)

Response: Requirements to conduct periodic inspection of production tanks are appropriate to ensure that the tanks are designed, constructed and maintained to be structurally sound with sound engineering practices adhering to nationally recognized industry standards and the manufacturer’s specifications. The Department has amended subsection 78.57(h) to reduce the frequency of inspection from once per calendar month to once per calendar quarter. It is not clear to the Department which inspections are included in the count provided by the commenter but the Department’s review of inspection data for 2014 reveals significantly more than one incident where quarterly inspections may have mitigated a tank storage release. In addition, the Department notes that since storage tanks are not a subject of many inspections, the number of leaks found by the Department expressed as a fraction of the total number of inspections is not a reliable measure of the frequency of storage tank releases. Finally, the Department inspected only slightly more than 6 percent of the conventional wells in 2014, so it is presumable that there were storage tank releases that are unknown to the DEP, which is a problem that could be mitigated by well operators conducting quarterly inspections.

1069. Comment: The direct and indirect costs of the new proposed standards are so high that they will put small, independent conventional oil and gas well operators out of business. (201)

Response: The Department acknowledges the comment. The Department believes that the provisions in 78.57 will provide appropriate protections for public health and safety and the environment.

1070. Comment: Corrosion control requirements (§ 78.57(f)(g)). The chart below demonstrates the increased costs to conventional well operators of requiring tanks that store brine and other fluid produced during the operation of the well to meet the corrosion control requirements of 25 Pa.Code § 245.531 et seq.

Size	Current Cost	Cathod Protection	Corrosive Protection	New Cost	Increase
25 bbl.	\$1,800.00	\$350.00	\$450.00	\$2,600.00	44%
50 bbl.	\$2,200.00	\$350.00	\$650.00	\$3,200.00	45%

100 bbl.	\$3,451.00	\$350.00	\$1,200.00	\$5,001.00	45%
140 bbl.	\$5,144.00	\$350.00	\$1,300.00	\$6,794.00	32%
210 bbl.	\$6,083.00	\$350.00	\$1,600.00	\$8,950.00	47%

With 175,000 tanks in use in conventional well operations, the total cost to the conventional industry of this requirement will be approximately \$224,525,000. (201)

Response: Section 3218.4(b) of the 2012 Oil and Gas Act requires all aboveground and underground tanks to comply with the applicable corrosion in the Department’s storage tank regulations. This section is intended to implement that statutory requirement. The established regulations are based on industry standards and best practices. In addition, the Department notes that the corrosion protection requirements may be met with less cost to the operator by utilizing tanks made of a material that does not corrode such as fiberglass or plastic polymer. Based on pricing data available to the Department, plastic polymer tanks are priced comparably or are less expensive than the steel tank prices provided by the commenter.

1071. Comment: Monthly inspections (§ 78.57(h)). Commenter estimates that it will take an average of one hour per month to inspect each tank and prepare an inspection record. With an estimated 175,000 tanks in use in conventional operations, the total to the conventional industry at \$30 per hour per tank will be \$5,250,000 per month. (201)

Response: Requirements to conduct periodic inspection of production tanks are appropriate to ensure that the tanks are designed, constructed, and maintained to be structurally sound with sound engineering practices adhering to nationally recognized industry standards and the manufacturer’s specifications. The Department has amended subsection 78.57(h) to reduce the frequency of inspection from once per calendar month to once per calendar quarter to allow coordination between tank inspections and mechanical integrity assessments required under § 78.88 which requires wells to be inspected on a quarterly basis. This reduction in frequency will also reduce tank inspection costs by 67 percent due to the reduction in the number of inspections that must occur and matching the frequency with the MIA inspection will prevent any additional travel costs associated with complying with the inspection requirement.

Finally, the Department does not agree with the cost estimate provided by the commenter which assumes that the average tank inspection will take 1 hour to conduct. The quarterly maintenance inspection is intended to be a visual check of the tank and containment area to ensure that the tank and containment structures are in good working condition and that ancillary and safety equipment are in place and in good working condition.

1072. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule governing the use of storage tanks in conventional well operations. (201)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide

reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

1073. Comment: The Department's regulatory analysis form does not demonstrate a need for the new proposed standards governing storage tanks in conventional well operations. To the contrary, the form undermines and contradicts the Department's position. In its form, the Department states: "Conventional well operators are much smaller in scope and they generate far less waste than unconventional drilling, therefore the potential impact to the environment is significantly less." Despite this admission, the proposed standards governing the use of storage tanks are virtually identical for conventional and unconventional well operators. Indeed, with the exception of 78a.57(h) regarding protection from the unauthorized acts of third parties, it is obvious that the Department contradicted the finding in its own form and did not consider all of the differences between conventional and unconventional operations in formulating these standards. (201)

Response: Please see the Department's response to question 10 in the final regulatory analysis form for a detailed explanation of the need of the storage tank standards in the final rule. The Department does not believe that the production tanks used by conventional operators are significantly different than those used by unconventional operators. While the tanks used by unconventional operators may be larger in some cases, tanks used by the conventional well industry can be large enough to cause a significant spill, and the differences between the substances stored in the conventional well industry compared to unconventional is arguably not as great as is represented by the conventional well operators including the commenter.

1074. Comment: The Department's regulatory analysis form does not reflect the Department's consideration of the direct and indirect costs of the proposed standards or the economic impact that those standards would have on small businesses. In 2013, the Department attempted to accommodate the needs of small businesses regarding the use of storage tanks in conventional well operations by excluding the offending provisions discussed above from the proposed regulations. This is memorialized in the form: "DEP also considered and minimized the regulatory burden on conventional well drillers to include only those provisions deemed necessary to protect public health and the environment." The Department then chose to radically rewrite these standards in the draft final rule, with no evidence (in the regulatory analysis form or elsewhere) demonstrating that they considered the direct or indirect costs of these standards or the economic impact that those standards would have on small businesses. (201)

Response: See the final regulatory analysis form for an explanation of the need of the regulation as well as a detailed economic analysis.

1075. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to prevent leakage of production fluids from storage tanks used in conventional well operations. This is obvious from the mindless, cut-and-paste approach the Department used in making the same standards applicable to both conventional and unconventional operations. This is also clear from the Department's own oil and gas compliance reports, which demonstrate that leaking storage tanks in conventional well

operations are exceedingly rare. This cavalier approach to the regulatory process is fatal to small, independent conventional well operators, who lack the financial resources of larger conventional and unconventional well operators and have more in common with the Amish than Chevron. (201)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

See the final regulatory analysis form for an explanation of the need of the regulation as well as a detailed economic analysis.

1076. Comment: Finally, the new proposed standards for storage tanks used in conventional well operations so far exceed the enhanced environmental standards already contained in Act 13 of 2012 that they represent a policy decision of such a substantial nature that they require an act of the General Assembly before they can become law. Regarding corrosion control requirements, Act 13 merely requires that “[p]ermanent aboveground and underground tanks must comply with the applicable corrosion control requirements of the department's storage tank regulations.” 58 Pa.C.S. § 3218.4. The Department's proposed standards omit the word “permanent” thereby extending the corrosion control requirements to all tanks. The proposed standards also fail to define the terms “tank” or “storage tank” thereby making the corrosion control requirements applicable to tanks of all sizes. Act 13 does not require monthly inspections of storage tanks, a separate bond for the construction of a centralized tank storage site, a 1,000 foot setback for a centralized tank storage site, mandatory electronic notification for all notices, or any of the requirements set forth in section 78.57a. The Department also does not identify any other State that has such onerous standards for storage tanks used in conventional well operations. If Pennsylvania is to be the first to impose such complex and onerous regulations on the use of storage tanks in conventional well operations, it should not do so on the backs of small, independent conventional well operators who are least able to absorb the increased costs of the Department's regulatory experiment. (201)

Response: Chapters 78 and 78a are promulgated under the authority of several environmental laws including the 2012 Oil and Gas Act; Article I, Section 27 of the Pennsylvania Constitution; the Clean Streams Law; the Dam Safety and Encroachments Act; the Solid Waste Management Act; the Pennsylvania Law Recycling and Environmental Remediation Standards Act; the Radiation Protection Act; the Administrative Code of 1929; the act of July 10, 2014 (P.L. 1053, No. 126); and the Unconventional Well Report Act, the act of October 22, 2014 (P.L. 2853, No. 173). The Clean Streams Law provides the statutory authority for these requirements in § 78.56.

The use of the term “operation” in § 78.57(a) is intended to limit application of this section to control, storage and disposal of production fluids during the operation of the well.

Control, storage, and disposal of fluids during other times is regulated pursuant to section 78.56.

Section 78.57a, Centralized Tank Storage, has been removed from the draft rulemaking.

Additionally, the Department disagrees that production tanks at conventional well sites are not permanent as they may be in service for several decades. Section 3218.4(b) of the 2012 Oil and Gas Act establishes that permanent aboveground and underground tanks must comply with the applicable corrosion control requirements in the Department's storage tank regulations.

Finally, requirements to conduct periodic inspection of production tanks are appropriate to ensure that the tanks are designed, constructed, and maintained to be structurally sound with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. The Department has amended subsection 78.57(h) to reduce the frequency of inspection from once per calendar month to once per calendar quarter.

1077. Comment: For all the above reasons, I strongly urge that no drilling brine, water, or fluids (and especially flow-back frackwater) be allowed to lay in any surface ponding facility. Centralized tank storage must take the place of open-air impoundments. (274)

Response: The Department acknowledges the comment. Sections 78.57(a) and 78a.57(a) eliminate the use of pits for the collection of production fluids. Sections 78.57a and 78a.57a, Centralized Tank Storage, have been removed from the draft rulemaking. Due to concerns with this section by the oil and gas industry and the regulatory authority of the Department's Bureau of Waste Management related to the storage of residual waste, this section of the rulemaking is not necessary. Instead, sections 78.59c and 78a.59c allow operators to obtain a residual waste permit according to Article IX for the operation of the centralized impoundment.

1078. Comment: Commentator supports the new proposed requirement that all tanks used to manage brine and production fluids be inspected at least once per month (§§ 78.57(h) and 78a.57(i)). Regular inspections can help to identify and/or prevent leaks that may result from damaged or improperly designed tanks. (231, 231a)

Response: The Department acknowledges the comment. The Department believes that quarterly inspection of tanks by the conventional operator and monthly inspection of tanks by unconventional operator and documentation of findings are sufficient to ensure necessary protection to the environment and public health and safety. The final rulemaking includes language establishing this requirement.

1079. Comment: 78.57(h) Regarding Control, Storage and Disposal of Production Fluids (§ 78.57), to require additional, monthly documentation on Department forms is an unnecessary burden of record keeping placed on the operators. Most wells are visited multiple times during a month and any sign of potential appurtenance failure is remedied in the course of best management practices. A more practical solution would be for the operators to make monthly inspections as part of their routine maintenance and record keeping and submit a permanent inspection record to the Department in an added subject column (Tanks) in their annual Mechanical Integrity Assessment submission. (245)

Response: The Department acknowledges the comment and has revised Subsections 78a.57(i) and 78.57(h) to allow use of forms other than forms provided by the Department. Requirements to conduct periodic inspection of production tanks are appropriate to ensure that the tanks are designed, constructed, and maintained to be structurally sound with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications.

1080. Comment: The use of partially buried or underground tanks presents challenges for ongoing inspections of the integrity of the tanks, including monitoring for potential leaks. When partially buried or underground tanks are used, the Department should require specific requirements for inspection and leak detection or the use of double-walled tanks with the ability to monitor for leaks through the inner wall. (225)

Response: See response to comment 1034.

1081. Comment: It is good that tanks must be inspected monthly, but the Department should require that inspection records be maintained for longer than one year. The length of time inspection records are maintained and made available to the Department should be sufficient to account for multiple routine inspections (e.g. four years). (225)

Response: The Department does acknowledge the difficulties of the proposed provision requiring monthly inspection and has amended the final rulemaking accordingly. The tanks storing brine or other fluid produced during operation of the well must be inspected quarterly by the conventional operator and monthly by unconventional operator and documented. Also the inspections reports must be maintained for one year and made available to the department upon request. The Department believes that the provisions in sections 78.57(h) and 78a.57(i) are appropriate to protect the environment.

1082. Comment: Section 78a.57(i) - Control, storage and disposal of production fluids
By creating a requirement for all aboveground storage tanks to be managed in accordance with 25 Pa Code Sections 245.531 through 245.534, it is unclear whether operators may be required to conduct in-depth inspections of tank liners at 10- or 20- year minimum intervals. Commenter requests that the regulation be modified to allow for other methods to demonstrate compliance, such as use of double-walled/bottomed above-ground storage tanks with interstitial monitoring to ensure that the primary container integrity is maintained. Temporary shutdown, evacuation, and cleaning of tanks required to conduct in-depth liner inspections requires well shut-in, produced water transfer/handling, and confined space entry that does not appear to be warranted when other monitoring/inspection methods are appropriate. (222)

Response: Subsection 78a.57(f) specifically excludes the requirement to use Department certified inspectors to inspect interior liners or coatings. All other requirements in those sections continue to apply. Section 3218.4(b) of the 2012 Oil and Gas Act establishes that permanent aboveground and underground tanks must comply with the applicable corrosion control requirements in the department's storage tank regulations.

1083. Comment: Section 78a.57(i) - Control, storage and disposal of production fluids
This subsection is too vague for operators to know what is required. For example, what will be checked during an inspection and what will be required by the form? Please amend the regulation to specify what is required during the inspection (exterior, only, for evidence of corrosion?) Please also amend the regulation to specify what inspection points will be noted on the form so that the compliance expectation is based in a rule rather than a form that can change with no

notice. The Department should also describe in the rule what qualifies as a “deficiency” that could result in an expectation that operators will discontinue use of the tank (and, incidentally, perhaps need to shut in production of the well). Is flaking exterior paint a deficiency that requires immediate discontinued use of the tank? Please provide more detail for operators to know what is required of them and how they must respond if certain observations are noted during an inspection. (222)

Response: See response to comment 1065.

1084. Comment: § 78.57 (h) Control, storage and disposal of production fluids - This new section in the Draft Final Rule would impose a monthly inspection obligation on conventional oil and gas operators that would be documented on new forms, along with a requirement to provide notice to the Department of any “deficiencies” identified. The form offered by the Department is utilized under the tank program, from which conventional oil and gas brine tanks are exempt. The Department should not use Chapter 78 to remove exemptions that exist elsewhere in the law and should not create new inspection, record keeping and notification requirements that are not justified by compelling need. Conventional operators are already required to report and remediate leaks and spills of materials under existing law. Monthly inspections of the tens of thousands of tanks used by conventional operators would impose excessive cost and burden without any clear environmental benefit.

The new subsection (h) should be deleted. (213)

Response: Requirements to conduct periodic inspection of production tanks are appropriate to ensure that the tanks are designed, constructed, and maintained to be structurally sound with sound engineering practices adhering to nationally recognized industry standards and the manufacturer’s specifications. The Department has amended subsection 78.57(h) to reduce the frequency of inspection from once per calendar month to once per calendar quarter. See the Department’s response to question 10 of the final regulatory analysis form for a detailed analysis of the need for quarterly maintenance inspections of tanks used by conventional oil and gas operators.

1085. Comment: § 78a.57 (i) Control, storage and disposal of production fluids - This new section in the Draft Final Rule would impose a monthly inspection obligation on oil and gas operators that would be documented on new forms, along with a requirement to provide notice to the Department of any “deficiencies” identified. The form offered by the Department is utilized under the tank program, from which oil and gas brine tanks are exempt. The Department should not use Chapter 78 to remove exemptions that exist elsewhere in the law, and should not create new inspection, record keeping and notification requirements that are not justified by compelling need. Operators are already required to report and remediate leaks and spills of materials under existing law. Monthly inspections of the thousands of tanks would impose excessive cost and burden without any clear environmental benefit.

The new subsection (i) should be deleted. (213)

Response: See response to comment 1084.

1086. Comment: § 78.57 Control, storage and disposal of production fluids

A difficulty with the 2015 Proposal is its failure to clarify the applicability of this section.

For example, in its comments to the 2013 Proposal, we noted the situation of underground drips. Drips trap and separate fluids from natural gas. They are used to facilitate the safe operation of pipelines, and most drips are evacuated to larger holding tanks, some of which are aboveground and some of which are buried.

Although they are located underground, the drips are not regulated under 25 Pa. Code 245.432. The definition of underground storage tanks at 245.1 exempts drips under 245.432(ix) as “traps” or under 245.432(xii) as a device holding less than 110 gallons. Nevertheless, at section 78.57(g), the 2015 Proposal states that all underground storage tanks must comply with the applicable corrosion control requirements in 245.432. It is unclear whether these corrosion control requirements are being imposed in the case of all underground devices that store brine or other fluid regardless of the applicability of the exemptions in existing regulations, or whether the term “applicable” means 78.57(g) only applies to those devices not exempted under the definitions at 245.1.

There has been no opportunity for commenter to discuss this question with the DEP. Nevertheless, this significant uncertainty must be resolved before commenter can meaningfully comment on the full impact. (212)

Response: Section 3218.4(b) of the 2012 Oil and Gas Act requires all aboveground and underground tanks to comply with the applicable corrosion in the Department’s storage tank regulations. This section is intended to implement that statutory requirement.

1087. Comment: Section 78.57(f) would require all new, refurbished, or replaced aboveground tanks to comply with the applicable corrosion control requirements in 25 Pa. Code 245.531 through 245.534. However, the definition of aboveground storage tanks at 245.1 specifically excludes “tanks which are used to store brines, crude oil, drilling or frac fluids and similar substances or materials and are directly related to the exploration, development or production of crude oil or natural gas regulated under the Oil and Gas Act (58 P. S. § § 601.101 - 601.605).” It is unclear whether the corrosion control requirements discussed at section 78.57(f) are intended to be imposed in the case of all aboveground tanks that are new, refurbished or replaced, or whether the term “applicable” means section 78.57(f) does not apply to aboveground tanks that store “brines, crude oil, drilling or frac fluids and similar substances,” because tanks put to such storage purposes are exempted from the corrosion control requirements under the definition at 245.1.

If the intention of the DEP is to impose the corrosion control requirements upon all new, refurbished or replaced tanks that store “brines, crude oil, drilling or frac fluids, and similar substances,” then commenter comments that the DEP’s proposal exceeds its statutory authority. Act 13 of 2012 specifically addresses corrosion control requirements at section 3218.4; therein, the legislature provides that tanks “must comply with the applicable corrosion control requirements in the storage tank regulations”. Clearly those regulations do not impose the corrosion control requirements upon aboveground tanks that store “brines, crude oil, drilling or frac fluids and similar substances” and, therefore, proposed section 78.57(f) must be rewritten to make clear that it is not imposing a corrosion control burden more stringent than the legislature contemplated in Act 13.

Again, there has been no opportunity to discuss this matter with the DEP. But as with the uncertainty surrounding drips, commenter cannot meaningfully comment on the full impact of the proposed regulations. If the proposed regulation is intended to impose the corrosion control provisions contained at 245.531 through 245.534 on all aboveground tanks, there would be required very significant and expensive measures certainly never discussed by DEP or quantified

financially in its Regulatory Analysis. These expensive measures include, for example, cathodic protection - a measure not currently used at virtually any conventional oil and gas facility in Pennsylvania. (212)

Response: The Department disagrees with the commentator's interpretation of Section 3218.4(b) of the 2012 Oil and Gas Act requires all aboveground and underground tanks to comply with the applicable corrosion in the Department's storage tank regulations. This section is intended to implement that statutory requirement. The cross reference to 25 Pa. Code § 245.531-534 only relates to the corrosion control requirements. It does not incorporate the definition of aboveground storage tanks at 25 Pa. Code § 245.1 the applicability reference is intended to apply to the specific corrosion control requirements in §§ 245.531-534, rather than the type of tank.

1088. Comment: If the proposed regulation is intended to impose the protection measures on all aboveground tanks, it would be necessary to comment that the DEP failed to engage, in any way, in accommodations or considerations for small businesses. All of the conventional operators comprising our membership are small businesses, as that term is employed in the RRA. Section 12.1 of the RRA requires DEP to conduct a regulatory flexibility analysis in which it must consider methods that would accomplish the objectives of the applicable statutes while minimizing adverse impacts on small businesses. Such analysis must include consideration of:

1) less stringent compliance or reporting requirements; 2) less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishment of performance standards to replace design or operational standards; and 5) the exemption of small businesses from all or any part of the requirements contained in the rule.

That none of the conventional oil and gas tanks in Pennsylvania conform to measures such as cathodic protection speaks loudly to the need for consideration of the alternatives contemplated under the RRA. However, if the DEP does intend that such protection measures apply to all new, replaced or refurbished aboveground tanks, the DEP has entirely failed to conduct the required alternatives analysis. (212)

Response: See the final regulatory analysis form for a detailed analysis of the need for updated standards for operation of tanks by conventional oil and gas operators.

1089. Comment: The DEP may be interpreting section 78.57(f) to apply to all aboveground storage tanks is portended by new section 78.57(h), found for the first time in the 2015 Proposal. That section introduces new requirements including a monthly inspection obligation and a new reporting obligation for any deficiencies found. These new requirements appear to apply to all tanks in as much as the obligation attaches to "all tanks storing brine or other fluids produced during the operation of the well." This new inspection provision would effectively eliminate the current exemption from the tank program for tanks storing brine. Without legislative amendment or express direction, the Department cannot remove exemptions for existing tanks and has failed to provide any data, analysis or justification for this revision.

Several problems exist with the new requirements in this subsection of the Draft Final Rule:

1) Failure to Demonstrate Need: A leaking storage tank causes financial loss in the forms of lost product and cleanup liability. It behooves a prudent operator to inspect

storage facilities regularly, and such inspections are the norm without the burden of yet another report to be prepared and submitted to the State.

To the extent one acknowledges the form is not necessary from the prudent operator, but is intended to enforce inspections by non-prudent operators, one must question the logic of the premise that a non-prudent operator will conduct the inspection that underpins the completion of the form.

The DEP has not provided any data that would support the spurious proposition that the completion of a form will prevent tank breaches. The DEP has access to all records of tank leakage in Pennsylvania and can analyze what leakage was preventable by inspection and submission of a form. However, the DEP has not taken this requisite step. The imposition of monthly inspections of over 100,000 tanks, and the subsequent generation of over a million new forms per year, should not be imposed without that requisite step having been fulfilled.

2) Failure of Statutory Authority: In 2012, Act 13 added a limited obligation related to tanks that cannot be interpreted to remove existing exemptions from the tank program or to authorize the Department to create new inspection obligations for tanks in Chapter 78. The legislature recently considered this precise question and adopted the measures it determined to be necessary for oil and gas operations. The Department has exceeded its legal authority in attempting to create a new inspection program for tanks used for the control, storage or disposal of production fluids.

3) Failure to Consider Costs: The DEP's 2013 Regulatory Analysis obviously did not address the costs of the new monthly inspection obligation introduced in the 2015 Proposal. And to the extent the proposed regulations are to be read as imposing corrosion control upon all new, refurbished or replaced aboveground tanks and all buried tanks regardless of size or use, the DEP's 2013 Regulatory Analysis did not address such costs.

It is not feasible for us to completely or meaningfully comment on these new costs inasmuch as the applicability is uncertain as described above, and because the short period for comment does not afford time for a proper analysis. The DEP has not provided any cost estimate for the compliance with the new burdens contained in the 2015 Proposal; and to the extent the 2015 Proposal portends the applicability of the corrosion protection obligations discussed above, the DEP has not provided any estimate of those costs either.

There is not time for us to conduct the thorough cost analysis it performed in response to the 2013 proposal. In 2013 and 2014, we exploited the several months' comment time to convene a committee and to obtain data from several of its members. We analyzed actual costs and other data involving 1,300 conventional wells. Following a process that involved both committee and Board review, we convened our entire membership to review the accuracy of the assembled data and conclusions before submitting the same as a formal comment.

The comment period of 45 days to respond to the 2015 Proposal does not allow for a similar process. All that can be said is that operating costs will be significantly increased by virtue of the new proposed obligations. Given that the obligations necessarily involve over a million reports annually, it is safe to conclude that the cost will involve millions of dollars.

What is ascertainable, however, is that the DEP did not perform the financial analysis required by law. This is a fundamental procedural failure that prevents us from commenting meaningfully

and, most important, prevents an analysis of whether the proposed regulations meet the dictates of the RRA.

4) Failure to Account for Small Business: As noted, all of the conventional operators comprising our membership are small businesses; the RRA requires DEP to conduct a regulatory flexibility analysis.

The DEP has not conducted that analysis, and it is impossible to meaningfully comment about potential alternatives inasmuch as DEP has failed to state why there is a need to introduce new obligations in the 2015 Proposal. Since we do not have a statement as to what goal(s) the DEP is seeking to achieve via change, it is impossible to discuss alternatives which might achieve that goal or goals.

As with the DEP's other failures to engage in the requisite statement of need and alternatives analysis, the time for that discussion is now inescapably behind us. Section 78.57 has been distributed for "comment" without the benefit of the statement of the underlying rationale, financial analysis, or alternatives discussion-and hence groups like ours and its members can never properly comment on the very items on which the RRA is designed to seek input. (212)

Response: Please see the response to comment 1084 regarding periodic tank inspections. See the final regulatory analysis form for a detailed analysis of the need for updated standards for operation of tanks by conventional oil and gas operators.

1090. Comment: Commenter compliments the Pennsylvania Department of Environmental Protection (PA-DEP) and the Pennsylvania Environmental Quality Board (PA-EQB) for the statements and inclination to require geosynthetic lined facilities designed to protect the groundwater from potential contamination in the processes of oil and gas exploration and extraction.

However, Commenter would like to point out deficiencies in the approach, language and standards used to attempt to accomplish this.

Commenter recommends that the regulations put forth require the use of a composite liner system (geomembrane and geosynthetic clay liner) as this system has been demonstrated (by PA-DEP and the United States Environmental Protection Agency (USEPA)) to be the most effective barrier methodology, regardless of the classification of the materials contained (hazardous, non-hazardous or designated for beneficial re-use, solid, liquid or mixtures). This comment contains additional references to USEPA reports and studies as well as test data generated, using USEPA protocols that support the effectiveness of composite liner systems and their components. Lacking the construction of a composite liner system, as the existing proposed regulations exist currently, the language and complete lack of application of existing standards for inspection of the synthetic liner are likely to result in environmental contamination and do not use current technology and as such, are well out of date.

Statement of proposed requirement(s)

In 25 Pa. Code Chapter 78 (and (a)), the proposed regulations discuss the requirements of synthetic liner systems as follows:

The pit is impermeable and is lined with a synthetic flexible liner or alternate material that has a coefficient of permeability of no greater than 1×10^{-7} cm/sec. The liner shall be of sufficient strength and thickness to maintain the integrity of the liner. The thickness of a synthetic liner

shall be at least 30 mils. Adjoining sections of liners shall be sealed together in accordance with the manufacturer's directions to prevent leakage.

The physical and chemical characteristics of the liner shall be compatible with the waste and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy EPA Method 9090, Compatibility Test for Wastes and Membrane Liners, or other documented data approved by the Department.

The pit shall be constructed so that the liner sub base is smooth, uniform and free of debris, rock and other material that may puncture, tear, cut, rip or otherwise cause the liner to fail. The liner sub base and subgrade shall be capable of bearing the weight of the material above the liner without settling in an amount that will affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other material that may cause the liner to leak, a sub base of at least 6 inches of soil, sand or smooth gravel, or a sufficient amount of an equivalent material shall be installed over the area as the sub base for the liner.

Prior to placing brine or other fluids in the pit, the operator shall inspect the liner and correct all damage or imperfections that may cause the liner to leak.

Further, as a general statement of intent, PADEP publishes the following statement on their website:

Containment Practices Inadequate containment practices pose a potential threat of pollution to the waters of the commonwealth. The containment provisions included in this proposed regulation were carefully developed based on DEP's inspection and field experience. Act 13 includes new containment systems and practices requirements for unconventional well sites. There are many options for containment that the oil and gas industry uses and is constantly developing improvements for, so DEP must be on the forefront of the curve.

Respondent comments

With all due respect, if it is the goal of the PADEP and the PA-EQB to be "on the forefront of the curve" the language and requirements of the proposed regulations require significant changes. While this may appear to be a very strong statement, the good news is that the PADEP has an excellent track record in the use of composite liners, geosynthetic materials and proper application of their usage and possesses significant expertise in this regard. Further, there is an institution located within the commonwealth that is the preeminent global leader in the use and application of these materials. That is the Geosynthetic Institute located in Folsom, Pennsylvania. The directors of the Institute have commented on the proposed regulations. Their comments are included with this commentary and deserve a serious review and integration into the regulatory process.

Commenter would like to ensure that the PADEP and the PA-EQB are aware of all pertinent information related to the effective use of geosynthetic materials for waste containment. The Geosynthetic Institute (Drs. Robert and George Koerner, Folsom, PA) website contains an index of the U.S. EPA documents that are related to the use of geosynthetics . The complete list is attached as an Appendix "A". Further, a link to the webpage is here: <http://www.geosynthetic-institute.org/epa.html>. Clearly, geosynthetic materials have been well examined and proven to be effective.

Commenter would like to state our concurrence with the opinions and information previously supplied to the docket by The Geosynthetic Institute in their letter and commentary dated March

10, 2014 (Appendix “B”). In the interest of brevity, Commenter does not re-supply the technical reference materials listed in that document and available on the Geosynthetic Institute website.

However, based on the technical information presented therein, commenter recommends that the Proposed Rule be revised to use current practices for inspection and the verification of the geosynthetic liner system integrity

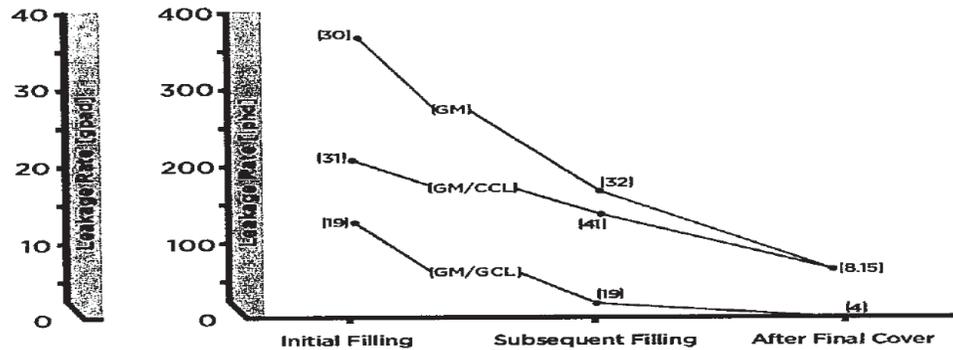
The regulations currently call out a synthetic liner and require the liner be inspected. To wit: “the operator shall inspect the liner and correct all damage or imperfections that may cause the liner to leak”. This requirement is very poorly stated and presents several issues. Who is qualified to make such an inspection? What should the inspection entail? What level of damage is allowable?

The responder wishes to bring to the attention of the PA EQB that there are well established protocols for determining the integrity and barrier performance of synthetic liners. Multiple ASTM (American Standard Test Methods) methods exist and are detailed in the appendices C through F. These well established, documented and reliably demonstrated protocols exist to establish the integrity of the synthetic liner and assure protection of the environment. There are also systems in place that can provide continuous monitoring of geosynthetic liner systems. A standard that does not require the usage of these systems and protocols cannot be considered to reflect cement engineering and technical practices and certainly does not meet the stated intention of the standard to “on the forefront of the curve”.

In another topic, GMA also wishes to point out to the Board the historical performance of system recommends described as a 'composite liner', consisting of two components: An upper component consisting of a minimum 30-mil flexible membrane liner (FML), AND a lower component consisting of either at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/s, or a geosynthetic clay liner (CGCL) containing at least 0.75 lb/ft² of sodium bentonite. While a two foot layer of clay may not be technically and economically feasible for these systems, the use of a GCL within a composite system is extremely effective, in fact, historically demonstrated to be the best available technology.

The prescriptive liner system described under US EPA Subtitle D (40 CFR Part 258) is a composite liner with two components: an upper component consisting of a minimum 30- mil flexible membrane liner (FML, also commonly called a geomembrane), and a lower component consisting of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. This system, utilizing a geomembrane/synthetic liner and a clay component has been extremely successful over the past several decades at containment of liquids (and solids) with significant potential for environmental damage. This has been evaluated on multiple occasions. Appendix “B” lists one document of particular interest titled “Assessment and Recommendations for Improving the Performance of Waste Containment Systems” by R. Bonaparte, D.E. Daniel, and R.M. Koerner, US EPA publication: EPA/600/R-02/099 (Appendix G) One figure illustrating data from this document illustrates the relative performance of various systems, a geomembrane / synthetic liner alone, a composite liner consisting of a geomembrane / synthetic liner with compacted clay and a composite liner consisting of a geomembrane / synthetic liner with geosynthetic clay liner. Leakage rates are plotted over time expressed as the stages of the containment site.

[→] LANDFILL LINER SYSTEM PERFORMANCE



[Ref: 2002 Bonaparte, Daniel and Koerner, U.S. EPA]

Clearly composite liners, particularly those utilizing a GCL have a successful track record in containment applications. Also clear is the fact that a geomembrane/synthetic liner alone is the least effective system.

Conclusion

The benefits and successes of utilizing geosynthetic barriers in containment systems has been well documented by the technical materials supplied by GMA contained and further referenced here. Geosynthetics have been tested and successfully evaluated in great detail over a long period of use in a very wide range of applications by PADEQ and pioneered, investigated and for the last several decades improved by the Geosynthetic Institute .

GMA recommends that the existing technology and protocols for geosynthetic liner integrity testing and verification be used to assure that these systems perform as desired and contain the liquids that they are designed to and capable of containing.

GMA recommends that the Proposed Rule require a 'composite liner' consisting of two components : An upper component consisting of a minimum 30-mil flexible membrane liner (FML), and a lower component consisting of a geosynthetic clay liner. (387)

Response: The Department acknowledges the comment and notes that the commentator appears to be referencing a portion of the rulemaking under 78.57 regarding the control, storage, and disposal of production fluids, which was proposed for deletion. To the extent that the comments refer to requirements proposed to be retained under 78.56 regarding temporary storage, the Department disagrees with the commenter’s suggestion that a composite liner system should be required. Due to the type and scope of use of temporary pits by conventional operators, a liner system meeting the requirements described by the commenter is not necessary to ensure protection of public health and safety and the environment.

1091. Comment: Tanks used for the storage of waste must be completely enclosed. The revisions give operators the option of using tanks “without lids” to store waste on well sites; this allows spills to occur and air emissions to escape.

End the use of all open-air production pits for the storage of waste and require the immediate conversion to closed tanks. Conventional well operators should not be permitted to store their waste in pits and to bury waste at well sites. (382)

Response: See responses to comments 903, 1027 and 1365.

1092. Comment: §78a.56 (a) says the operator shall collect the brine and other fluids produced during operation[, service and plugging] of the well in a tank[, pit] or a series of [pits or] tanks, or other device approved by the Department for subsequent disposal or reuse.

The DEP should prohibit operators from using any open-air pits and tanks, regardless of size or location, for storage and treatment of regulated wastes, including wastewater, drill cuttings, and substances (like gels and cement) that return to the surface after tracking. Waste should be stored and treated only in closed, aboveground systems.

Tanks used for the storage of waste should be completely enclosed to reduce the possibility that polluting spills and emissions will occur, and to keep wildlife from being poisoned by drinking from contaminated water and contact with contaminated soil. (377)

Response: See responses to comments 903, 1027 and 1365.

1093. Comment: In 2013, the EQB proposed changes to § 78a.57 to prohibit the use of open top structures and pits to store other production fluids generated during the production operations of a well and to require tanks to be equipped with secondary containment. EQB also proposed to require removal of underground or partially buried storage tanks within three years.

In 2015, PADEP added a requirement for operators using pits for storage of production fluids to report the use of the pit within six months of rule approval, and close and restore the pit within a year. PADEP added monthly inspection requirements and added a requirement for all tanks to be designed, constructed, and maintained in accordance with industry standards and manufacturer specifications.

In 2015, PADEP retracted its proposal to require removal of underground or partially buried storage tanks within three years.

The 2014 Comments supported EQB's proposal to prohibit the use of open top structures and pits and to require the use of tanks equipped with secondary containment. We also requested that any existing pit be closed and remediated. We support PADEP's 2015 proposal to require closure of pits; however, we request that the timeframe for pit closure and remediation be expedited. PADEP should already know whether an operator is currently using a pit. An operator should not be provided six months to notify PADEP of a pit's existence. Instead, the operator should be required to send in a letter within 30 days of the rule, acknowledging the requirement to close and remediate pits at its existing facility, provide a list of pits subject to this closure and remediation requirement, and provide a plan for closure and remediation that is completed in six months or less. The six-month timeframe would be consistent with the timeframe proposed by PADEP for pit closure in § 78a.56.

We appreciate PADEP's new requirement that all tanks be designed, constructed, and maintained in accordance with industry standards and manufacturer specifications. However, we remain concerned that several important integrity standards, monitoring and control systems, and inspection standards are not included. Similar to our comments above for temporary storage (§ 78a.56), we do not understand why PADEP's proposed standards for a centralized storage location (§ 78a.57a) are more robust than tanks at a well pad. We recommend that tank

requirements have regulatory parity. We recommend additional language to remedy this problem in redlines provided below.

We support PADEP's proposed monthly inspection requirements.

The 2014 Comments supported the EQB's proposal to require removal of underground or partially buried storage tanks. We recommend that buried tanks be prohibited, since they pose a risk of unchecked pollution and aboveground tanks are easier to inspect, maintain, repair, and monitor. We do not support PADEP's retraction of this proposed change.

We do not support the proposal to allow existing tanks to avoid meeting these new standards. All tanks (including existing tanks) should meet these upgraded standards. We remain concerned that improvements in tank selection and secondary containment structure requirements would only apply to new, refurbished, or replaced tanks or other aboveground containment structures. We recommend that best technology standards also apply to existing tanks, and that operators be given a period to bring the tanks and other aboveground containment structures into compliance.

Closed-loop tank systems should be used to contain volatile materials and wastes. Direct venting should be prohibited. If tank pressure must be reduced, tank vapor recovery systems must be installed to mitigate air pollution. Vapors should be preferably routed to power generation, or routed to an incinerator or flare if there is good cause.

We also recommend incorporating many of the same recommendations we made for temporary storage tanks at § 78a.56, for production tanks at § 78a.57. (211)

Based on Comments ... we recommend the following changes to the proposed regulations at §78a.57:

§ 78a.57. Control, storage and disposal of production fluids.

(a) Unless a permit has been obtained under § 78a.60(a) (relating to discharge requirements), the operator shall collect the brine and other fluids produced during operation[, **service and plugging**] of the well in a tank[, **pit**] or a series of [**pits or**] tanks, or other device approved by the Department for subsequent disposal or reuse. **Open top structures may not be used to store brine and other fluids produced during operation of the well. BURIED TANKS ARE PROHIBITED. AN OPERATOR USING A PIT FOR STORAGE OF PRODUCTION FLUIDS AT THE TIME OF THE EFFECTIVE DATE OF THESE REGULATIONS SHALL REPORT THE USE OF THE PIT TO THE DEPARTMENT NO LATER THAN** (Editor's Note: The blank refers to a date ~~six months~~ **30 DAYS** from the effective date of this regulation) **AND SHALL PROPERLY CLOSE THE PIT IN ACCORDANCE WITH APPROPRIATE RESTORATION STANDARDS NO LATER THAN** (Editor's Note: The blank refers to a date ~~one year~~ **SIX MONTHS** from the effective date of this regulation). **ANY SPILLS OR LEAKS DETECTED SHALL BE REPORTED AND REMEDIATED IN ACCORDANCE WITH § 78a.66 (RELATING TO REPORTING AND REMEDIATING SPILLS AND RELEASES) PRIOR TO PIT CLOSURE.** Except as allowed in this subchapter ~~or otherwise approved by the Department~~, the operator may not discharge the brine and other fluids on or into the ground or into the waters of this Commonwealth.

(b) **[Except as provided in § 78.56 (relating to pits and tanks for temporary [containment] storage), the]** AN operator may not use a pit for the control, handling or storage of brine and other fluids produced during operation[, **service or plugging**] of a well **[unless the pit is**

authorized by a permit under The Clean Streams Law (35 P.S. §§ 691.1—691.1001) or approval to operate the pit as an impoundment under The Clean Streams Law is obtained from the Department under subsection (c)].

~~(c) Secondary containment capable of preventing tank contents from entering waters of the Commonwealth is required for all new, refurbished or replaced ABOVEGROUND tanks or other aboveground containment structures approved by the Department, including their associated manifolds, that contain brine and other fluids produced during operation of the well. If one tank in a series of tanks is added, refurbished or replaced, secondary containment is required for the entire series of tanks. The secondary containment area provided by dikes or other methods of secondary containment open to the atmosphere must have containment capacity sufficient to hold the volume of the largest single ABOVEGROUND tank, plus an additional 10% of volume for precipitation. Compliance with § 78a.64 (relating to containment around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary container fulfill the requirements in this subsection.~~

(C) THE OPERATOR SHALL INSTALL OR CONSTRUCT AND MAINTAIN THE ABOVEGROUND TANK AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

(1) ALL TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES SHALL BE CONSTRUCTED AND MAINTAINED WITH SUFFICIENT CAPACITY TO CONTAIN ALL REGULATED SUBSTANCES AND WASTES THAT ARE USED AT THE OIL AND GAS OPERATION. ALL TANKS SHALL BE LOCATED ON THE WELL PAD SO THAT ANY SPILLS WILL BE CAPTURED BY THE CONTAINMENT STRUCTURES AND OTHER SPILL PREVENTION SYSTEMS.

(2) THE OPERATOR SHALL NOTIFY THE DEPARTMENT AT LEAST 3 BUSINESS DAYS BEFORE THE PLANNED INSTALLATION OF EACH TANK OR APPROVED ABOVEGROUND CONTAINMENT STRUCTURE. THE NOTICE SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE AND INCLUDE THE DATE THE INSTALLATION WILL BEGIN. IF THE DATE OF INSTALLATION IS EXTENDED, THE OPERATOR SHALL NOTIFY THE DEPARTMENT OF THE NEW DATE THAT THE INSTALLATION WILL BEGIN.

(3) ALL TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES CONTAINING VOLATILE MATERIALS AND WASTES SHALL BE DESIGNED AND OPERATED TO CAPTURE AIR POLLUTION. ROUTINE VENTING OF VAPORS IS PROHIBITED. VAPORS SHALL BE ROUTED TO POWER GENERATION EQUIPMENT (PREFERABLY) OR, UPON DEMONSTRATION OF GOOD CAUSE, SHALL BE ROUTED TO AN INCINERATOR OR FLARE

(4) ALL TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES SHALL BE DESIGNED AND CONSTRUCTED AT THE FACTORY AND MAINTAINED, ROUTINELY INSPECTED AND VERIFIED TO BE STRUCTURALLY SOUND AND REASONABLY PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES PRIOR TO USE. EACH TANK SHALL BE INSPECTED BY A CERTIFIED TANK INSPECTOR AT LEAST ONCE EVERY FIVE YEARS. EACH APPROVED ABOVEGROUND MODULAR CONTAINMENT STRUCTURE SHALL BE INSPECTED BY A STRUCTURAL ENGINEER AT LEAST ONCE EVERY FIVE

YEARS. THE INSPECTION SHALL EXAMINE STRUCTURAL CONDITIONS, DOCUMENT CORROSION OR DAMAGE, AND IDENTIFY NECESSARY REPAIRS, BEFORE RETURNING IT TO SERVICE. AN INSPECTION REPORT SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT WITHIN SEVEN DAYS AND SHALL BE MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE WITHIN SEVEN DAYS OF SUBMISSION.

(5) OVERFLOW ALARM SYSTEMS SHALL BE INSTALLED ON ALL LIQUID STORAGE TANKS. THE SYSTEMS SHALL INCLUDE: HIGH-LIQUID-LEVEL ALARMS THAT SOUND AND DISPLAY IN AN IMMEDIATELY RECOGNIZABLE MANNER; HIGH-LIQUID-LEVEL AUTOMATIC PUMP SHUTOFF DEVICES, WHICH ARE DESIGNED TO STOP FLOW AT A PREDETERMINED TANK CONTENT LEVEL; AND A MEANS OF IMMEDIATELY DETERMINING THE LIQUID LEVEL OF TANKS.

(6) UNLESS AN INDIVIDUAL IS CONTINUOUSLY PRESENT AT THE OIL AND GAS OPERATION, A FENCE MUST COMPLETELY SURROUND THE STORAGE EQUIPMENT TO PREVENT UNAUTHORIZED ACTS OF THIRD PARTIES AND DAMAGE CAUSED BY OR TO WILDLIFE.

(7) UNLESS AN INDIVIDUAL IS CONTINUOUSLY PRESENT AT THE OIL AND GAS OPERATION, OPERATORS SHALL EQUIP ALL VALVES AND ACCESS LIDS ON CONTAINERS OF REGULATED SUBSTANCES WITH REASONABLE MEASURES TO PREVENT UNAUTHORIZED ACCESS BY THIRD PARTIES, SUCH AS LOCKS, OPEN END PLUGS, REMOVABLE HANDLES, OR RETRACTABLE LADDERS. TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES STORING FRESHWATER, FIRE PREVENTION MATERIALS, OR SPILL RESPONSE KITS ARE EXCLUDED FROM THE REQUIREMENTS OF THIS PARAGRAPH.

(8) THE OPERATOR SHALL DISPLAY A SIGN ON OR NEAR THE EACH TANK AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURE IDENTIFYING THE CONTENTS AND PROVIDING AN APPROPRIATE WARNING OF THE CONTENTS, SUCH AS "FLAMMABLE," "CORROSIVE," OR ANOTHER DESCRIPTION OF THE RELEVANT DANGER.

(9) SECONDARY CONTAINMENT LINERS CAPABLE OF PREVENTING TANK AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES CONTENTS FROM ENTERING WATERS OF THE COMMONWEALTH ARE REQUIRED FOR ALL EXISTING, NEW, REFURBISHED OR REPLACED TANKS OR OTHER ABOVEGROUND CONTAINMENT STRUCTURES APPROVED BY THE DEPARTMENT, INCLUDING THEIR ASSOCIATED MANIFOLDS THAT CONTAIN BRINE AND OTHER FLUIDS PRODUCED DURING OPERATION OF THE WELL. NEW, REFURBISHED, OR REPLACED TANK AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES MUST MEET THIS STANDARD UPON CONSTRUCTION OR INSTALLATION. EXISTING TANKS MUST MEET THESE STANDARDS BY _____ (EDITOR'S NOTE: THE BLANK REFERS TO ONE YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS PROPOSED RULEMAKING.).

(i) IF ONE TANK IN A SERIES OF TANKS IS ADDED, REFURBISHED, OR REPLACED, SECONDARY CONTAINMENT IS REQUIRED FOR THE ENTIRE SERIES OF TANKS. THE SECONDARY CONTAINMENT AREA PROVIDED BY DIKES OR OTHER METHODS OF SECONDARY CONTAINMENT OPEN TO THE ATMOSPHERE MUST HAVE CONTAINMENT CAPACITY SUFFICIENT TO HOLD THE VOLUME OF THE LARGEST SINGLE TANK, PLUS AN ADDITIONAL 10% OF VOLUME FOR PRECIPITATION. COMPLIANCE WITH § 78.64 (RELATING TO CONTAINMENT AROUND OIL AND CONDENSATE TANKS) OR USING DOUBLE WALLED TANKS CAPABLE OF DETECTING A LEAK IN THE PRIMARY CONTAINER FULFILLS THE REQUIREMENTS IN THIS SUBSECTION.

(ii) ALL TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES SHALL BE SET ON TOP OF A SYNTHETIC FLEXIBLE LINER THAT IS SUFFICIENT IN SIZE TO CAPTURE ANY LEAKS OR DRIPS THAT MAY OCCUR FROM THE TANK OR MODULAR STRUCTURE. LINERS SHALL BE IMPERVIOUS, IMPERMEABLE, AT LEAST 30 MILS THICK; THINNER LINERS SHALL NOT BE ALLOWED. THE LINER SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED SO THAT THE PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE LINER ARE NOT ADVERSELY AFFECTED BY THE REGULATED SUBSTANCE STORED THEREIN AND THE LINER IS RESISTANT TO PHYSICAL, CHEMICAL, AND OTHER FAILURE DURING TRANSPORTATION, HANDLING, INSTALLATION, AND USE. LINER COMPATIBILITY MUST SATISFY ASTM METHOD D5747, COMPATIBILITY TEST FOR WASTES AND MEMBRANE LINERS, OR OTHER COMPATIBILITY TEST APPROVED BY THE DEPARTMENT FOR THE DURATION OF TANK OR OTHER STORAGE STRUCTURE USE. ADJOINING SECTIONS OF LINERS SHALL BE SEALED TOGETHER TO PREVENT LEAKAGE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. THE INTEGRITY OF ALL SEAMS OF THE ADJOINING SECTIONS OF LINER SHALL BE TESTED PRIOR TO USE. RESULTS OF THE TESTS SHALL BE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

(iii) PRIOR TO PLACING THE TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES ON THE SECONDARY CONTAINMENT LINER, THE LINER SHALL BE INSPECTED FOR LACK OF UNIFORMITY, DAMAGE, AND OTHER IMPERFECTIONS THAT MAY CAUSE THE LINER TO LEAK. THE OPERATOR SHALL CORRECT DAMAGE OR IMPERFECTIONS BEFORE PLACING THE TANKS ON THE LINER.

(iv) IF A LINER BECOMES TORN, OR OTHERWISE LOSES ITS INTEGRITY, TANKS MUST BE CONTINUOUSLY MONITORED FOR LEAKS BY ONSITE PERSONNEL WHILE THE LINER IS REPAIRED. IF REPAIR OF THE LINER IS NOT PRACTICAL OR POSSIBLE, THE STORAGE TANK CONTENTS SHALL BE REMOVED AND PLACED IN ANOTHER TANK THAT MEETS THE REQUIREMENTS OF THIS SECTION.

(v) THE OPERATOR SHALL NOTIFY THE DEPARTMENT AT LEAST 3 BUSINESS DAYS BEFORE THE INSTALLATION OF THE LINER. THE NOTICE SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE AND INCLUDE THE DATE THE LINER WILL BE INSTALLED. IF THE DATE OF INSTALLATION IS EXTENDED, THE OPERATOR SHALL NOTIFY THE DEPARTMENT WITH THE NEW DATE OF INSTALLATION. A LICENSED

PROFESSIONAL ENGINEER OR GEOLOGIST THAT DESIGNED THE SITE SHALL SUBMIT A STATEMENT, ON FORMS PROVIDED BY THE DEPARTMENT, CERTIFYING THAT THE LINER, AS BUILT, IS COMPLIANT WITH THIS SECTION. THIS CERTIFICATION SHALL BE SUBMITTED WITHIN 10 BUSINESS DAYS OF INSTALLATION OF THE LINER.

(d) Tanks, series of tanks or other above ground storage structures approved by the Department used to store brine or other fluids produced during operation of the well shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to Nationally recognized industry standards and the manufacturer's specifications. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

~~(e) Underground or partially buried storage tanks [may not be] used to store brine or other fluids produced during operation of the well SHALL BE DESIGNED, CONSTRUCTED AND MAINTAINED TO BE STRUCTURALLY SOUND IN ACCORDANCE WITH SOUND ENGINEERING PRACTICES ADHERING TO NATIONALLY RECOGNIZED INDUSTRY STANDARDS AND THE MANUFACTURER'S SPECIFICATIONS [unless approved by the Department. Existing underground or partially buried storage tanks shall be removed by _____ (Editor's Note: The blank refers to 3 years after the effective date of adoption of this proposed rulemaking-)].~~ **ALL EXISTING UNDERGROUND OR PARTIALLY BURIED STORAGE TANKS SHALL BE REMOVED BY (EDITOR'S NOTE: THE BLANK REFERS TO ONE YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS PROPOSED RULEMAKING.).** A well operator utilizing underground or partially buried storage tanks as of _____, *(Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking shall ELECTRONICALLY provide the Department with a list of the well sites THROUGH ITS WEBSITE where the underground or partially buried storage tanks are located [and schedule for removal of the tanks] by _____ (Editor's Note: The blank refers to 6 months 30 DAYS after the effective date of adoption of this proposed rulemaking.)*

(f) ~~All new, refurbished or replaced ABOVEGROUND tanks that store brine or other fluid produced during operation of the well must comply with the applicable corrosion control requirements in §§ 245.531 – 245.534 (relating to corrosion and deterioration prevention), WITH THE EXCEPTION OF USE OF DEPARTMENT-CERTIFIED INSPECTORS TO INSPECT INTERIOR LININGS OR COATINGS.~~ **EXISTING TANK BOTTOMS THAT DO NOT MEET THE STANDARDS OF § 245.531(B) SHALL BE TAKEN OUT OF SERVICE AND REPAIRED OR REPLACED TO MEET THAT STANDARD BEFORE BEING RETURNED TO USE. ALL EXISTING TANKS AND APPROVED ABOVEGROUND CONTAINMENT STRUCTURES MUST BE EVALUATED BY A CORROSION EXPERT BY _____ (EDITOR'S NOTE: THE BLANK REFERS TO ONE YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS PROPOSED RULEMAKING) AND THE CORROSION EXPERT'S REPORT MUST BE PROVIDED TO THE DEPARTMENT. IF THE CORROSION EXPERT RECOMMENDS INSTALLATION OF CATHODIC PROTECTION, LINING, COATING, OR OTHER CORROSION CONTROL MEASURES, THE OPERATOR MUST MAKE THOSE REPAIRS WITHIN (EDITOR'S NOTE: THE BLANK REFERS TO 18 MONTHS AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS PROPOSED RULEMAKING).**

~~(g) ALL NEW, REFURBISHED OR REPLACED UNDERGROUND STORAGE TANKS THAT STORE BRINE OR OTHER FLUID PRODUCED DURING OPERATION OF THE WELL MUST COMPLY WITH THE APPLICABLE CORROSION CONTROL REQUIREMENTS IN § 245.432 (RELATING TO OPERATION AND MAINTENANCE INCLUDING CORROSION PROTECTION) WITH THE EXCEPTION OF USE OF DEPARTMENT-CERTIFIED INSPECTORS TO INSPECT INTERIOR LININGS.~~

~~[(g)](h) All EXISTING, new, refurbished or replaced tanks storing brine or other fluids produced during operation of the well must be reasonably protected from unauthorized acts of third parties. Unless the tank is surrounded by a fence, tank valves and access lids must utilize locks, open end plugs or removable handles and ladders on tanks must be retractable or other measures that prevent access by third parties.~~

~~(i) TANKS STORING BRINE OR OTHER FLUIDS PRODUCED DURING OPERATION OF THE WELL MUST BE INSPECTED BY THE OPERATOR AT LEAST ONCE PER CALENDAR MONTH AND DOCUMENTED ON FORMS PROVIDED BY THE DEPARTMENT. ANY DEFICIENCIES IDENTIFIED DURING THE INSPECTION MUST BE REPORTED TO THE DEPARTMENT WITHIN 3 DAYS OF THE INSPECTION AND REMEDIED PRIOR TO CONTINUED USE OF THE TANK. INSPECTION RECORDS SHALL BE MAINTAINED FOR 1 YEAR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. (211)~~

Response: Sections 78.57(a) and 78a.57(a) eliminate the use of pits for the control, storage and disposal of production fluids during the operation of well. The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing production pits to evaluate alternatives and adjust their operations in order to comply with the new requirements.

The Department acknowledges the economic impacts of the proposed provision requiring removal of underground storage tanks at well sites suggested in the proposed language in December 2013 and so has amended the final rulemaking accordingly. As written, the rulemaking requires all, new, refurbished or replaced tanks to comply with corrosion requirements in §§245.531-245.534 and the secondary containment requirements. The Department believes that this is a reasonable approach to obtain compliance with appropriate economic considerations.

Many of the revisions proposed by the commentator seem to be designed to prevent escape of production fluids from containment on well sites. The Department believes that the regulation as written is adequate to ensure proper control, storage and disposal of brine and other production fluids and has not made the suggested revisions.

1094. Comment: The DEP should end the use of all open-air production pits for the storage of waste and immediate conversion to closed tanks. DEP is proposing to continue to allow conventional operators to store their waste in pits and to bury waste at well sites. Many spills, leaks, and other problems involving conventional pits have occurred statewide. If the waste is potentially toxic and harmful to water, air, soil, and health, the type of well it came from shouldn't determine how it's managed and where it ends up. (377)

Response: See responses to comments 903, 1027 and 1365.

§§ 78.57a and 78a.57a Centralized tank storage

The Department acknowledges the comments below relating to centralized tank storage. Based on public comment to the proposed rulemaking raising concerns over the lack of permitting options for centralized off-site tank storage, the Department developed §§ 78.57 and 78a.57 (relating to centralized tank storage) to provide for the option of centralized tank storage off of the well site under the oil and gas regulations. These sections were developed with significant input and review from the Department's waste management and storage tank programs to ensure that the draft final-form rulemaking requirements were protective of public health and safety and the environment. The Department also felt that these sections were appropriate for inclusion in the draft final-form rulemaking to give operators an environmentally-protective option for off-site wastewater management given the Department's decision to eliminate the use of centralized impoundments without residual waste permits in §§ 78.59c and 78a.59c of the draft final-form rulemaking. These sections were published as part of the Advance Notice of Final Rulemaking on April 4, 2015.

As noted below, there was widespread opposition to these new sections across the spectrum of commenters, for various reasons. In keeping with the Department's interpretation of section 3273.1(a) of the 2012 Oil and Gas Act (58 P.S. § 3273.1(a)), and the decision to eliminate the use of centralized impoundments without residual waste permits in §§ 78.59c and 78a.59c of the draft final-form rulemaking, the Department removed §§ 78.57 and 78a.57 from the final-form rulemaking. Operators wishing to manage oil and gas wastewater off of a well site, or on a well site but not consisting entirely of waste (1) generated at that well site or (2) waste that will be beneficially reused at that well site, must obtain a permit to do so under the Department's residual waste regulations rather than operating under Chapters 78 or 78a. Because the Department has deleted these sections from the final-form rulemaking, the Department is not providing responses to the individual comments beyond this general response.

1095. Comment: Centralized Tank Storage: The entire §78a.57a is duplicative of 25 Pa. Code §299.122 and WMGR123 which fall under the Residual Waste Management Regulations and the Authority of the Department's Bureau of Waste Management. All of the criteria following in this section are unnecessary. Since a regulatory framework is already established this entire section should be stricken or should simply provide a cross- reference to the residual waste regulation framework. New or additional requirements for tanks storing oil and gas wastewaters are not warranted. (191)

1096. Comment: § 78a.57 Centralized Tank Storage - DEP will not encourage the reuse and recycling of extraction wastewater through this proposal because of the excessively onerous provisions in the lengthy and complicated subsection. Because the Draft Final Rule would impose significantly more stringent requirements than those currently affecting centralized tank facilities associated with wastewater, it will likely act as a disincentive to reuse and recycling.

Because of their relatively benign character, tanks that are used to store brines, crude oil, drilling or frac fluids and similar substances directly related to the exploration, development or production of oil or gas are exempted from the Storage Tank Act. See 35 P.S. § 6021.102. Additionally, a facility employed for the disposal, storage or processing of residual waste that is generated by drilling or production of an oil or gas well, and is located on the well site, is exempted from the residual waste regulations in Chapter 287.

It is clear that the Legislature and EQB exempted tanks that hold oil and gas extraction waste from more stringent statutory and regulatory requirements in the past because extraction waste is

not as harmful as other types of industrial wastes. It is unclear why PADEP would propose regulations contrary to this legislative direction and create obligations that are in some instances more stringent than the regulations found in Chapters 245 and 287. As proposed, the ANFR provisions will likely be irrelevant to current recycling and reuse operations and lead to increased disposal rather than reuse. And the Draft Final Rule fails to enhance the flexibility of short-term operations, because it contains provisions that are as stringent, or more stringent, than the regulations applied to permanent industrial waste facilities.

The requirement to use “forms provided by the Department” should be deleted because DEP has not provided a copy of this form at the same time that they proposed the regulation, as required by Section 5(a)(5) of the Regulatory Review Act, so we are unable to review any inspection requirements that may be contained in this form and therefore unable to comment appropriately.

There should be no need to report every possible deficiency noted during an inspection to DEP. It should be sufficient to ensure that the deficiency is documented and remedied, and that DEP has access to those inspection records upon request. If DEP insists on a reporting aspect with regard to these inspections, it should be limited to deficiencies that meet some threshold of significance, such as deficiencies that “compromise the integrity of the tank” such that it may fail prior to the next inspection if not repaired, similar to the concept used on § 78a.88(d) and associated DEP guidance for corrosion on wells.

The proposed requirement to remedy every deficiency “prior to continued use of the tank” is unworkable. These monthly tank inspections will typically occur while the tank is in use and brine or other fluids are being actively stored in it. In those situations, any requirement to repair a deficiency prior to continued use would require that the tank be immediately emptied, which is often operationally and logistically impossible, and generally unnecessary. (213)

1097. Comment: Subsections 78.57a (d) and (e) and Subsections 78a.57a(d)-(e) contain bonding and insurance requirements that are not required for aboveground storage tanks in Chapter 245. (213)

1098. Comment: The setback requirements in § 78.57(f) and § 78a.57(f) are similar to those for municipal waste landfills, residual waste landfills, and waste tire facilities and are significantly more stringent than the setback regulations for aboveground and underground storage tank facilities in Chapter 245. Additionally, several of the setback requirements for municipal waste landfills, residual waste landfills, and waste tire facilities contain written waiver provisions, but no such written waiver allowances are provided in the Draft Final Rule. (213)

1099. Comment: The permeability standard in § 78.57a(i)(11) and § 78a.57a(i)(11) is orders of magnitude more stringent than the permeability standard for aboveground storage tanks in Chapter 245. There is no indication as to how PADEP calculated the ANFR permeability requirement. (213)

1100. Comment: The closure requirements in § 78.57a(n) and § 78a.57a(n) mimic those for residual waste landfills, municipal waste landfill, and construction/demolition waste landfills. The ANFR’s use of landfill closure requirements as a basis for centralized storage tank facility closure requirements presumes that the area is contaminated and will require monitoring and reporting. (213)

1101. Comment: Some of the proposed subsections are similar to those storage tank requirements in Chapter 245 related to reportable releases, which appears to presume that spills to soil or waters of the Commonwealth will occur. Spills are handled under existing law and there is no need to

impose such burdens on a new and temporary facility. (213)

1102. Comment: Section 78a.57(a) - Control, storage and disposal of production fluids

This section prohibits the use of open top containers “to store brine and other fluids produced during operation of the well.” Please clarify whether “operation of the well” also refers to flowback. It is common industry practice to use open top tanks for flowback during the flowback and commissioning processes. The use of enclosed tanks to store flow back as it is flowing from the well could require specialized structures that would introduce safety risks. The ability to use open top tanks during these activities is important for properly monitoring flowback quality. Importantly, open-top containers are used within secondary containment systems as would be required by proposed Section 78a.64a, which would provide adequate protection from spills or releases. Please revise this section to allow for the continued use of open-top containers during flowback phases provided the containers are kept within secondary containment. (222)

1103. Comment: Regarding Centralized Tank Storage (§ 78.57a), this section should probably be removed from the conventional regulations since the scenarios of applicability are virtually nonexistent. (245)

1104. Comment: 78a.57a Centralized Tank Storage – The commentator supports the proper installation and use of storage tanks, but the proposed regulation is overly prescriptive with respect to construction location, containment, and notification. (232)

1105. Comment: Please provide definition of Centralized Tank Storage or reference where definition is found. (232)

1106. Comment: Respectfully request clarification of the intent of the new proposed language. Is the intent based on structural, environmental, and or other? If the basis is of a structural nature it is recommended that the language read as such: In areas without a Geologic assessment to substantiate capacity to support/construct tank specifications. (232)

1107. Comment: Language is unclear. Please provide further definition; does this relate to the design of the secondary containment or failure of secondary containment which then directs to monitoring point. Secondary containment is designed to be impermeable and not used to store pollutional substances. Requiring the operator to design in anticipation of both primary and secondary containment for failure is overreaching and would unnecessarily increase costs. (232)

1108. Comment: Use of terminology such as “emergency containment structures, such as dike fields, curbing and containment collection systems” is inconsistent with Section 78a.57(c). Suggest language be consistent with 78a.57(c) and Section 78a.64. (232)

1109. Comment: If an operator chooses to utilize the option of a Centralized Tank Storage facility it would be one that is more temporary in nature. We encourage the Department to consider a field verification approval of the facility allowing for a quicker approval timeframe and signoff by an inspector. Preferably 7 days from completion and request of inspection by the operator sent electronically to the Department. (232)

1110. Comment: 78a.57(a) The elimination of “open top structures” seems to be in conflict with the proposed provisions in § 78a.56, which govern modular aboveground storage structures. The definition of modular aboveground storage structure does not limit such structures to those with closed tops. The two provisions should be reconciled by PADEP, as they will likely cause confusion for regulated entities. We recommend that the second sentence be deleted in its

entirety. (210)

- 1111.** Comment: 78a.57(c) The reference to “associated manifolds” is vague and overly broad, and could lead to varying interpretations across inspectors regarding spec-break points.

Also see commentator’s comment to §78a.1 regarding the definition of “containment system.” (210)

- 1112.** Comment: 78a.57(d) The commentator recommends that changes be made to accommodate meeting the requirement through administrative controls. Commonly, operators are trained not to leave tanks equalized across the bottom manifold (e.g. open valves) and typically check valves. Spring return “deadman” valves are not designed into the manifold for operational considerations. (210)

- 1113.** Comment: 78a.57(f) The commentator recommends that this provision be deleted. There are no “applicable corrosion control requirements” for aboveground storage tanks used to store brine or other produced fluid and regulated under the Oil and Gas Act of 2012. Such tanks are exempt from regulation under the Storage Tank Act and 25 Pa. Code Chapter 245, because of their relatively benign character. Additionally, these aboveground storage tanks are temporary and not permanent, and such temporary tanks were not included by the Legislature in 58 P.S. § 3218.4(b) (“Permanent aboveground and underground tanks must comply with the applicable corrosion control requirements in the department’s storage tank regulations.”). In regards to the Department’s proposed exception pertaining to the use of Department-certified inspectors, it is confusing and otherwise not clearly worded as to what the exception entails. (210)

- 1114.** Comment: 78a.57(h) Alternative methods of protection other than those specified in the proposed provision, such as a 24-hour/7-day attendant, should be available to operators under this provision. As noted previously, the language should reflect that such measures can be required to discourage access by third parties, but cannot always “prevent” such access. (210)

- 1115.** Comment: 78a.57(i) We recommend that the requirement to use “forms provided by the Department” be deleted because PADEP has not provided a copy of this form at the same time that the regulation was proposed, as required by Section 5(a)(5) of the Regulatory Review Act. As a result, we are unable to review any inspection requirements that may be contained in this form and therefore unable to comment appropriately. In addition, there is no need to report every possible deficiency noted during an inspection to PADEP. It should be sufficient to ensure that the deficiency is documented and remedied, and that PADEP has access to inspection records upon request.

The proposed requirement to remedy every deficiency “prior to continued use of the tank” is unworkable. These monthly tank inspections will typically occur while the tank is in use and brine or other fluids are being actively stored in it. In those situations, any requirement to repair a deficiency prior to continued use would require that the tank be immediately emptied, which is often operationally and logistically impossible, and generally unnecessary to repair the deficiency.

Commentator’s suggested amendatory language:

- (i) Tanks storing brine or other fluids produced during operation of the well must be inspected by the operator at least once per calendar month and documented. Any deficiencies identified during

the inspection must be remedied in a timely manner. Inspection records shall be maintained for 1 year and made available to the Department upon request. (210)

1116. Comment: 78a.57a In brief, there is no need for this section. The Department has steadfastly maintained that the water generated by producing wells as well as flowback water is a residual waste. Regulations already exist for the storage of residual waste in tanks (25 Pa. Code Chap. 299). There is no need to create a whole new regulatory scheme, adding new requirements, just for oil and gas-derived residual waste. Of course, one cannot gauge the need for nor the **cost** of this new provision. The statement of need and estimate of **cost** required under the Regulatory Review Act are absent, since DEP is proceeding without regard to the Regulatory Review Act. Once again, neither the IRRC nor the standing committees will have had a chance to review this provision until it is presented as a final rule. There is no need for this section, and it should be eliminated.

The Department will not encourage the reuse and recycling of extraction wastewater for future industrial use through this proposal. The ANFR provision is significantly more onerous than the requirements currently affecting centralized tank facilities associated with unconventional extraction wastewater and will therefore likely act as a disincentive to further reuse and recycling. Because of their relatively benign character, tanks that are used to store brines, crude oil, drilling or hydraulic fracturing fluids and similar substances directly related to the exploration, development or production of oil or gas are exempted from the **Storage Tank Act**. See 35 P.S. § 6021.102.

Additionally, a facility employed for the disposal, storage or processing of residual waste which is generated by drilling or production of an oil or gas well, and is located on the well site, is exempted from the residual waste regulations in Chapter 287. If the Legislature and EQB exempted tanks that hold oil and gas extraction waste from more stringent statutory and regulatory requirements in the past because extraction waste is not as harmful as some other types of industrial wastes and to incentivize maximum reuse and recycling efforts, it is unclear why the Department now proposes regulations that are in some instances just as stringent or even more stringent than the regulations found in Chapters 245 and 287. As proposed, the ANFR § 78a.57a provision are counterproductive to current recycling and reuse operations and lead to increased disposal rather than reuse.

The ANFR contains proposed regulations that are seemingly just as stringent, or more stringent, than the regulations applied to permanent industrial waste facilities. If the idea behind having separate regulations for temporary and permanent waste facilities is to enhance the flexibility of short-term operations, then it is difficult to see how the ANFR achieves this end. At a certain point, operators will be incentivized to simply apply for a permanent facility permit, which could contain less stringent closure requirements. PADEP has not cited any pattern or individual occurrences of environmental harm caused by centralized tank storage facilities that would justify the comprehensive regulatory framework proposed in § 78a.57a. We respectfully request that PADEP reconsider the necessity of §78a.57a.

The electronic submission requirements in § 78a.57a(a) (permit application), (h)(i)(17) (deficiencies found during inspections), (n)(1) (closure plan), (n)(1)(iv)(g)(2) (quarterly waste reports), and (g)(5) (restoration report) contain no contingency provisions in case PADEP's website fails or cannot accept operator records. For electronic reporting, the regulations should allow for paper delivery in the instance of website failure.

The regulations for centralized tank facilities should be written to give operators the greatest possible flexibility in the development, use, and closure of the facilities. The facilities are temporary by nature and will only exist as long as there are hydraulic fracturing operations in the vicinity. Operators should be incentivized to use these facilities to encourage reuse and recycling of fluids in lieu of using fresh water.

The commentator strongly recommends that a separate proposed rulemaking be initiated in accordance with the procedures in the Regulatory Review Act. Starting the rulemaking process from the beginning and preparing an RAF would allow for full consideration of the overall structure of the regulation, the specific proposed language, and the cost of compliance with the proposed regulation.

The commentator's preliminary cost estimates for compliance with just the construction **costs** for this entirely new provision are approximately \$1 per gallon of storage (a 1 million gallon facility would cost \$1 million dollars). (210)

- 1117.** Comment: 78a.57a (a) There should be a definition in 78a.1 for “centralized tank storage” given the extensive requirements that follow in § 78a.57a. Also, the last sentence is missing the word “application” between “permit” and “shall.”

The proposed application forms have not been provided as required by Section 5(a)(5) of the Regulatory Review Act, so we are unable to review and comment on the details of the application requirements. (210)

- 1118.** Comment: 78a.57a (e) Proposed sections 78a.57a(d)-(e) contain bonding and insurance requirements that are similar to the financial responsibility requirements found in the underground storage tank regulations. There are no bonding or insurance requirements for aboveground storage tanks in Chapter 245. See 25 Pa. Code Chapter 245, Subchapter H. Centralized tanks storage areas consist of tanks located on the ground surface and are not analogous to underground storage tanks. Therefore, the more stringent requirements applicable to underground storage tanks should not be applied here. (210)

- 1119.** Comment: 78a.57a (f) The setback requirements in subsection (f) are unclear, because the point from which the measurement is taken is undefined throughout.

The setback requirements in § 78a.57(f) are similar to those for municipal waste landfills (25 Pa. Code § 273.202), residual waste landfills (25 Pa. Code §§ 288.422, 288.522, 288.622), and waste tire facilities (25 Pa. Code § 299.158) and are significantly more stringent than the setback regulations for aboveground and underground storage tank facilities in Chapter 245. Additionally, several of the setback requirements for municipal waste landfills, residual waste landfills, and waste tire facilities contain written waiver provisions, but no such written waiver allowances for setback requirements are provided in proposed § 78a.57(f). (210)

- 1120.** Comment: 78a.57a (i) (3) PADEP should not recommend or list specific methodologies for tightness or leak testing such as pneumatic testing. The commentator recommends that methodologies be in accordance with current codes of practice developed by nationally recognized associations and manufacturers' specifications. (210)

- 1121.** Comment: 78a.57a (i) (4) PADEP should not specify the location or type of valve required to be used by operators. (210)

1122. Comment: 78a.57a (i) (9) See commentators comment to §78a.1 regarding the definition of “containment system.” (210)

1123. Comment: 78a.57a (i) (11) The permeability standard in § 78a.57a(i)(11) is orders of magnitude more stringent than the permeability standard for aboveground storage tanks in Chapter 245. There is no indication/explanation as to how PADEP calculated the ANFR permeability requirement.

A qualitative permeability standard would be better, such as “sufficiently impermeable to prevent release from containment.” Alternatively, the quantitative standard in the Storage Tank Act is 1×10^{-7} cm/sec. (210)

1124. Comment: 78a.57a (i) (12) The introduction of the term “emergency containment” here introduces significant confusion and uncertainty in the meaning of the terms “containment,” “secondary containment,” and “emergency containment” through proposed § 78a.57a. The difference between those terms is unclear, because the only related defined term in §78a.1 is “containment system”. In addition, the use of the term “emergency containment” creates potential inconsistency with §78a.64a, which is incorporated by referenced in subparagraph (i)(8). This type of confusion demonstrates why it is critical that regulations for centralized tank storage be developed through a separate rulemaking pursuant to the Regulatory Review Act. (210)

1125. Comment: 78a.57a (i) (14) See MSC’s comment to subsection (i)(12) regarding the use of the term “emergency containment,” as well as MSC’s comment to §78a.1 regarding the definition of “containment system.” (210)

1126. Comment: 78a.57a (i) (15) The requirement to remove stormwater from containment areas “as soon as possible” is not practicable and is more stringent than is necessary. The current language could be read to result in immediate non-compliance in the case of a significant precipitation event. The wording “as soon as possible” should be deleted, which would still require the stormwater to be removed “when the water is in contact with the tank or piping and prior to the capacity of containment being reduced by 10% or more.” (210)

1127. Comment: 78a.57a (i) (17) There is no need to report every possible deficiency noted during an inspection to PADEP. It is sufficient to ensure that the deficiency is documented and remedied, and that PADEP has access to those inspection records upon request, as required by 25 Pa. Code § 299.112(c). Alternative, if reporting is required, it should be limited to deficiencies that meet some threshold of significance, such as deficiencies that “compromise the integrity of the tank”. See, e.g., 25 Pa. Code § 78.88(d) and associated PADEP guidance for corrosion on wells.

The proposed requirement to remedy every deficiency “prior to continued use of the tank” is unworkable. These tank inspections may occur while the tank is in use and fluids are being actively stored in it. In those situations, any requirement to repair a deficiency prior to continued use would require that the tank be immediately emptied, which is often operationally and logistically impossible, and generally unnecessary.

Commentator’s suggested amendatory language:

(17) Tanks must be inspected by the permittee at least every five years and any deficiencies identified during the inspection must be remedied in a timely manner. Documentation of the remedy must be maintained for one year after the repair and made available to the Department upon request. (210)

1128. Comment: 78a.57a (j) First, this provision should be limited to centralized tank storage sites that are currently in use. Also, no fence can absolutely ensure “prevention” of unauthorized acts of third parties or damage caused by wildlife.

Commentator’s suggested amendatory language:

(j) Unless an individual is continuously present at a centralized tank storage site presently in use, a fence must completely surround the site to discourage unauthorized acts of third parties and damage caused by wildlife. (210)

1129. Comment: With respect to § 78a.57a (l), no current provisions in 25 Pa. Code appear to require an engineer to certify that the plans, specifications, and reports have been prepared “in accordance with accepted environmental practices.” Additionally, there may be circumstances when the engineer who certifies that the plans, specifications, and reports have been prepared “in accordance with accepted environmental practices” is different from the engineer who certifies that the plans, specifications, and reports have been prepared in accordance with design and construction standards of § 78a.57a.

Also, the phrase “licensed Pennsylvania Professional Engineer” is inconsistent with the introductory paragraph in (l) (i) above. (210)

1130. Comment: 78a.57a (i) (1) There may be situations when “the” same professional engineer who provided oversight for construction is no longer available for the final certification, for example if the engineer has died or left the company. There needs to be some allowance for an alternate in those situations. (210)

1131. Comment: 78a.57a (n) (1) (iv) The closure requirements in § 78a.57a (n)(iv) mimic those for residual waste landfills, municipal waste landfills, and construction/demolition waste landfills. The ANFR’s use of landfill closure requirements as a basis for centralized storage tank facility closure requirements seems to presume that the area is contaminated and requires monitoring and reporting. Some of the ANFR regulations are similar to those storage tank requirements in Chapter 245 for reportable releases. (210)

1132. Comment: 78a.57a (n) (1) (iv) (B) The proposed soil sampling plan, which may include both pre- and post-construction sampling, presumes that a spill or release will occur (or did occur) at the centralized tank storage site. Presumably, under the extensive requirements of this provision, a spill or release would not occur. The provision should be revised to clarify that if there is no reported spill or release, soil sampling is not required. (210)

1133. Comment: 78a.57a (n) (1) (iv) (D) re-grading would occur prior to revegetation. The commentator recommends that the term “restoration” replace these two words. The requirement related to maintenance of final cover may require site access that is not available to operators following restoration of the site. (210)

1134. Comment: 78a.57a (n) (1) (iv) (G) (2) Under the ANFR, there is no method to associate wells with a tank farm or to amend the list of wells sending fluids to the tank farm. Under subsection 78a.57a(n)(2), “within 9 months of completion of drilling the last well serviced by the centralized tank storage site or the expiration of the last well permit that the site was intended to service, the tank storage site shall be restored...” Oil and gas operators’ development plans are often fluid and apt to change, so PADEP should provide operators with considerable flexibility to modify the list

of wells that the centralized tank storage site intended to service.

Section 78a.57a(n) should include a restoration waiver provision that allows the landowner to waive the requirement that the operator return the area to approximate original conditions. If landowners can waive restoration conditions requirements in other subsections of Chapter 78a, a similar provision should be provided for centralized tank storage facilities.

The quarterly reporting requirement in the last sentence of subparagraph (n)(2) should be moved to a different subparagraph. Subparagraph (n) deals primarily with restoration, not quarterly reporting during the life of the facility. (210)

- 1135.** Comment: Other unintentional impacts surrounding the CTF are the surface footprint and visual impacts. SWN's replacement CTFs will be greater than 20 acres in size, exceeding the current 15 acre size for our impoundments. Tank farms will also be highly visible and have greater exposure to strong weather, lightning strikes, vandalism, and other factors outside SWN's control. (189)
- 1136.** Comment: Timing is also a concern for SWN regarding any mandated CTF for reuse water. Permit time frames are expected to take at least a year comparing to traditional timelines, and construction will add an additional six months. Should pre-construction groundwater monitoring be required at each location for a full year, this would extend the total permit time to 18 to 36 months. Lastly, there will be an impact on our ability to utilize our reuse water and a potential for a loss of three million barrels of reuse fluid due to the closing of these impoundments. This will create an increased operating cost to haul and dispose of that water to a tune of approximately 45 million dollars, and this does not account for any production delays. (189)
- 1137.** Comment: Commenter recommends new construction be based on Centralized Waste Treatment facility design criteria, as outlined in 40 CFR 437.2(c), and grandfathering existing impoundments for seven (7) years to maximize water reuse and minimize additional surface construction impacts. This would also include grandfathering existing permitted water movement pipeline systems, with a requirement for annual pressure testing, which will minimize trucking and road impacts. Additionally, DEP Oil & Gas staff should manage all reuse water and permitting facilities, with a benefit being a streamlined permitting for projects that are environmentally favorable. (189)
- 1138.** Comment: Bonding (§ 78.57a(d)). This section states that the amount of the bond “shall be determined by the Department in accordance with Section 6108.505 of the Solid Waste Management Act (relating to bonds).” Small, independent conventional well operators do not have the funds to secure a bond for whatever amount the Department deems appropriate. (201)
- 1139.** Comment: Insurance (§ 78.57a(e)). This section states that conventional well operators are required to procure a commercial policy of liability insurance “in an amount that the Department deems sufficient to cover third-party claims for property damage and bodily injury.” Small, independent conventional well operators do not have the funds to secure an insurance policy for whatever amount the Department deems appropriate. (201)
- 1140.** Comment: Tank Features/Testing (§ 78.57a(i)). This section contains a set of requirements that are so radical and extreme when applied to conventional well operations that they are difficult to evaluate and quantify in the time allotted for comments. Tightness testing? Tank gauge or monitoring devices? High-level alarm and cut off devices? Simply put, our members would not know where to begin to secure tanks with such sophisticated features, let alone be able to pay for them. Even if we could, there would be no outlet to plug the tank systems into because electricity

is not always available at the tank site. (201)

1141. Comment: The new proposed standards will have a severe adverse effect on the productivity of small, independent conventional well operators. As explained above, the new costs alone will drive these small operators out of business. (201)

1142. Comment: Centralized Tank Storage (§ 78a.57a) The Department should specifically reference the relevant OG-71 or other permit that needs to be obtained under this section for centralized tank storage. (205)

1143. Comment: Centralized Tank Storage (§ 78a.57a) The Department should also specify that the centralized tank storage site should be restored 9 months after the last well is turn-in-line (TIL) ready for production. There is the potential for multiple unconventional wells on a single pad. The addition of each well to a pad compounds the time to have the well TIL ready. This also extends the timeframe for restoration of a well site area well past the total depth of drilling, lengthening the need for onsite processing areas, freshwater impoundments, and/or centralized tank storage areas.

- Following completion of the well site construction phase after the ESCGP-2 permit is obtained, the vertical and horizontal drilling phase of well installation can take up to approximately 1 month per well on the pad. All wells have to be drilled prior to the next phase of well completion (hydraulic fracturing phase). The completion phase can take up to 3 months depending on the number of wells on the pad and the number of stages in which the individual wells are to be fractured. This varies per well and pad. Next, the flow back phase of well installation can take up to approximately 1 month depending on the number of wells on the pad. The final phase of well installation is drilling out the plugs (drill-outs) and can take up to 1 month depending on the number of wells on the pad. These are all individual phases of unconventional well installation prior to production. In all post drilling (vertical and horizontal) well installation phases can add up to approximately five months before the well is turn-in-line ready. Therefore, commenter feels that the nine (9) month period to restore areas associated with the installation of the well should begin when the well is turn-in-line ready and should not be measured from the completion of drilling to total depth of the last well on the pad. This would allow for one proper reclamation season following the end of completion activities which is more in line with typical post drilling development activities. (205)

1144. Comment: Centralized Tank Storage, Section 78a.57a:

In brief, there is no need for this section. The Department has steadfastly maintained that the water generated by producing wells as well as flowback water is a residual waste. Regulations already exist for the storage of residual waste in tanks (25 Pa. Code Chap. 299). There is no need to create a whole new regulatory scheme, adding new requirements, just for oil and gas-derived residual waste. Of course, one cannot gauge the need for nor the cost of this new provision. The statement of need and estimate of cost required under the RRA are absent, since DEP is proceeding without regard to the RRA. Once again, neither the IRRC nor the standing committees will have had a chance to review this provision until it is presented as a final rule. There is no need for this section, and it should be eliminated. (210)

1145. Comment: 78a.57 a) In order to continue to operate efficiently and effectively, the Department's proposed mandate to close existing impoundments, forcing the construction of centralized tank farms (CTFs) should be reconsidered as this will have significant cost implications and unintended consequences such as increased truck traffic and increase in surface impact. Total costs associated with closing our existing four flowback impoundments, two separate facilities,

will range between three and five million dollars. Additionally, the construction of new CTFs will range from between \$4.5 to \$6.5 million dollars, totaling between \$8 and \$13 million dollars for the two (2) facilities in order to replace the existing impoundment's volumes. Furthermore, operating costs would be between \$600-\$900 thousand dollars a year, per site. These costs include electronic monitoring, 24-hour onsite support personnel for truck unloading and tank mixing operations. In total, each CTF location will increase the commenter's operating cost by \$1.2-\$1.8 million dollars a year. (189)

- 1146.** Comment: The first sentence in subparagraph (b) indicates that “the Department may deny the issuance of a permit if it finds that the applicant has failed or continues to fail to comply ...” It is recommended that this be changed to “... the applicant has failed and continues to fail to comply ...” Historic violation that have been or are being satisfactorily resolved or administrative notices of violation should not cause denial of a permit. (193)
- 1147.** Comment: §78a.57a is over 7 pages long and contains an excessive amount of detail for the type of temporary water storage facilities this section is intended to address. The requirements are more stringent than those of the residual waste and storage tank programs, and approach the level of detail for a superfund site. The section indicates that these facilities must be designed and constructed in accordance with an appropriate current code of practice developed by nationally recognized associations such as Underwriters Laboratory, American Concrete Institute, American Petroleum Institute, American Society of Mechanical Engineers, American Society for Testing and Materials or the National Association of Corrosion Engineers. Then it proceeds to describe, in excessive detail, how the facility is to be designed and constructed. It is recommended that this unnecessary excessive detail be deleted and the section require the facilities to be designed and constructed in a manner that is in accordance with appropriate current national codes of practice or existing unconventional well pad design and construction standards (for situations where an existing well pad will be used to for temporary storage of water originating from or destined for use at other nearby pads). (193)
- 1148.** Comment: Subparagraphs (i)(8)-(15) introduce significant confusion and uncertainty in the way the terms “containment,” “secondary containment,” and “emergency containment” are used. It's unclear what the difference between those terms is intended to be (since the only related defined term in §78a.1 is “containment system”), as well as potential inconsistencies with §78a.64a which is incorporated by referenced in subparagraph (i)(8), but only the terms “containment” and “secondary containment” are used in §78a.64a, and not “emergency containment.” (193)
- 1149.** Comment: DEP has established a new permeability requirement for secondary containment (1×10^{-10} cm/sec) that differs from the existing permeability requirements (1×10^{-6} cm/sec) used by the Oil and Gas Program and, more importantly, standards set forth under the various Waste Management regulations. There needs to be consistency in these requirements, and the current standard should remain. (193)
- 1150.** Comment: In subparagraph (i)(15), the requirement to remove stormwater from emergency containment areas “as soon as possible” is more stringent than is necessary. The wording “as soon as possible” should be deleted, which would still require the stormwater to be removed “when the water is in contact with the tank or piping and prior to the capacity of containment being reduced by 10% or more.” (193)
- 1151.** Comment: Subparagraph (U) requires a fence “to prevent unauthorized acts of third parties and damage caused by wildlife,” however no fence can absolutely ensure “prevention” of unauthorized acts of third parties or damage caused by wildlife. The word “prevent” should be

replaced with “discourage.” (193)

- 1152.** Comment: Subsection (n)(2) would require restoration within 9 months of completion of drilling the last well serviced by the centralized tank storage site. This is an unreasonable time frame given the onerous closure requirements. A more reasonable time frame is “within 2 years of the completion of stimulation of the last well serviced by the centralized tank storage site.” (193)
- 1153.** Comment: Subparagraph (n) deals with Restoration once the facility is no longer in use, so the Quarterly reporting requirement during the life of the facility should appear elsewhere. (193)
- 1154.** Comment: The last sentence of subparagraph (n)(2) that requires Quarterly reporting of wells serviced by the centralized tank storage facility and the amounts of fluids sent to those wells should be moved to a different subparagraph, such as (i) dealing with Operations or (1) dealing with Reports. (193)
- 1155.** Comment: “Centralized Tank Storage” is currently not defined in this rulemaking. It is recommended that the Department develop a specific definition for “centralized tank storage” to alleviate ambiguity and confusion. (195)
- 1156.** Comment: § 78a.57a(f)(8): The units of measure referenced in this clause are “yards”; all other units of measure referenced throughout this subsection are “feet”. It is recommended that the Department use the same units of measure (e.g., “feet”) throughout the rulemaking. (195)
- 1157.** Comment: § 78a.57a(i)(11): This provision appears to establish a new permeability requirement for secondary containment (1×10^{-10} cm/sec) that differs from the existing permeability requirements used by Oil and Gas and, more importantly, those standards set forth in various Waste Management regulations. These requirements need to be consistent within and across the Department’s program areas. The current standard (1×10^{-6} cm/sec) should be retained. (195)
- 1158.** Comment: § 78a.57a (i)(12): “Emergency containment” is currently not defined in this rulemaking. More importantly, “emergency containment” appears to conflict with the term “secondary containment”. It is unknown what differences exist between the various references to containment. It is recommended that the Department provide further clarification as what is meant by these provisions and whether or not the Department will require three (3) forms of containment to be incorporated at the applicable facilities. (195)
- 1159.** Comment: §78a.57a. Centralized tank storage -In subparagraph (a) the last sentence states that the permit shall be submitted electronically ... It is recommended that this be changed to read the permit application be submitted. (193)
- 1160.** Comment: § 78a.57 (a) - There is no current definition of a centralized tank storage facility. If the department is referring to a centralized tank storage facility that simultaneously stores residual waste from multiple oil and gas facilities, there is currently a permitting method to conduct these operations (WMGR123 permit). This section should be removed from Chapter 78a, as a residual waste storage facility is managed by the Bureau of Solid Waste Management not the Bureau of Oil and Gas Management. (187)
- 1161.** Comment: 78a.57a(n)(2) and 78.57a(n)(2) - The proposed regulation requires restoration of the centralized storage tank site within a 9-month period after drilling of the last well serviced by the storage site or the expiration of the last well permit for the wells intended to be serviced by the storage site. DEP is erroneously considering all centralized storage tank sites as being equal. That

is, DEP is crafting this rule assuming that all centralized storage tank sites will only be useful through the drilling phase for a production field. Considering a centralized storage tank site may continue to service wells throughout their production lives (*i.e.*, 40+ years), a 9-month restoration time frame tied to drilling activity will not work. The time period for performing restoration should commence after the tank site is no longer being utilized.

Additionally, the 9-month time frame for completing restoration work is unreasonable and will rarely be accomplished. Depending on the date the 9-month time period commences, it may have the unintended effect of forcing operators to perform restoration work during times of the year that are not favorable for conducting such work, primarily the winter months. The result is that most centralized storage tank site closures will require a request for an extension, which is simply more paperwork and an undue administrative burden on DEP. Commenter recommends an 18-month time frame for completing restoration work after the tank site is no longer being utilized. (190)

1162. Comment: § 78a.57a (b) THE DEPARTMENT MAY DENY THE ISSUANCE OF A PERMIT IF IT FINDS THAT THE APPLICANT HAS FAILED OR CONTINUES TO FAIL TO COMPLY WITH ANY PROVISION OF THE SOLID WASTE MANAGEMENT ACT (35 P.S. §§ 6018.101–6018.1003), THE CLEAN STREAMS LAW (35 P.S. §§ 691.1–691.1001), ENCROACHMENTS ACT (32 P.S. §§ 693.1–693.27), OR ANY OTHER STATE OR FEDERAL STATUTE RELATING TO ENVIRONMENTAL PROTECTION OR TO THE PROTECTION OF THE PUBLIC HEALTH, SAFETY AND WELFARE; OR ANY RULE OR REGULATION OF THE DEPARTMENT; OR ANY ORDER OF THE DEPARTMENT; OR ANY CONDITION OF ANY PERMIT OR LICENSE ISSUED BY THE DEPARTMENT; OR IF THE DEPARTMENT FINDS THAT THE APPLICANT HAS SHOWN A LACK OF ABILITY OR INTENTION TO COMPLY WITH ANY PROVISION OF ANY OF THE ACTS REFERRED TO IN THIS SUBSECTION OR ANY RULE OR REGULATION OF THE DEPARTMENT OR ORDER OF THE DEPARTMENT, OR ANY CONDITION OF ANY PERMIT OR LICENSE ISSUED BY THE DEPARTMENT AS INDICATED BY PAST OR CONTINUING VIOLATIONS. IN THE CASE OF A CORPORATE APPLICANT, PERMITTEE OR LICENSEE, THE DEPARTMENT MAY DENY THE ISSUANCE OF A PERMIT IF IT FINDS THAT A PRINCIPAL OF THE CORPORATION WAS A PRINCIPAL OF ANOTHER CORPORATION WHICH COMMITTED PAST VIOLATIONS OF THE SOLID WASTE MANAGEMENT ACT. Commenter has significant concerns about the breadth and ambiguity of this provision. As proposed, it would authorize the Department to deny a permit because the Department “finds” that the applicant previously violated or currently violates any one of dozens of unidentified federal and state statutes “relating” to “environmental protection” or “public health, safety, or welfare,” or any Department “regulation,” “order,” or “permit,” regardless whether such violation was ever formally asserted or adjudicated, whether it was either recent or negligent, whether the requirement in question directly protects the environment or public health, safety, or welfare, or whether the Department’s finding bears upon the applicant’s ability to operate a centralized tank storage site. The Department could also deny a permit if a “principal” of the corporation was also a principal of another corporation which violated the Solid Waste Management Act at any time in the past, regardless whether the principal had any responsibility for or involvement in the prior violation. This authority is so overbroad and ambiguous that it would violate due process and authorize permit denials for reasons that are arbitrary and capricious, e.g., an un-adjudicated prior instance of inadvertent noncompliance with a paperwork requirement in another jurisdiction which presented no direct threat of harm and is irrelevant to the operation of a centralized tank battery could prohibit the operator from obtaining any centralized tank storage permits. The resulting uncertainty would be particularly unfair and problematic for larger operators whose extensive activities in multiple jurisdictions would

increase the risk of collateral violations that could potentially lead to permit denial. Because these problems infect the entire provision, the provision should be deleted in its entirety. If the Department determines that it needs to retain the provision in some form, then commenter suggests that the provision be limited to those situations where: (1) an adjudication within the prior three years determined that the applicant violated a requirement of the Solid Waste Management Act or a Department regulation, order, or permit; (2) the requirement that was violated directly related to protection of the environment or public health, safety, and welfare; and (3) the violation demonstrates that the applicant lacks the ability or intention to comply with Section 78a.57a because it was knowing and willful, or constituted gross negligence, or was part of a pattern of such violations. (199)

1163. Comment: § 78a.57a (f) **NO PORTION OF A CENTRALIZED TANK STORAGE SITE MAY BE CONSTRUCTED IN THE FOLLOWING AREAS:** The setback requirements in subsection (f) are unclear as the point from which the measurement is taken is undefined throughout. The setback requirements in Section 78a.57 (f) are similar to those for municipal waste landfills (25 Pa. Code § 273.202), residual waste landfills (25 Pa. Code §§ 288.422, 288.522, 288.622), and waste tire facilities (25 Pa. Code § 299.158) and are significantly more stringent than the setback regulations for aboveground and underground storage tank facilities in Chapter 245. Additionally, several of the setback requirements for municipal waste landfills, residual waste landfills, and waste tire facilities contain written waiver provisions, but no such written waiver allowances for setback requirements are provided in proposed Section 78a.57 (f). (199)

1164. Comment: § 78a.57a (f)(1) **IN A FLOODPLAIN** Commenter seeks clarity as to the Department's definition of "site" for the purposes of this section. Due to the natural topography of the area where we operate in southwestern Pennsylvania, we often have to select ridges and mountain tops to build pads for wells or tank storage in order to avoid or minimize the potential to impact wetlands or navigable waters. As a result, we often have to construct long roads to access these locations. Under the expanded definition of "floodplain" under this Chapter 78a, and the likely expansion of the federal floodplain jurisdiction under Executive Order 13960, it may be difficult to avoid having any portion of a road constructed within a floodplain. Given that these access roads do not present risks of the same type or magnitude as a centralized tank pad, the Department should clarify that this prohibition does not apply to access roads with the following revision: "**NO PORTION OF A CENTRALIZED TANK STORAGE SITE, excluding the access road, MAY BE CONSTRUCTED IN THE FOLLOWING AREAS:**" (199)

1165. Comment: § 78a.57a(k) **THE DESIGN ENGINEER SHALL PROVIDE OVERSIGHT FOR ALL ASPECTS OF TANK AND STORAGE SITE CONSTRUCTION TO ENSURE THAT CONSTRUCTION IS COMPLETED IN ACCORDANCE WITH THE DESIGN AND QUALITY ASSURANCE AND QUALITY CONTROL PLAN.** Requiring oversight by "the design engineer" unnecessarily restricts the flexibility of operators or an engineer to manage the construction of a tank and storage site. As such, Commenter suggests amendatory language: "(k) The design engineer, or an appropriately trained professional designated by the design engineer, shall provide oversight for all aspects of tank and storage site construction to ensure that construction is completed in accordance with the design and quality assurance and quality control plan."(199)

1166. Comment: § 78a.57a(n)(1)(iv)(B) **A SOIL SAMPLING PLAN THAT EXPLAINS HOW THE PERMITTEE WILL ANALYZE THE SOIL BENEATH THE STORAGE SITE. THE PLAN SHALL BE BASED ON A GRID PATTERN OR OTHER METHOD APPROVED BY THE DEPARTMENT.** This provision would require that a centralized tank storage site undergo what amounts to an American Society for Testing and Materials (ASTM) Phase II Environmental Site

Assessment process even in situations where there is no evidence of leak or contamination. However, according to ASTM, a Phase II “practice is intended for use on a voluntary basis by parties who wish to evaluate known releases or likely release areas identified...” To presumptively assume a release has occurred and require this assessment on all tank sites regardless of evidence imposes an unfair burden on the oil and gas industry. As stated in our general comments, regulatory programs should be fair and not impose disparate requirements or disproportionate costs on one particular economic or extractive sector. For these reasons, the Department should limit the requirement for a soil sampling plan to only those instances where there is evidence of a likely leak or contamination. (199)

1167. Comment: § 78a.57a(h) TANKS SHALL MEET THE DESIGN AND PERFORMANCE STANDARDS ESTABLISHED BY THIS SECTION. THE TANKS SHALL BE CLEARLY LABELED AS “RESIDUAL WASTE” AND THE TYPE OF RESIDUAL WASTE SHALL BE IDENTIFIED The requirement to label tanks storing produced water for reuse and recycling as residual waste is inconsistent with residual waste regulations promulgated by the Bureau of Waste Management. The residual waste definition in 25 Pa Code 287.1 covers “Garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge...” Since reused/recycled water is not discarded and does not constitute waste, it does not meet the definition of a residual waste. This is confirmed by General Permit WMGR123 for the Processing and Beneficial Use of Oil and Gas Liquid Waste, which states that an “oil and gas liquid waste that has been processed under the authority of this general permit is not considered a waste as defined in Pa. Code § 287.1 (i.e. de-wasted)...” Therefore if an operator has met the conditions of its permit under WMGR123, the respective tank should not be required to be labeled as “RESIDUAL WASTE.” The Department should modify this language to remove the requirement for tanks storing reused or recycled water to be labeled as “residual waste.” (199)

1168. Comment: § 78a.57a(i)(17) TANKS MUST BE INSPECTED BY THE PERMITEE AT LEAST EVERY FIVE YEARS AND ANY DEFICIENCIES IDENTIFIED DURING THE INSPECTION MUST BE REPORTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE WITHIN 30 DAYS OF THE INSPECTION. ALL DEFICIENCIES MUST BE REMEDIED PRIOR TO CONTINUED USE OF THE TANK. DOCUMENTATION OF THE REMEDY MUST BE MAINTAINED FOR ONE YEAR AFTER THE REPAIR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. The Department should provide the standards and guidance for determining what constitutes a deficiency. Commenter also has concerns about the requirement that “all deficiencies must be remedied prior to continued use of the tank.” A strict reading of that section would require that operators empty tanks and place them out of service even for minor deficiencies. The Department should modify the language to allow for minor deficiencies to be quickly remedied rather than placed out of service. (199)

1169. Comment: § 78a.57a(n)(2) WITHIN 9 MONTHS OF COMPLETION OF DRILLING THE LAST WELL SERVICED BY THE CENTRALIZED TANK STORAGE SITE OR THE EXPIRATION OF THE LAST WELL PERMIT THAT THE SITE WAS INTENDED TO SERVICE. THE TANK STORAGE SITE SHALL BE RESTORED BY REMOVING ANY IMPERMEABLE MATERIALS SO THAT WATER MOVEMENT TO SUBSOILS IS ACHIEVED. THE PERMITEE SHALL ENSURE THAT ALL TANKS ARE PROPERLY REMOVED FROM SERVICE. AN EXTENSION OF THE RESTORATION REQUIREMENT MAY BE APPROVED UNDER § 78a.65(d) (RELATING TO SITE RESTORATION). THE PERMITEE OF THE CENTRALIZED TANK STORAGE SITE SHALL REPORT QUARTERLY ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE

ALL WELLS SERVICED BY THE CENTRALIZED TANK STORAGE SITE DURING THE PREVIOUS QUARTER AS WELL AS THE AMOUNTS OF FLUIDS SENT TO OR FROM THOSE WELL SITES. Commenter has significant concerns regarding this section which could force closure of centralized tank sites prematurely. In order to minimize surface impacts and maximize efficiency, the commentator utilizes multi-well pads of approximately 6 to 12 wells per pad. Typically, all these wells would be drilled in sequence and then subsequently completed in sequence and then turned to production. This assembly-line approach allows us concentrate our activity and find efficiencies to reduce the time required for this work and the surface disturbance that occurs over the life of the pad. However, even under this efficient approach, it often takes more than 9 months after the first well has “completed drilling” before the last well is completed and on production. Additionally, centralized tank storage sites reflect significant capital investments by the operator, and they are economically justifiable only if they can service wells within a geographical area for multiple years as the operator develops the reservoir. These sites are vital to water sourcing generally and are not tied to one single well pad. Therefore, tying restoration of such sites to the completion of drilling of a well will truncate their useful life and make them uneconomic. This in turn will increase land disturbance, reduce water reuse, and result in less efficient resource development. To avoid these problems, the Department should amend these sections to simplify the requirements for centralized tank storage, allow centralized impoundments, narrow the situations where the Department can refuse to permit a centralized tank storage site, and tie restoration of centralized tank storage to the end of its usefulness. This will help avoid unintended consequences and environmentally counterproductive results as discussed in our general comments. Additionally, Section 78a.57a (n) should include a restoration waiver provision that allows the landowner to waive the requirement that the operator return the area to approximate original conditions. If landowners can waive restoration conditions requirements in other subsections of Chapter 78a, a similar provision should be provided for centralized tank storage facilities. The commentator also requests that the Department remove, simplify, or clarify the necessity and environmental benefit of the quarterly reporting. As stated in our general comments, the significant number and variety of required reports, notifications, and approvals under Chapter 78a will increase regulatory compliance costs, delay project approvals, and make the entire process more unpredictable and contentious. To avoid these results, the commentator believes the Department should eliminate, consolidate, and simplify these submittal requirements. This change would better align Chapter 78a with the Department’s Policy for Development, Approval and Distribution of Regulations, which directs that regulations should be drafted “to reduce paperwork, minimize administrative burdens, and save time for both the regulated community and agency staff.”(199)

1170. Comment: § 78.57a Centralized Tank Storage

As an initial matter, we recommend removing this section entirely from the rule for conventional operations because it is not well suited to the nature of those operations. In addition, DEP will not encourage the reuse and recycling of extraction wastewater through this proposal because of the excessively onerous provisions in the lengthy and complicated subsection. Because the Draft Final Rule would impose significantly more stringent requirements than those currently affecting centralized tank facilities associated with wastewater, it will likely act as a disincentive to reuse and recycling.

Because of their relatively benign character, tanks that are used to store brines, crude oil, drilling or frac fluids and similar substances directly related to the exploration, development or production of oil or gas are exempted from the Storage Tank Act. See 35 P.S. § 6021.102.

Additionally, a facility employed for the disposal, storage or processing of residual waste that is generated by drilling or production of an oil or gas well, and is located on the well site, is exempted from the residual waste regulations in Chapter 287.

It is clear that the legislature and EQB exempted tanks that hold oil and gas extraction waste from more stringent statutory and regulatory requirements in the past because extraction waste is not as harmful as other types of industrial wastes. It is unclear why PADEP would propose regulations contrary to this legislative direction and create obligations that are in some instances more stringent than the regulations found in Chapters 245 and 287. As proposed, the ANFR provisions will likely be irrelevant to current recycling and reuse operations and lead to increased disposal rather than reuse. And the Draft Final Rule fails to enhance the flexibility of short-term operations, because it contains provisions that are as stringent, or more stringent, than the regulations applied to permanent industrial waste facilities.

Comments on Specific Subsections

- Subsections 78a.57a(d) through (e) contain bonding and insurance requirements that are not required for aboveground storage tanks in Chapter 245.
 - The setback requirements in § 78a.57(f) are similar to those for municipal waste landfills, residual waste landfills, and waste tire facilities and are significantly more stringent than the setback regulations for aboveground and underground storage tank facilities in Chapter 245. Additionally, several of the setback requirements for municipal waste landfills, residual waste landfills, and waste tire facilities contain written waiver provisions, but no such written waiver allowances are provided in the Draft Final Rule.
 - The permeability standard in § 78a.57a(i)(1) is orders of magnitude more stringent than the permeability standard for aboveground storage tanks in Chapter 245. There is no indication as to how PADEP calculated the ANFR permeability requirement.
 - The closure requirements in 78a.57a(n) mimic those for residual waste landfills, municipal waste landfill, and construction/demolition waste landfills. The ANFR's use of landfill closure requirements as a basis for centralized storage tank facility closure requirements presumes that the area is contaminated and will require monitoring and reporting.
 - Some of the proposed subsections are similar to those storage tank requirements in Chapter 245 related to reportable releases. Spills are handled under existing law, and there is no need to impose such burdens on a new and temporary facility. (212)

1171. Comment: There are provisions in these sections that will be impossible for small conventional operators to comply with, irrespective of cost. For example, section 78.57a(f)(7) states that a “centralized tank storage site” may not be “within 1,000 feet measured horizontally of an existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor without the written consent of the water purveyor.” If this setback is applicable to the storage tanks of conventional well operators, it would shut down most new conventional drilling because the setback is too large and the water purveyor is unlikely to consent to a shorter distance. (201)

1172. Comment: Section 78.57a presents numerous insurmountable barriers for conventional well operators. The delay (and cost) of designing a tank battery that meets all of the specifications of this section would make conventional well operations impractical for anyone but the largest of conventional operators. (201)

1173. Comment: Then there is the unfettered discretion to deny the issuance of a permit to create a

tank battery to anyone who has ever violated or “has shown a lack of ability or intention to comply with” any law, rule or regulation relating to environmental protection or public health or the condition of any Department permit or license. This provision appears to be designed to allow the Department to regulate a conventional well operator it does not favor out of business. (201)

- 1174.** Comment: The new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should these standards become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10- 15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)
- 1175.** Comment: The new proposed standards lack clarity and are ambiguous. (201)
- 1176.** Comment: Most significantly, section 78.57a (relating to centralized tank storage) - which poses the greatest threat to small conventional well operators - does not define the phrase “centralized tank storage site.” As drafted, this section could be interpreted by the Department to apply not only to a million- gallon tank owned by a billion-dollar corporation engaged in unconventional well operations, but also a 140-barrel tank owned by a third-generation conventional well operator to supplement his/her income as a farmer. That is too much discretion in the hands of the Department. Aggravating this omission is the fact that the terms “tank” and “storage tank” are also not defined. (201)
- 1177.** Comment: Finally, sections 78.57 and 78.57a contain references to “forms provided by the Department” and bonds/insurance in an amount to be “determined by the Department” that make it impossible to assess the true impact of these sections on our members. (201)
- 1178.** Comment: 78a.57a and 78.57a- These sections refer exclusively to the “well operator”, however, centralized tank storage may be operated by a third party. As such, Seneca recommends that references to well operator be changed to “applicant” or “permittee” as appropriate throughout this provision. (190)
- 1179.** Comment: 78a.57a Centralized Tank Storage. All plans for such facilities must include certification by a professional engineer. (161)
- 1180.** Comment: Commentator prefers the use of tanks to the use of pits for the storage of materials related to oil and gas operations. (231, 231a)
- 1181.** Comment: I personally question why the Department would insert a regulation against the use of pits and impoundments for temporary storage unless the Department provides practical and common sense storage alternatives that will encourage the reuse and recycling of flowback and produced water. The centralized storage tank proposal in 78a.57a does not provide such a common sense and cost effective alternative and will not be likely to be used by industry. (169)

- 1182.** Comment: 78a.57a - I strongly support the addition of the new section, Centralized Tank Storage. Permitted tank facilities replacing open waste water impoundments are a reasonable approach in the drilling fields. The drilling operator currently drilling within our township utilizes flowback impoundments in both Susquehanna and Bradford counties. I was concerned at the possibility that landowners might agree to these structures within our rural community. I'm really pleased that the DEP has determined to phase out those structures and replace them with centralized tank storage. Tanks are a superior method to storing flowback and produced waters during recycling operations as compared to open waste water impoundments. I find the noted setbacks reasonably comparable to other established setbacks. Please ensure the proposed regulations at a minimum, move forward in the final regulation. (278)
- 1183.** Comment: We suggest the Department clarify which materials (residual waste, production fluids, freshwater, wastewater, etc.) may be stored in centralized tanks. Subsection (h) suggests that centralized tanks will be used to store residual waste. If that is the intent of section 78.57a and 78a.57a, we suggest that that be made explicit in the section title or early in the text of the regulation. Cf. § 78.57 (“Control, storage, and disposal of *production fluids*”) (emphasis added); § 78.59a(a) (“Embankments constructed for *freshwater impoundments* for oil and gas activities...”) (emphasis added). (231, 231a)
- 1184.** Comment: 78a.57a I strongly support the addition of the new section, Centralized Tank Storage. Permitted tank facilities replacing open waste water impoundments are a reasonable approach in the drilling fields. Tanks are a superior method to storing flowback and produced waters during recycling operations as compared to open waste water impoundments. I find the noted setbacks reasonably comparable to other established setbacks. Please ensure the proposed regulations at a minimum, move forward in the final regulation. (242)
- 1185.** Comment: 78a.57a - Regarding standards for frack pits and impoundments, it is a start that production pits are prohibited at shale gas well sites. This has been a major source of pollution resulting in very large fines. However, the same risks for pollution exist at conventional sites when these are used. Both conventional and unconventional well sites should be covered. Closed loop systems should be used for the storage and treatment of waste, including wastewater, drill cuttings, and production fluids. Permitted Central Tank Storage is an improvement over open impoundments. Any tanks for storage should be completely enclosed. (230)
- 1186.** Comment: 78a.57a(b). DEP has the authority and responsibility to “...deny the issuance of a permit if it finds that the applicant has failed or continues to fail to comply with any provision...” of a law, order, permit, condition of any permit, etc. It is not clear why this text is placed here and nowhere else in the proposed regulations. This factual statement should apply to all section of Chapter 78 and 78a. (182)
- 1187.** Comment: 78a.57a(b) Is denial for any failure to comply at any site at any time or only for the specified area under consideration? Does this include subcontractors of the corporation? (161)
- 1188.** Comment: 78a.57a(f). DEP should change the method and analysis used to establish safe setbacks as per comments above at 78a.52a and 78a.55(a). The setbacks in this section that limit the location of a centralized tank storage site are inadequately small. Lids are not required on the containment systems. An open container that holds waste from oil and gas wells releases air pollution. USGS concluded that closed containment systems are needed to prevent release of dangerous Volatile Organic Compounds. xlvii

No capture of air emissions from containment systems is required by this section and no filtering that would provide a means to meet clean air standards. There is no air monitoring system required to measure cumulative emissions from containers in the region. DEP should require containment systems to be set back further from all features, to have sealed lids, to be equipped with air filters and should require air monitoring of the region's air that could potentially be affected by emissions from the storage areas.

Containers without lids are also subject to spills and overflows and the effects of weather, increasing the potential pathways of pollution of this hazardous material. See comments above at 78a.52a and 78a.55(a). (182)

1189. Comment: 78a.57a(f) Distances need to be expanded to consider the slope of the land. (161)

1190. Comment: 78a.57a(f.1). We support that no portion of a centralized tank storage site may be constructed in a floodplain. However, DEP should require that the site may not be constructed in the 500 year floodplain to provide the necessary protection from severe storm events. Additionally, riparian buffers should be required beyond the floodplain and the riparian area should be defined by the presence of riparian soils. Buffers should in no instance be less than 100' on either side of a waterway measured from the top of the bank; 300' for all special protection waters; 150' for impaired waters in accordance with Section 303 of the Clean Water Act and implementing State regulations or any other state program. (182)

1191. Comment: 78a.57a(f)(1) In a WETLAND (not just a floodplain) (161)

1192. Comment: 78a.57a(f.2). We support setbacks from wetlands but DEP should require wetlands of any size (under 1 acre is not protected in the proposed section) to be protected. The setbacks should not be set by an arbitrary 300' and 100' distance but should be based on the surrounding area necessary to protect the hydrologic functions that support the wetlands. An analysis should be done of the wetland area to determine the distance where no disturbance should occur to protect the wetland including soils, vegetation, adjacent water features, and surface and subsurface hydrologic conditions. (182)

1193. Comment: 78a.57a(f)(2) 300 feet should be extended to 1000 feet of an exceptional value wetland and within 500 feet of any other wetland regardless of size. The distances should be amended to take into consideration of slope. (161)

1194. Comment: 78a.57a(f)(4) Expand 500 feet from a building to 1000 feet with consideration for slope. (161)

1195. Comment: 78a.57a(f.4-8). DEP should require that tanks should have sealed lids and air filtration equipment, and air monitoring stations. DEP should limit the number and size of tanks on one site to control the emissions, potential for spills and leaks, and for ease of inspections and management. There is no requirement that the centralized tank storage be enclosed and there are no limits on size or number of storage units. Tanks that are open will release air pollution which can travel off site, to nearby receptors, and for great distances, depending on topography, weather, and other site specific conditions.

The Maryland Department of Public Health concluded that there is a "high likelihood" that unconventional gas development will cause air pollution at levels that will impact public health. Researchers have found that 60% of the samples taken contained chemicals exceeding

federal guidelines, meaning they are dangerous to human health; eight such chemicals exceeded those levels. See above comments at 78a.52a and 78a.55.2(a). (182)

- 1196.** Comment: 78a.57a(f)(5) Expand 500 feet to 1000 feet from any watercourse with consideration of slope. (161)
- 1197.** Comment: 78a.57a(f)(6) Expand private water supply from 500 feet to 1000 feet with consideration of slope. (161)
- 1198.** Comment: 78a.57a(f)(7) Expand from 1000 feet (a football field length) to 2000 feet distances from an existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor. (161)
- 1199.** Comment: 78a.57a(f)(8) Expand from 300 yards of a building to within 500 yards of a property owned by a school or district as use changes over time. (161)
- 1200.** Comment: 78a.57a(h) The labeling of tanks should be consistent with the specifications of those of all other industries so if it is hazardous it is so labeled. (161)
- 1201.** Comment: 78a.57a(i). Tanks should have lids, air pollution filtration equipment, air monitoring devices; the tank shall be constructed of material that is compatible with the wastes stored. (182)
- 1202.** Comment: 78a.57a(i) Design and construction should be certified by a professional engineer. (161)
- 1203.** Comment: 78a.57a(i.10 and 15). DEP should not allow materials collected in secondary containment to be released from a monitoring point; all material captured should be stored in a close system where it can be retrieved and sampled for constituents. This will determine what type of disposal facility the materials should be taken to for processing to ensure that the facility is designed to process the materials captured. If substances are to be discharged they should be subject to an individual National Pollution Discharge Elimination System (NPDES) permit and the highest treatment standards applied to avoid degradation and pollution of drinking water and the environment. (182)
- 1204.** Comment: 78a.57a(i.16). DEP should require an alarm with remote sensing to a response center to be placed on the leak detection system. (182)
- 1205.** Comment: 78a.57a(i.17). DEP should require a more rigorous inspection schedule, especially since this is the beginning of the new tank requirement and there will be a learning curve and technological ramp-up that will require careful monitoring in its first years. (182)
- 1206.** Comment: 8a.57a(i.17.j). Fencing should be required in all circumstances to avoid accidents and tampering. (182)
- 1207.** Comment: 78a.57a(i.17.n). DEP should require a restoration plan for the site that includes a pre-survey to establish baseline conditions. Prior to site disturbance, identification of soil types and locations, soil layer depths, and at least 98% of existing plant species (identify genus and species) including herbaceous plants, shrubs and trees, and a calculation of the prevalence of those species, should be required to inform site restoration. Utilization of qualified soil scientists for the soil investigation, and qualified botanists for the plant species identification and quantification should be required. The plant survey should be performed in season(s) appropriate for identifying

the herbaceous species. For sites larger than 1 acre, provide mapping of the locations of soils and species groups is necessary and should be required. (182)

1208. Comment: 78a.57a(i.17.1.iv.B) and (i.17.1.iv.C). DEP should require that the closure plan provide erosion and sediment control that complies with Chapter 102, including post construction stormwater management and employ management practices included in best management manuals as commented above at 78a.53. Soil analysis should include compaction analysis and compacted soils should be renovated to natural soil conditions prior to disturbance. (182)

1209. Comment: 78a.57a(i.17.1.iv.B) and (i.17.1.iv.D) through (i.17.1.iv.G). DEP should require a Restoration Plan that includes a pre-survey as described at 78a.57(i.17.n).

DEP should require a Restoration Plan that follows these standards:

Prior to site disturbance, identification of soil types and locations, soil layer depths, and at least 98% of existing plant species (identify genus and species) including herbaceous plants, shrubs and trees, and a calculation of the prevalence of those species, should be required to inform site restoration. Utilization of qualified soil scientists for the soil investigation, and qualified botanists for the plant species identification and quantification should be required. The plant survey should be performed in season(s) appropriate for identifying the herbaceous species. For sites larger than 1 acre, provide mapping of the locations of soils and species groups is necessary and should be required.

Soil during use of the site should not be compacted and if compacted should be renovated. Soil analysis should include a compaction analysis (such as a soil permeability test and/or soil pore analysis) and compacted soil should be renovated to natural soil conditions. There should be a minimum requirement for the top 6" minimum of the soil to be "conducive for plant growth typical in the area". This prevents backfill of the upper portions with material detrimental for plant growth. This needs to be increased in areas where the pre-disturbance survey reveals additional topsoil depth.

The vegetation that is planted should establish a diverse, effective, permanent, vegetative cover which is capable of self-generation and plant succession. Vegetation should be native species unless pre-condition is lawn or crops. Original conditions that must be restored include pre-construction soils types and layers, herbaceous plants, shrubs, and trees. An exception to the requirement to return to pre-conditions is that non- native invasive plant species should to be installed even if they were pre-existing. This is to prevent the addition of invasive species, which harm ecosystems and habitats.

DEP should require that the site support the land uses that existed prior to the gas and oil operations, including ecosystem functions such as plant communities and habitats that support wildlife species. "To the extent practicable" needs to be carefully applied in regards to restoration because in order to restore to original conditions fence enclosure to prevent deer and other animal predation, soil renovation, leaf compost layers, and monitoring and maintenance until plants are established add costs but are essential in order to meet a standard that does avoid degradation of the natural environment. (182)

1210. Comment: Sections 78.57a(m) and 78a.57a(m) should be revised to clarify when the 30 business day review period begins. We suggest revising the ends of the last sentences to read "... within 30 business days of the Department's receipt of the Facility Completion and Final Notification Report." (231, 231a)

- 1211.** Comment: 78a.57a (o). DEP should not allow any deviation from the requirements of this section at the request of the owner or operator. Off-site impacts to neighbors and the environment can occur by deviating from the requirements, harming human health and the environment and there are no established standards on which to base deviations, making this allowance arbitrary and subject to inconsistent application that can unfairly burden an area. If deviation is allowed, permitting of all activities relevant to this section must be required. DEP should also provide a public process required for the approval of any deviation from these requirements. Otherwise, neighboring property owners, the public and others such as local government units, are left in the dark and poorly prepared to address issues related to centralized tank storage. (182)
- 1212.** Comment: 78a.57a (o) What constitutes a “demonstration” of equivalence? All modifications and specifications (1-17) should be certified by a professional engineer (not just a design engineer or a generic “engineer” with the burden of proof on the operator. (161)
- 1213.** Comment: 78a.57a (k) A professional engineer should provide oversight not only a design engineer and such work should be certified in subsequent section (l). (161)
- 1214.** Comment: 78a.57a. We strongly support the addition of the new section, Centralized Tank Storage. Currently, there are no flowback water impoundments within our watershed. We’ve been concerned about these as the last year Southwestern has been successfully drilling here. They have utilized large flowback water impoundments elsewhere and we didn’t want to have them within our watershed. Therefore, we support the elimination of them and the replacement with Centralized Tank Storage. We’d like to see the noise mitigation requirements apply to these locations along with the minimum setbacks and nearby landowner notification. With these additions, we recommend the section for regulation. (171)
- 1215.** Comment: 78a.57a Centralized Tank Storage- I strongly support the addition of the new section, Centralized Tank Storage. Permitted tank facilities replacing open waste water impoundments are a reasonable approach in the drilling fields. Tanks are a superior method to storing flowback and produced waters during recycling operations as compared to open waste water impoundments. I find the noted setbacks reasonably comparable to other established setbacks. Please ensure the proposed regulations at a minimum, move forward in the final regulation. (168)
- 1216.** Comment: REGARDING 78.a57a – CENTRALIZED TANK STORAGE - In section (b) the commenter fully supports 100% of the wording in this section. In section (d) the commenter supports bonding. In short, tanks do leak. Right here in Lycoming County we had a major leak, resulting in serious pollution after a spill of thousands of gallons of potentially hazardous fluids. The need for bonding, insurance and restrictions is common practice in other arenas, and regulatory power in such matters fully established in both OSHA and RCRA regulations. Because of potential risk, DEP must be given the full scope of regulatory powers outlined in this section. (176)
- 1217.** Comment: 78a.57a. Centralized Tank Storage It is our understanding that this section provides an avenue to enlarge the site of WMGR123 permitted activities, or that the storage area may be a location to ‘stock’ flowback waters until they are processed at a WMGR123 permitted location or ‘stock’ treated waters to be used for drilling and hydraulic fracturing. (170)
- 1218.** Comment: §78a.57a.(a) We fully support the implementation of the permitting process for Centralized Tank Storage. We are supportive of the public notice component, and in addition, we recommend a mailed notice of intent be provided to the property owners within 1,000’. While the

Department may publish notice in the Pennsylvania Bulletin, most folks are unaware of the publication. These will be large facilities and the immediate neighbors need to be advised that an industrial facility is proposed near their homes. In zoned municipalities, there is adequate notice and discussion at least through the zoning board. Residents are able to be involved with that process. In non-zoned municipalities while the municipality is provided notice (§78a.57a.(c)) there is little discussion as there are no avenues for any local regulations that would be applicable. There is no opportunity for public involvement in non-zoned municipalities. These facilities, for the nearby neighbors will increase traffic and other related impacts. It is reasonable to advise the property owners within 1,000’.

() The applicant shall provide notice to property owners within 1,000 ft. of the location. The notice shall include a copy of a map to scale indicating the location, LOD, access road, indication of the 1,000 ft. radius, property boundaries, type of fluids to be stored (ex - fresh/flowback/produced waters) and the contact person in case of questions.

Centralized Tank Storage locations are large and busy long-term facilities. The fact that there is a setback from homes and water supplies, notes some degree of risk for the neighbors. They need to be sufficiently notified, and they need to have someone to contact with any questions they may have. While PAB notification meets the spirit of notification, most neighbors of such a facility are not going to be aware of the PAB or read it weekly. A simple notice to the neighbors is preferred over a legal advertisement as most people do not routinely read legal advertisements either. Those property owners within the 1,000’ of the location are primarily those with immediate impacts and may have concerns regarding their private water supplies, therefore they need to be served an adequate notice. Additionally, these types of facilities are large and busy. They are going to increase the amount of diesel exhaust fumes in the immediate area, an air quality concern for many asthmatics. Asthma statistics among school age children in our Region are increasing. Asthmatics that do not attend school are noting changes in their ability to control their asthma. Thus, being aware of new facility nearby brings concerns to these folks, concerns where they may want to prepare in advance by consulting their physician for better ways to control their asthma. Facilities being located in zoned municipalities are more likely to be located in specific areas conducive to this land-use option. Facilities being located in non-zoned municipalities where there is no local regulation regarding location or input from residents are our main concern and why we are recommending the notification to property owners within 1,000’. (170)

1219. Comment: Hydro currently utilizes the concept of Centralized Tank Storage (CTS) under its Waste Management General Permit WMGR123 as part of its operations. Rather than create a new regulation for the storage of oil and gas liquid waste, Hydro suggests that the Department utilizes current requirements as set forth in the WMGR 123 as referenced above and 25 Pa. Code Sec. 299 relating to storage tank requirements which is referenced in the WMGR123 permit.

By creating this new section which only applies to well operators it creates another set of regulations and set of criteria for a specific industry. Utilizing what is already established will eliminate an uneven playing field and confusion as to which Bureau the same activity shall be regulated by. (185)

1220. Comment: A permit holder of an active WMGR123 permit should also be able to apply for a permit to build and operate a Centralized Tank Storage (CTS) facility as long as it meets the conditions set forth in this section. WMGR123 permits are more stringent, time consuming and costly to build and operate. By allowing a WMGR123 permit holder to also apply for a permit to operate a CTS under Chapter 78a, the Department can expedite its objective of safe storage by knowledgeable and experienced persons. Also, by allowing a WMGR123 permit holder to apply

for a CTS permit, the Department will provide a level playing field for both well operators and vendors by allowing both to obtain the same kind of permit and be subject to the same rules and regulations rather than selected rules and regulations based purely on whether or not a person is a well operator versus a vendor specializing in providing this type of service or under which Bureau of the Department it is regulated

Suggested Language:

78a.57a(a) A WELL OPERATOR or a permit holder of an active Waste Management General Permit - WMGR123 PROPOSING TO BUILD A CENTRALIZED TANK STORAGE SITE SHALL OBTAIN A PERMIT FROM THE DEPARTMENT PRIOR TO CONSTRUCTION OF THE CENTRALIZED TANK STORAGE SITE AND COMPLY WITH THIS SECTION. THE DEPARTMENT SHALL PROVIDE PUBLIC NOTICE OF RECEIPT OF PERMIT APPLICATIONS AND ISSUANCE OF PERMITS UNDER THIS SECTION IN THE PENNSYLVANIA BULLETIN. THE PERMIT SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT ON FORMS PROVIDED THROUGH ITS WEB SITE. (185)

- 1221.** Comment : § 78.a.58(h) A chemical characterization of material under this section should not be mandated for residual waste that will be taken to a WMGR123 facility for further treatment or processing since WMGR123 facilities do their own characterization of their own waste material. Only material taken for end disposal should be required to be characterized. Therefore, we suggest the following language :

Suggested Language:

§ 78.a.58 (h) Sludges, filter cake or other solid waste remaining after the processing or handling of fluids under subsection (a) or (b) including solid waste mixed with drill cuttings, shall be characterized under § 287.54 (relating to chemical analysis of waste) before the solid waste leaves the well site for disposal. This material does not need to be characterized if it is taken to a Waste Management General Permitted WMGR123 facility for treatment for beneficial reuse. (185)

- 1222.** Comment: §78a.57a.(f)(1-3, 5-7) We support these provisions which are measures provided in other provisions related to well pads and other facilities. (170)

- 1223.** Comment: §78a.57a.(f)(4) We understand that the 500' measure is more than likely based off the similar measure for well pads. However, in many cases there are well pads within that measurement that from the point of impact, whether it be noise or air emissions, are just too close to homes. 24/7 noise from idling traffic and opportunities for diesel to enter homes from traffic, idling or otherwise create difficulties for some living near well pads. We recommend that this information be considered and the setback be modified to 750' in the same prescribed measure in order that the setback be more balanced. Unlike well pads where the operator has a need to 'hit' a certain area of the formation, a Centralized Tank Storage site may be more flexible in location. We recommend the setback be modified to 750' from a building. We recommend that §78a.41 be applicable to these facilities in non-zoned municipalities should a situation arise where the property owner may be dealing with concerning indoor noise levels or vibration impacts. (170)

- 1224.** Comment: §78a.57a.(f)(8) WITHIN 300 YARDS (900 FEET) OF A BUILDING WHICH IS OWNED BY A SCHOOL DISTRICT OR SCHOOL AND USED FOR INSTRUCTIONAL PURPOSES, A PARK OR A PLAYGROUND.

We understand that this provision was ‘borrowed’ from another program. Since all measures in the O&G program are in feet, we recommend that both yards and feet be used just so there is no misunderstanding of the measure. (170)

1225. Comment: §78a.57a.(g) We recommend a language change: UNDERGROUND STORAGE TANKS SHALL NOT BE USED AT CENTRALIZED TANK STORAGE SITES. We want to be very clear here, these sites are established not as permanent, but on an ‘as needed’ basis. While the ‘as needed’ basis may continue for a decade or longer, still they are not intended to be permanent fixtures. Underground storage tanks, are not the best practice we want to see in the gas fields. We urge the Department to make this language change and ensure that there will be no underground storage tanks. We don’t want to see this provision up for interpretation where there are cases where they MAY be allowed. Underground storage tanks are an inferior environmental method for tank siting. (170)

1226. Comment: §78a.57a. (i)(17) These tanks may be in service for decades. Inspection frequency is insufficient should there be an issue that could be discovered and repaired, avoiding an environmental impact. Maintaining inspection records for a 5 year period will provide better information should there be an unforeseen leak. Maintaining these in an electronic data base solves the paper storage issue and creates an easier purge as well.

() The centralized storage tanks storing flowback, produced and treated waters need to be covered and equipped with a HEPA filter to reduce VOCs emitted into the air. (besttank.com)

According to the “Overview of the 2013 Emissions Inventory for the Natural Gas Industry,” provided by the DEP BAQ at the February, 2015 AQTAC meeting, VOC emissions are on the rise in Pennsylvania. There is a need to reduce these harmful emissions through the use of available technologies whenever possible. The Department is lacking information regarding the amount of VOCs that may be emitted through a centralized tank storage system. Because of increasing VOC emissions and the unknown emissions associated with the centralized tank storage system it is necessary to exercise caution and use available technology. Therefore, we recommend the use of HEPA filtration with Centralized Tank Storage. (170)

1227. Comment: §78a.57a.(n)(G) What is provision (1), it seems to be missing? (170)

1228. Comment: §78a.57a.(n)(G) (2) The understanding is this is not a static set of wells. Therefore, it appears reasonable that the operator needs to notify the Department when they have serviced the last well. There also needs to be a time frame of when that notification occurs, for example, “Within 30 days of servicing the last drilled/ fractured well, the operator shall make notification to the Department that they will begin the restoration process within 9 months of completion date.”

With the addition of the changes proposed above, we support §78a.57a at a minimum as written. (170)

1229. Comment: §78.57 and §78a.57. Control, storage, and disposal of production fluids.

We strongly support the proposed prohibition on the use of pits and open-top structures for the control, storage, and disposal of production fluids. The Marcellus Shale Coalition urges operators to consider “[u]sing ‘closed loop’ fluids management systems (i.e., eliminating the need for lined earthen pits at the drilling site)” The Center for Sustainable Shale Development states that

operators “shall contain drilling fluid and flowback water in a closed loop system at the well pad.”

We also note that §78.57 contradicts §78.56 on temporary waste storage. §78.57(b) states that operators may not use pits for storage of brine and other fluids produced during operations, but according to §78.56(a), conventional operators are allowed to temporarily store brine and stimulation, treatment, and servicing fluids in pits. This lack of clarity in effect creates a loophole that operators could exploit in order to store brine and fluids in pits by claiming they are for “temporary storage,” rather than for the “storage” that is implied—but left undefined—in §78.57. This loophole would also make it virtually impossible for DEP to enforce §78.57. As indicated above, we strongly recommend regulatory consistency by prohibiting all production pits for all forms of waste containment at both conventional and unconventional well sites.

We oppose the removal from the final drafts of both §78.57 and §78a.57 of the prohibition on the underground burial of waste storage tanks. As with pits dug into the ground, buried tanks pose risks to groundwater and soil through leaks, overflow, and failure of structural integrity. Detecting and repairing such problems are more difficult when tanks are buried below the surface. (188)

1230. Comment: §78.57a and §78a.57a. Centralized tank storage.

We support the inclusion of new design, construction, and maintenance standards for tanks §78.57a (h)(i)(1) and §78a.57a(h)(i)(1). However, the standards should be specified in the regulations, or DEP review of operators’ plans for tank storage at well sites should be added as a well permit condition. Simply stating that tanks should be “structurally sound in accordance with sound engineering practices adhering to nationally recognized industry standards and the manufacturer’s specifications” does not constitute regulation, as there is no corresponding basis for determining violations or enforcing regulations.

We strongly support the proposed prohibition on construction of any portion of a centralized tank storage site within 300 yards of buildings owned by school districts (§78.57a(f)(8) and §78a.57a f)(8). Tanks contain contaminated and potentially toxic substances (e.g., flowback and fracturing fluids) and can cause leaks and spills. In addition, if many operators across a wide geographic area develop centralized tank storage sites, roads and traffic would increase during both construction and daily operations—in turn raising the risk of air pollution, accidents, and spills.

These sections should be amended to extend the setback distance to one mile (5,280 feet), in light of the same scientific evidence of impacts discussed above with regard to application requirements and public resources. In addition, DEP should extend this construction setback to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers, and communities at a disproportionate risk of health impacts (such as DEP’s designated environmental justice areas).

We strongly support the ability of DEP to deny permits to operators that have failed to comply with Pennsylvania and federal laws related to environmental protection and public health and safety (§78.57a(b) and §78a.57a(b)). Earthworks has long encouraged DEP to take this critical approach to regulatory enforcement. In a comprehensive 2012 report on oil and gas enforcement, we found that in Pennsylvania (as well as other states), many operators repeatedly violate the same rule at different well sites, from one year to the next.¹³

It is not clear why the proposed provision on non-compliance is limited to centralized tank storage facilities, rather than all waste storage equipment and facilities. A record of non-compliance pertaining to waste management—particularly if the violation resulted in pollution or harmed public resources—should always be a legitimate consideration in the permitting of wells. We encourage DEP to extend this provision to other aspects of oil and gas operations, including when violations occur related to waste control, storage, and disposal.

By limiting the operations of “bad actors” with a track record of violations, regulators can help prevent problems before they occur. Withholding new permits can also encourage regulatory compliance by signaling that violations will have real consequences on the ability to operate and generate revenue.

DEP has the authority to consider regulatory compliance history when making decisions on permitting. This is mirrored in other states as well. For example, New Mexico’s permitting guidelines indicate that when operators have a certain number of wells out of regulatory compliance, they are deemed out of compliance with the state Administrative Code.¹⁴

We recognize that centralized tank storage facilities would require a special permit, while tanks and other equipment located at the well site are part of the general well drilling permit. If this is the rationale for only applying this enforcement provision to centralized tank storage, at minimum the same provision should be added to all sections of Chapter 78 and Chapter 78a pertaining to specific permitting of centralized waste impoundments, freshwater impoundments, and pits (e.g., for erosion and sedimentation control and siting). (188)

1231. Comment: POINT 4: CENTRALIZED TANK STORAGE SITES SHOULD BE AT A HEALTH PROTECTIVE DISTANCE FROM SCHOOLS, THEIR PARKS AND PLAYGROUNDS.

The commenter recommends that the DEP require and document greater protection for residents (school children and otherwise), by ensuring adequate setback distances for waste tanks. The fluids contained in these tanks are known to include highly and immediately toxic chemicals, chemicals of unknown concentrations, and mixtures of chemicals which may have interacted with each other. The tanks are designed to vent substances into the ambient air producing odors and chemical exposures. Furthermore, water coming up from the well (flowback or produced) has the possibility of containing radioactive material. Radioactive material can be capable of producing cancer and is soluble in water. Monitoring for it should occur on a regular schedule. 300 yards is not a sufficient setback distance in the event of a leak or accident, nor is it sufficient to protect children from the emissions vented from the tanks into the air.

78a.57a (f) No portion of a centralized tank storage site may be constructed in the following areas:

(4) WITHIN 500 FEET MEASURED HORIZONTALLY FROM A BUILDING, WITHOUT THE WRITTEN CONSENT OF THE OWNER OF THE BUILDING.

(8) WITHIN 300 YARDS OF A BUILDING WHICH IS OWNED BY A SCHOOL DISTRICT OR SCHOOL AND USED FOR INSTRUCTIONAL PURPOSES, A PARK, OR A PLAYGROUND.

In addition to information provided by the industry to the DEP and to FracFocus, the research on the constituents of fracking, flowback and produced water (brine) is mounting. Fracturing fluids

contain organic and inorganic chemicals many of which are known to be harmful to human health. For a review of UNGD-related water constituents see Shonkoff S, Hays K, Finkel M (2014). See also, for instance: Aminto and Olson (2012); US House of Representatives, Committee on Energy and Commerce (2011); Colborn T, Kwiatkowski C, Schultz K; Bachran M (2011); Kassotis C, Tillitt D, Davis J, Hormann A, Nagel S (2014); and New York State Department of Environmental Conservation (2011).

Substances commonly identified in fracking solutions include silica, acids (hydrochloric acid), viscosity adjusters (guar gum, borates, ammonium persulfate), corrosion inhibitors (isopropanol, acetaldehyde), iron precipitation control (citrate), biocides (glutaraldehyde), oxygen scavengers (ammonium bisulfite), scale inhibitors (acrylic polymers), and friction reducers (surfactants, polyacrylamide, ethylene glycol). (Vengosh 2014). Others are methanol, diesel oil, naphthalene, benzene, xylene, toluene, and ethyl-benzene (US House of Representatives Committee on Energy and Commerce 2014). Many of the chemicals disclosed by the industry have identified health effects (Colborn 2011). However, for others, such effects are not known typically because the research has not yet been conducted. Kortenkamp et al (2007) provide a systematic assessment of published studies on exposures to multiple chemicals at low doses. They conclude that the widely held view that mixtures of dissimilarly acting chemicals are “safe” at levels below NOAELs (no-observed-adverse-effect-level, i.e., the highest exposure level at which there are no biologically significant increases in the frequency or severity of adverse effects) is not supported by empirical evidence.

Attention has been, and must continue to be, directed to the mixing of chemicals under high pressure and heat (in some circumstances). These conditions have the potential to create other toxic compounds (Shonkoff 2014).

Attention has also focused on radioactive material in flowback and produced water; and methods for its analysis. For an overview see Brown V (2014). See also for instance, Warner N, Christie C, Jackson R, Vengosh A (2013). We view the possibility of radioactive air or water pathway contamination as a serious concern. (186)

1232. Comment: 78.57a: I am also concerned about open waste water impoundments in the area. We live on a natural, glacial lake (Lake Carey) that is fed by a number of area streams. Spills containing toxic chemicals from drilling sites and open water impoundments could find their way into the streams that feed the lake. This will not only degrade the water quality of the streams and Lake Carey waters enjoyed by fishermen, swimmers and boaters alike. It will also negatively impact wildlife in the areas ecosystems that are near to these impoundments and well pads.

Because of these concerns, I strongly support the addition of the new section, Centralized Tank Storage. Permitted tank facilities replacing open waste water impoundments are a reasonable approach in the drilling fields. I support the proposed regulations at a minimum and hope that they move forward in the final regulation. (158)

1233. Comment: There is drilling and fracking happening very close to my elementary and high schools (Mountain View School District). Research shows that when a pipeline explodes, the high consequence area can include a radius over a thousand feet from the explosion. Please improve *Definition of public resource (Section 78.15, 78.57, 78a.15, 78.57a)* (198)

1234. Comment: I am thankful that waste water impoundments will be replaced by storage tanks. (165)

1235. Comment: We support the wording of 78a.57a(b) and section (d) concerning bonding. Because

of potential risk, DEP needs the full scope of regulatory powers outlined here. (220)

1236. Comment: 78a.57a We are in favor of Centralized Tank Storage as a new section to the regulations. These permitted tank facilities are a reasonable approach to replacing open waste water impoundments and help to protect the environment. We would like to see the minimal 500 foot setback to homes and water supplies closer to the 900 foot setback for school facilities, parks or playgrounds as children also inhabit many homes. (233).

1237. Comment: In 2015, PADEP proposed new requirements for centralized tank storage.

We support the improved design, construction, siting, and inspection standards proposed for a centralized tank storage area, but we recommend these same standards apply to like size and type of tanks located on a well or production pad. For example, we support PADEP's prohibition of underground storage tanks (§ 78a.57a (g)); however, it is unclear why buried storage tanks would be prohibited at a centralized location and not at the well pad or production facility (§§78a.56 and 78a.57).

In the 2014 Comments, we recommended that many of the improvements listed in this new section for a centralized tank storage site (§ 78a.57a) be included in the other temporary storage tank requirements for a well or production pad (§ 78a.56 and § 78a.57). While we welcome the application of a more complete set of tank regulations to a centralized tank storage area, it is unclear why PADEP would not apply these same standards to similar tanks located on a well or production pad. There should be regulatory parity.

There is no definition of what constitutes a centralized tank storage site in this section (§ 78a.57a) or in the definitions section § 78a.15. It is unclear how many tanks or what type of tanks will trigger the proposed new requirements in § 78a.57a, which exceed the prior tank requirements proposed for temporary storage (§ 78a.56) or for control, storage or disposal of production fluids (§ 78a.57). The proposed regulation at § 78a.57a (h) indicates the tank contents may be limited to "residual waste" although the nature of that waste and the hazards associated with that waste are not specified. Presumably, this centralized tank storage location is a separate and distinct location from a well pad. Optimally, waste collected in temporary storage (§ 78a.56) that will not be re-used should be shipped directly to a treatment and disposal facility, to minimize the number of potential tank transfers and limit the potential for spills.

We remain concerned that the proposed regulations do not address air pollution control. Preventing air and water pollution and reducing surface impacts are reasons to eliminate centralized waste impoundments. Use of centralized tank storage mitigates the potential for water pollution and reduces surface impacts, but will not mitigate air pollution unless direct venting is prohibited. If tank pressure must be reduced, tank vapor recovery systems must be installed to mitigate air pollution. Vapors should be preferably routed to power generation, or routed to an incinerator or flare if there is good cause.

More specifically, we recommend the following changes to the proposed regulations at § 78a.57a:

§ 78a.57a. CENTRALIZED TANK STORAGE.

(a) A WELL OPERATOR PROPOSING TO BUILD A CENTRALIZED TANK STORAGE SITE (OF ONE OR MORE TANKS USED TO TEMPORARILY STORE OIL AND GAS OPERATION WASTE AT A LOCATION SEPARATE FROM A WELL OR PRODUCTION PAD), SHALL OBTAIN A PERMIT FROM THE DEPARTMENT

PRIOR TO CONSTRUCTION OF THE CENTRALIZED TANK STORAGE SITE AND COMPLY WITH THIS SECTION. THE DEPARTMENT SHALL PROVIDE PUBLIC NOTICE OF RECEIPT OF PERMIT APPLICATIONS AND ISSUANCE OF PERMITS UNDER THIS SECTION IN THE PENNSYLVANIA BULLETIN. THE PERMIT SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT ON FORMS PROVIDED THROUGH ITS WEB SITE.

[no revisions recommended for (b)–(e)]

(f) NO PORTION OF A CENTRALIZED TANK STORAGE SITE MAY BE CONSTRUCTED IN THE FOLLOWING AREAS:

(1) IN A FLOODPLAIN.

(2) IN OR WITHIN ~~300~~ 4,000 FEET MEASURED HORIZONTALLY OF AN EXCEPTIONAL VALUE WETLAND OR WITHIN ~~400~~ 1,320 FEET MEASURED HORIZONTALLY OF ANY OTHER WETLAND GREATER THAN 1 ACRE IN SIZE.

(3) IN AREAS UNDERLAIN BY LIMESTONE OR CARBONATE FORMATIONS WHERE THE FORMATIONS ARE GREATER THAN 5 FEET THICK AND PRESENT AT THE UPPERMOST GEOLOGIC UNIT. THESE AREAS INCLUDE AREAS MAPPED BY THE PENNSYLVANIA GEOLOGICAL SURVEY AS UNDERLAIN BY THE FORMATIONS, UNLESS COMPETENT GEOLOGIC STUDIES DEMONSTRATE THE ABSENCE OF LIMESTONE AND CARBONATE FORMATIONS.

(4) WITHIN ~~500~~ ¼ MILE (1,320 FEET) MEASURED HORIZONTALLY FROM A BUILDING, WITHOUT THE WRITTEN CONSENT OF THE OWNER OF THE BUILDING.

(5) WITHIN ~~400~~ 4,000 FEET MEASURED HORIZONTALLY FROM ANY WATERCOURSE.

(6) WITHIN ~~500~~ 4,000 FEET MEASURED HORIZONTALLY OF A PRIVATE WATER SUPPLY WITHOUT THE WRITTEN CONSENT OF THE OWNER OF THE WATER SUPPLY.

(7) WITHIN ~~1,000~~ 4,000 FEET MEASURED HORIZONTALLY OF AN EXISTING WATER WELL, SURFACE WATER INTAKE, RESERVOIR OR OTHER WATER SUPPLY EXTRACTION POINT USED BY A WATER PURVEYOR.

(8) WITHIN 300 YARDS ONE MILE (5,280 FEET) OF A BUILDING WHICH IS OWNED BY A SCHOOL DISTRICT OR SCHOOL AND USED FOR INSTRUCTIONAL PURPOSES, A PARK, OR A PLAYGROUND.

[no revisions recommended for (g)–(h)]

(i) TANKS UTILIZED AT CENTRALIZED TANK STORAGE SITES SHALL BE DESIGNED AND OPERATED AS FOLLOWS, UNLESS AN ALTERNATIVE DESIGN IS DEMONSTRATED TO PERFORM AT A LEVEL EQUIVALENT TO THE REQUIREMENTS OF THIS SECTION AND IS OTHERWISE APPROVED BY THE DEPARTMENT:

[no revisions recommended for (1)–(6)]

(7) TANKS SHALL BE INSTALLED WITH THE FOLLOWING:

(i) A GAUGE OR MONITORING DEVICE WHICH ACCURATELY INDICATES THE LEVEL OR VOLUME IN THE TANK AND IS VISIBLE TO THE INDIVIDUAL RESPONSIBLE FOR THE TRANSFER OF WASTE. THE MONITORING DEVICE SHALL BE INSTALLED, CALIBRATED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

(ii) A HIGH-LIQUID- LEVEL ALARM THAT SOUNDS AND DISPLAY IN AN IMMEDIATELY RECOGNIZABLE MANNER AND AN AUTOMATIC HIGH-LIQUID-LEVEL AUTOMATIC PUMP SHUT CUT-OFF DEVICE ~~OR A HIGH-LEVEL ALARM AND A MANNED OPERATOR SHUTDOWN PROCEDURE IN OPERATION.~~

(iii) A DEVICE CAPTURING AIR CONTAMINANTS. OPEN-TOP TANKS ARE PROHIBITED. ROUTINE VENTING OF VAPORS IS PROHIBITED. VAPORS SHALL BE ROUTED TO POWER GENERATION EQUIPMENT (PREFERABLY) OR, UPON DEMONSTRATION OF GOOD CAUSE, SHALL BE ROUTED TO AN INCINERATOR OR FLARE.

(8) CONTAINMENT STRUCTURES SHALL BE COMPATIBLE WITH THE WASTES STORED, MINIMIZE DETERIORATION TO THE TANK ~~AND COMPLY WITH SECTION 78a.64a (RELATING TO CONTAINMENT SYSTEMS AND PRACTICES AT WELL SITES).~~

TANKS MUST BE SET ON TOP OF A SYNTHETIC FLEXIBLE LINER THAT IS SUFFICIENT IN SIZE AND TYPE TO CAPTURE ANY LEAKS OR DRIPS THAT MAY OCCUR FROM THE TANK OR ITS VALVES AND CONNECTIONS.

THE WELL OPERATOR SHALL NOTIFY THE DEPARTMENT AT LEAST 3 BUSINESS DAYS BEFORE THE INSTALLATION OF THE LINER. THE NOTICE SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE AND INCLUDE THE DATE THE LINER WILL BE INSTALLED. IF THE DATE OF INSTALLATION IS EXTENDED, THE OPERATOR SHALL NOTIFY THE DEPARTMENT WITH THE NEW DATE OF INSTALLATION. A LICENSED PROFESSIONAL ENGINEER OR GEOLOGIST SHALL DESIGN THE WELL SITE AND SHALL SUBMIT A STATEMENT ON FORMS PROVIDED BY THE DEPARTMENT CERTIFYING THAT THE LINER, AS BUILT, ARE COMPLIANT WITH THIS SECTION. THIS CERTIFICATION SHALL BE SUBMITTED WITHIN 10 BUSINESS DAYS OF INSTALLATION OF THE LINER.

(9) CONTAINMENT AREAS SHALL BE DESIGNED, MAINTAINED AND CONSTRUCTED IN ACCORDANCE WITH SOUND ENGINEERING PRACTICES ADHERING TO NATIONALLY RECOGNIZED CODES OF PRACTICE, SUCH AS NFPS, NACE, ACI OR API AND IN COMPLIANCE WITH STATE AND FEDERAL REQUIREMENTS.

(10) SECONDARY CONTAINMENT UNDER THE TANK BOTTOM AND AROUND UNDERGROUND PIPING SHALL BE DESIGNED TO DIRECT ANY RELEASE TO A MONITORING POINT.

~~**(11) PERMEABILITY OF THE SECONDARY CONTAINMENT SHALL BE LESS THAN 1×10^{-10} CM/SEC AT ANTICIPATED HYDROSTATIC HEAD.**~~

THE LINER MUST BE IMPERVIOUS, IMPERMEABLE, AND AT LEAST 30 MILS THICK. THE LINER SHALL BE DESIGNED, CONSTRUCTED AND MAINTAINED SO THE PHYSICAL AND CHEMICAL CHARACTERISTICS OF THE LINER ARE NOT ADVERSELY AFFECTED BY THE REGULATED SUBSTANCE STORED THEREIN AND THE LINER IS RESISTANT TO PHYSICAL, CHEMICAL AND OTHER FAILURE DURING TRANSPORTATION, HANDLING, INSTALLATION AND USE. LINER COMPATIBILITY MUST SATISFY ASTM METHOD D5747, COMPATIBILITY TEST FOR WASTES AND MEMBRANE LINERS.

ADJOINING SECTIONS OF LINERS SHALL BE SEALED TOGETHER TO PREVENT LEAKAGE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. THE INTEGRITY OF ALL SEAMS OF THE ADJOINING SECTIONS OF LINER SHALL BE TESTED PRIOR TO USE. RESULTS OF THE TESTS SHALL BE AVAILABLE UPON REQUEST.

PRIOR TO PLACING TANKS ON THE LINER, THE LINER SHALL BE INSPECTED FOR LACK OF UNIFORMITY, DAMAGE AND OTHER IMPERFECTIONS THAT MAY CAUSE THE LINER TO LEAK. THE WELL OPERATOR SHALL CORRECT DAMAGES OR IMPERFECTIONS BEFORE PLACING ANY MATERIAL IN STORAGE TANKS OR MODULAR STRUCTURES ON THE LINER.

IF A LINER BECOMES TORN OR OTHERWISE LOSES ITS INTEGRITY, TANKS MUST BE CONTINUOUSLY MONITORED FOR LEAKS BY ONSITE PERSONNEL WHILE THE LINER IS REPAIRED. IF REPAIR OF THE LINER IS NOT PRACTICAL OR POSSIBLE, THE TANK CONTENTS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED WASTE DISPOSAL FACILITY.

(12) TANKS SHALL HAVE EMERGENCY CONTAINMENT STRUCTURES, SUCH AS DIKE FIELDS, CURBING AND CONTAINMENT COLLECTION SYSTEMS, WHICH CONTAIN RELEASES FROM OVERFILLS, LEAKS AND SPILLS.

(13) PERMEABILITY OF EMERGENCY CONTAINMENT STRUCTURES SHALL BE LESS THAN 1×10^{-6} CM/SEC AT ANTICIPATED HYDROSTATIC HEAD AND BE OF SUFFICIENT THICKNESS TO PREVENT THE RELEASED WASTE FROM PENETRATING THE CONTAINMENT STRUCTURE FOR A MINIMUM OF 72 HOURS AND UNTIL THE RELEASE CAN BE DETECTED AND RECOVERED.

[no revisions recommended for (14)–(16)]

(17) TANKS MUST BE INSPECTED BY THE PERMITEE A CERTIFIED TANK INSPECTOR AT LEAST EVERY FIVE YEARS. THE INSPECTION SHALL EXAMINE STRUCTURAL CONDITIONS AND DOCUMENT CORROSION OR DAMAGE, AND IDENTIFY NECESSARY REPAIRS BEFORE RETURNING IT TO SERVICE. AND ANY DEFICIENCIES IDENTIFIED DURING THE INSPECTION

MUST BE REPORTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE WITHIN 30 DAYS OF THE INSPECTION. ALL DEFICIENCIES MUST BE REMEDIED PRIOR TO CONTINUED USE OF THE TANK. DOCUMENTATION OF THE REMEDY MUST BE MAINTAINED FOR ONE YEAR AFTER THE REPAIR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

TANKS MUST BE INSPECTED BY THE OPERATOR AT LEAST ONCE PER CALENDAR MONTH AND DOCUMENTED ON FORMS PROVIDED BY THE DEPARTMENT. ANY DEFICIENCIES IDENTIFIED DURING THE INSPECTION MUST BE REPORTED TO THE DEPARTMENT WITHIN 3 DAYS OF THE INSPECTION AND REMEDIED PRIOR TO CONTINUED USE OF THE TANK. INSPECTION RECORDS SHALL BE MAINTAINED FOR 1 YEAR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

(j) UNLESS AN INDIVIDUAL IS CONTINUOUSLY PRESENT AT A CENTRALIZED TANK STORAGE SITE, A FENCE MUST COMPLETELY SURROUND THE SITE TO PREVENT UNAUTHORIZED ACTS OF THIRD PARTIES AND DAMAGE CAUSED BY WILDLIFE AND OPERATORS SHALL EQUIP ALL VALVES AND ACCESS LIDS OF CONTAINERS HOLDING REGULATED SUBSTANCES WITH REASONABLE MEASURES TO PREVENT UNAUTHORIZED ACCESS BY THIRD PARTIES SUCH AS LOCKS, OPEN END PLUGS, REMOVABLE HANDLES, OR RETRACTABLE LADDERS.

[no revisions recommended for (k)–(m)]

(n) CENTRALIZED TANK STORAGE SITES SHALL BE RESTORED ACCORDING TO THE FOLLOWING REQUIREMENTS:

[no revisions recommended for (1)]

(2) WITHIN 9 MONTHS OF COMPLETION OF DRILLING THE LAST WELL SERVICED BY THE CENTRALIZED TANK STORAGE SITE OR THE EXPIRATION OF THE LAST WELL PERMIT THAT THE SITE WAS INTENDED TO SERVICE. THE CENTRALIZED TANK STORAGE SITE SHALL BE RESTORED BY REMOVING ANY IMPERMEABLE MATERIALS SO THAT WATER MOVEMENT TO SUBSOILS IS ACHIEVED. THE PERMITEE SHALL ENSURE THAT ALL TANKS ARE PROPERLY REMOVED FROM SERVICE. ~~AN EXTENSION OF THE RESTORATION REQUIREMENT MAY BE APPROVED UNDER § 78a.65(d) (RELATING TO SITE RESTORATION).~~ THE PERMITEE OF THE CENTRALIZED TANK STORAGE SITE SHALL REPORT QUARTERLY ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE ALL WELLS SERVICED BY THE CENTRALIZED TANK STORAGE SITE DURING THE PREVIOUS QUARTER AS WELL AS THE AMOUNTS OF FLUIDS SENT TO OR FROM THOSE WELL SITES.

[no further changes recommended to this section] (211)

1238. Comment: Secondary containment volume should be sufficient to contain a release from the largest tank or the total volume of manifolded tanks that cannot be immediately isolated in the event of a release, plus sufficient volume for precipitation. A 10% factor is used for the additional secondary containment volume to account for precipitation. As mentioned before, this should be a

minimum volume. Good engineering judgment should be used to determine if additional volume to account for precipitation is warranted. (225)

1239. Comment: Tank inspections should occur every year as opposed to every five years as specified in the Proposed Rulemaking. Documentation of inspections and any repairs made should be maintained for more than one year. The length of time inspection records are maintained and made available to the Department should be sufficient to account for multiple routine inspections (e.g. four years). (225)

1240. Comment: § 78a.57a(a) and § 78a.57a(c) -As we've recommended elsewhere in this letter, the NPS would like to be notified should an operator propose to build a centralized tank storage site near NPS lands and resources. Visitors are an integral part of every NPS unit and we have a responsibility to plan for and ensure their safety, as well as that of our staff and volunteers. Specific notification will allow the NPS to work with the Commonwealth and the prospective operator to ensure safety for all.

§ 78a.57a(f)(5) - We believe 100 feet from a watercourse is an insufficient distance to adequately protect these features. NPS uses a 500 foot distance from a watercourse with exceptions in our 9B regulations. The Commonwealth may also want to stipulate distances based on stream orders in order to best protect Pennsylvania waters.

§ 78a.57a(f)(8)- "Park" is undefined in this section. Please clarify whether this term is used exclusively in the context of a school or if the meaning should be interpreted more broadly. The NPS has a number of units of various sizes, many of which host school groups for instructional purposes. We recommend a larger setback than 300 yards from a facility which requires emergency containment, a high level alarm and automatic high-level cutoff devices or manned operator shutdown, and emergency containment structures.

§ 78a.57a(n)(2) -This section requires restoration of the tank storage site "within 9 months of completion of drilling the last well serviced by the centralized tank storage site or the expiration of the last well permit that the site was intended to service." As we detail elsewhere in this letter, given the number of multi-wellhead well sites with plans to slowly develop all wellheads over time, the current lack of pipeline capacity in some locations, and the low price of natural gas, this restoration timeline could stretch out for decades and still stay within the bounds of the section requirements. Please clarify if this potential scenario is acceptable to the Department. We would recommend additional restrictions to control the likely lifetime of a centralized tank storage site. These could include a maximum number of years of operation, or additional reporting requirements at the initial application stage to identify specific well permits the site is intended to service. We are concerned about potential impacts to nearby NPS units and resources from aging tank storage sites.

§ 78a.57a(o) - The owner or operator may request approval to deviate from the requirements of this section. Will there be public or specific agency notice and a chance to comment? NPS is concerned about deviations without notification which might put NPS resources, visitors or staff in danger. (200)

1241. Comment: Section 78a.57a(n)(iv)(G)(4): should read that the "site ... existed prior to oil and gas operations to the 'maximum' extent possible." This would guarantee that the land is as close to prior activity as possible. (253)

1242. Comment: Why is there a section 78a.57"a". when there is no section 79a.57"b"? (295)

1243. Comment: Regarding Section 78.57a, the Department has indicated that it will not be part of the final regulations. If that is the case, I appreciate that fact. If that is not the case I will be saying my goodbyes to Pennsylvania on the day these regulations become final. I would, quite literally, be out of business in the state. (361)

1244. Comment: New centralized tank batteries are rarely built for conventional wells so we are not sure why there is so many proposed rules in this area when it mostly applies to unconventional well development. Even so we do not understand how the various buffer distances in the various scenarios were developed and on what basis or source they were developed from. This section lacks clarity is not clearly defined. (367)

1245. Comment: Permitted Central Tank Storage is an improvement over open impoundments. Any tanks for storage should be completely enclosed. (230)

1246. Comment: (8) CONTAINMENT STRUCTURES SHALL BE COMPATIBLE WITH THE WASTES STORED, MINIMIZE DETERIORATION TO THE TANK AND COMPLY WITH SECTION 78a.64a (RELATING TO CONTAINMENT SYSTEMS AND PRACTICES AT WELL SITES).

(9) CONTAINMENT AREAS SHALL BE DESIGNED, MAINTAINED AND CONSTRUCTED IN ACCORDANCE WITH SOUND ENGINEERING PRACTICES ADHERING TO NATIONALLY RECOGNIZED CODES OF PRACTICE, SUCH AS NFPS, NACE, ACI OR API AND IN COMPLIANCE WITH STATE AND FEDERAL REQUIREMENTS.

NEW PIG ENERGY comment:

See issue with “primary containment” and “secondary containment” definitions.

NEW PIG ENERGY’s suggested amendatory language:

(8) PRIMARY CONTAINMENT STRUCTURES SHALL BE COMPATIBLE WITH THE WASTES STORED, MINIMIZE DETERIORATION TO THE TANK AND COMPLY WITH SECTION 78a.64a (RELATING TO SECONDARY CONTAINMENT SYSTEMS AND PRACTICES AT WELL SITES).

(9) PRIMARY CONTAINMENT AREAS SHALL BE DESIGNED, MAINTAINED AND CONSTRUCTED IN ACCORDANCE WITH SOUND ENGINEERING PRACTICES ADHERING TO NATIONALLY RECOGNIZED CODES OF PRACTICE, SUCH AS NFPS, NACE, ACI OR API AND IN COMPLIANCE WITH STATE AND FEDERAL REQUIREMENTS. (115)

1247. Comment: (11) PERMEABILITY OF THE SECONDARY CONTAINMENT SHALL BE LESS THAN 1×10^{-10} CM/SEC AT ANTICIPATED HYDROSTATIC HEAD.

NEW PIG ENERGY comment:

Redundant with (13).

NEW PIG ENERGY’s suggested amendatory language:

Delete. (115)

1248. Comment: (12) TANKS SHALL HAVE EMERGENCY CONTAINMENT STRUCTURES, SUCH AS DIKE FIELDS, CURBING AND CONTAINMENT COLLECTION SYSTEMS,

WHICH CONTAIN RELEASES FROM OVERFILLS, LEAKS AND SPILLS.

(13) PERMEABILITY OF EMERGENCY CONTAINMENT STRUCTURES SHALL BE LESS THAN 1×10^{-6} CM/SEC AT ANTICIPATED HYDROSTATIC HEAD AND BE OF SUFFICIENT THICKNESS TO PREVENT THE RELEASED WASTE FROM PENETRATING THE CONTAINMENT STRUCTURE FOR A MINIMUM OF 72 HOURS AND UNTIL THE RELEASE CAN BE DETECTED AND RECOVERED.

(14) EMERGENCY CONTAINMENT AREAS, SUCH AS DIKE FIELDS, SHALL BE ABLE TO CONTAIN 110% OF THE CAPACITY OF THE LARGEST TANK IN THE CONTAINMENT AREA.

(15) STORMWATER SHALL BE REMOVED FROM THE EMERGENCY CONTAINMENT AREA AS SOON AS POSSIBLE OR WHEN THE WATER IS IN CONTACT WITH THE TANK OR PIPING AND PRIOR TO THE CAPACITY OF CONTAINMENT BEING REDUCED BY 10% OR MORE. MANUALLY OPERATED PUMPS OR SIPHONS AND MANUALLY OPERATED GRAVITY DRAINS MAY BE USED TO EMPTY THE CONTAINMENT. IF DRAIN VALVES ARE USED, THEY SHALL BE SECURED IN THE CLOSED POSITION WHEN NOT IN USE. DISCHARGE OR DISPOSAL OF WASTES FROM THE CONTAINMENT STRUCTURE SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS.

NEW PIG ENERGY comment:

See issue with “primary containment” and “secondary containment” definitions.

NEW PIG ENERGY’s suggested amendatory language:

(12) TANKS SHALL HAVE SECONDARY CONTAINMENT, SUCH AS DIKE FIELDS, CURBING AND CONTAINMENT COLLECTION SYSTEMS, WHICH CONTAIN RELEASES FROM OVERFILLS, LEAKS AND SPILLS.

(13) PERMEABILITY OF SECONDARY CONTAINMENT SHALL BE LESS THAN 1×10^{-6} CM/SEC AT ANTICIPATED HYDROSTATIC HEAD AND BE OF SUFFICIENT THICKNESS TO PREVENT THE RELEASED WASTE FROM PENETRATING THE SECONDARY CONTAINMENT FOR A MINIMUM OF 72 HOURS AND UNTIL THE RELEASE CAN BE DETECTED AND RECOVERED.

(14) SECONDARY CONTAINMENT, SUCH AS DIKE FIELDS, SHALL BE ABLE TO CONTAIN 110% OF THE CAPACITY OF THE LARGEST TANK IN THE SECONDARY CONTAINMENT.

(15) STORMWATER SHALL BE REMOVED FROM SECONDARY CONTAINMENT AS SOON AS POSSIBLE OR WHEN THE WATER IS IN CONTACT WITH THE TANK OR PIPING AND PRIOR TO THE CAPACITY OF SECONDARY CONTAINMENT BEING REDUCED BY 10% OR MORE. MANUALLY OPERATED PUMPS OR SIPHONS AND MANUALLY OPERATED GRAVITY DRAINS MAY BE USED TO EMPTY THE SECONDARY CONTAINMENT. IF DRAIN VALVES ARE USED, THEY SHALL BE SECURED IN THE CLOSED POSITION WHEN NOT IN USE. DISCHARGE OR DISPOSAL OF WASTES FROM THE SECONDARY CONTAINMENT SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL REQUIREMENTS. (115)

1249. Comment: Distance of centralized tank storage from schools

The final draft of Chapter 78/78a includes the first oil and gas regulations specifically for centralized tank sites (or tank farms), where large volumes of waste would be stored and treated for reuse prior to disposal. These regulations (sections 78.57 and 78a.57) fulfill a request made by many organizations in the previous round of comments: that if DEP planned to permit waste storage in tanks, regulations must be adopted to govern the practice.

The proposed regulations would prohibit construction of any portion of a centralized tank storage site within 300 yards of buildings owned by school districts that are “used for instructional purposes, a park, or a playground.” The rationale behind this distance is not clear; all other setbacks related to tank storage sites are shorter distances given in feet.

Given the inherent risks of leaks and spills posed by pits and impoundments, tanks may be a preferable method of waste storage. However, they contain contaminated and potentially toxic substances (e.g., flowback and fracturing fluids) and can cause pollution, especially if they are improperly constructed or not inspected frequently. DEP’s proposed regulations would allow open-air tanks, which could generate harmful emissions, and do not specify how emissions generated by regular use of or venting from tanks would be controlled.

In addition, just as with well pads and centralized impoundments, many operators across a wide geographic area could use centralized tank storage sites. This would inevitably spur increases in roads and traffic during both construction and daily operations—in turn increasing the risk of air pollution, accidents, and spills. (219)

1250. Comment: § 78a.57a - There is no current definition of a centralized tank storage facility. If the Department is referring to a centralized tank storage facility that simultaneously stores residual waste from multiple oil and gas facilities, there is currently a permitting method to conduct these operations (WMGR123 permit). This section should be removed from Chapter 78a, as a residual waste storage facility is managed by the Bureau of Solid Waste Management not the Bureau of Oil and Gas Management. (209)

§§ 78.58 and 78a.58 Onsite processing

1251. Comment: The onsite processing, burial and land application of waste from oil and gas development and operations will continue to be a source of pollution, resource degradation and long-lasting, generational contamination in areas where drilling is occurring. No drill cuttings, frack waste or materials that are generated by oil and gas well development, including oil and gas well drilling and fracking, can be justified for burial or land application on well sites. The only responsible practice is for all waste and produced materials to be disposed of in facilities designed and permitted for this purpose. (182)

Response: Onsite processing as authorized under subsection (e) is limited to processing drill cuttings only at the well site where the drill cuttings were generated. Therefore, this processing is temporary in nature and is intended to facilitate proper handling and disposal of the drill cuttings. The Department believes the existing and new regulations for on-site processing ensures the protection of the environment.

1252. Comment: Section 78.58 Does the Department take into account an applicant’s previous compliance record and compliance history? This is not clear in these proposed changes in any of these sections. (9)

Response: Compliance history of the regulated community is always taken into consideration with any approval, permit or enforcement action being considered by the Department.

1253. Comment: The proposed revisions to the chapter 78 and 78a rulings are better than the previous rules but remain insufficient as true safeguards for the local populations and environments subject to drilling.

The treatment of waste water from unconventional wells, which cannot safely be returned to the hydrosphere via any method but reverse osmosis, is especially erroneous. The evaporation techniques presently used release health endangering organic compounds into the atmosphere which spreads to affect an area of a 5 mile radius from the site. Additionally, the compounds stay suspended for an extended period of time creating a cumulatively toxic environment of increasing virulence. No organization concerned with environmental protections or constituent safety should be able to ignore these facts. The compounds ethylbenzene, toluene, and others are silent killers; frequently causing either symptoms which are misdiagnosed as asthma or COPD in only a fraction of individuals exposed but ultimately accumulating to life threatening concentrations in the asymptomatic general population. This accumulation then causes sudden inexplicable organ system failure mainly of the lungs, liver, and/or kidneys. PLEASE THINK CAREFULLY ABOUT WHAT YOU ARE DOING.

Pennsylvania is predominantly a rural state with populations making their livings in close contact with the natural environment. Once these stable micro-economies fail the power-base of the entire state will collapse along with the natural environment which supports it. Waste water even from conventional wells in the volumes now being produced endangers soil microbial integrity and the ecosystems which are supported by them. fish, game, agricultural products, and eventually people are poisoned by the release of these chemical laden waters. The oil and gas producers MUST account for every ounce of water they use and provide full public disclosure of the chemicals in the water, where and when they have been produced, transported, stored, and/or disposed of. This is the minimum acceptable oversight that protections require. Nothing less suffices. (82)

Response: The final rulemaking includes adequate waste tracking and reporting requirements and public disclosure of chemicals used in hydraulic fracturing.

1254. Comment: **78.58** - Regarding standards for frack pits and impoundments, it is a start that production pits are prohibited at shale gas well sites. This has been a major source of pollution resulting in very large fines. However, the same risks for pollution exist at conventional sites when these are used. Both conventional and unconventional well sites should be covered. Closed loop systems should be used for the storage and treatment of waste, including wastewater, drill cuttings, and production fluids. Permitted Central Tank Storage is an improvement over open impoundments. Any tanks for storage should be completely enclosed. (230)

Response: See responses to comments 903, 1027 and 1365 regarding open top storage facilities. Additionally, the Department has removed sections 78.57a and 78a.57a relating to centralized tank storage facilities from the final rulemaking.

1255. Comment: (c) ACTIVITIES DESCRIBED IN SUBSECTION (b) MUST BE CONDUCTED WITHIN A CONTAINMENT SYSTEM.

comment: See issue with “primary containment” and “secondary containment” definitions.

Commentator’s suggested amendatory language:

(c) ACTIVITIES DESCRIBED IN SUBSECTION (b) MUST BE CONDUCTED WITHIN SECONDARY CONTAINMENT. (115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

1256. Comment: §78a.58 We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1257. Comment: §78.58 and §78a.58. Onsite Processing.

We support the inclusion of centralized tank storage to the list of facilities where waste processing can occur. Given the toxic and volatile nature of many oil and gas wastes, it is critical that they be processed in closed containment systems.

We object to the addition of “mine influenced water” to the list of fluids that operators may seek approval to use (§78.58(a) and §78a.58(a)). This section states that all such fluids must be “intended to be beneficially used to develop, drill, or stimulate a well.” However, DEP has not yet issued a Beneficial Use Determination (BUD) for the use of mine---influenced water for oil and gas development purposes. DEP has long indicated its intention to allow drillers to use mine---influenced water, but the inclusion of this provision in Chapter 78 and 78a potentially constitutes a circumvention of state law.

DEP has not provided a scientific basis to demonstrate that the mine---influenced water is similar or analogous to the fluid it is intended to replace (e.g., freshwater mixed with fracturing chemicals) and that the new product will not harm the environment or human health—both of which are requirements under the state’s BUD program. In fact, the definition of “mine influenced water” in the proposed regulations emphasizes that it is a substance “that pollutes, or may create a threat of pollution to, waters of the Commonwealth.”(188)

Response: The Department has removed sections 78.57a and 78a.57a relating to centralized tank storage facilities from the final rulemaking. The Department believes that it is appropriate to allow oil and gas operators to processes mine influenced water under the authority of §§ 78.58 and 78a.58. Mine influenced water has been demonstrated as a feasible substitute for fresh water in hydraulic stimulation fluid and the requirements of §§ 78.58 and 78a.58 are sufficient to protect public health and safety and the environment.

1258. Comment: [For pits in existence on July 29, 1989, the operator may request approval for an alternate method of satisfying the requirements of § 78.57(c)(2)(iii) (relating to control, storage and disposal of production fluids), the angle of slope requirements of § 78.57(c)(2)(v) and the liner requirement of § 78.57(c)(2)(vi)—(viii) by affirmatively demonstrating to the Department’s satisfaction, by the use of monitoring wells or other methods approved by the Department, that the pit is impermeable and that the method will provide protection equivalent or superior to that provided by § 78.57. The operator shall request approval under § 78.57(c)(1).] (a) The operator may request approval by the Department to process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. The request shall be submitted on forms provided by the

Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

The Department has repeatedly maintained that the Commonwealth desires to promote the responsible recycling and reuse of oil and gas wastes to reduce the demand on fresh water resources for oil and gas well development and operations.

The commentator shares this goal and believes regulations that encourage and facilitate this practice will best protect public health, safety, and welfare and the environment, as well as facilitate responsible energy development. As such, the commentator suggests the language below to clarify that operators may conduct processing, recycling and beneficial reuse activities at well sites and related operations under the jurisdiction of the Department's Office of Oil and Gas Management: "(a) The Department supports the processing, recycling, and beneficial reuse of fluids and other materials generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells, where the processing of the fluids or other materials for recycling or beneficial reuse will not result in pollution of land or waters of the Commonwealth. (b) Approval from the Department is not required for the following activities conducted at a well site or centralized impoundment permitted under § 78a.59c(1) mixing fluids with freshwater; (2) aerating fluids; (3) filtering solids from fluids; (4) removal of free phase hydrocarbons; (5) the addition of biocides to reuse fluids;(6) the addition of scale inhibitors, polymers/friction reducers, gels, and/or corrosion inhibitors to reuse fluids; (7) blending fresh or reuse water with sand; or (8) any other activity approved by the Department and posted on its website." (199, 210)

Response: Alternative methods of processing waste on-site need to be reviewed and approved by the Department on a case-by-case basis.

1259. Comment: Adoption of no open pits or tanks for storage or treatment of wastes. All tanks must have proper lids and emission reduction technology; (299)

Response: See responses to comments 903, 1027 and 1365.

1260. Comment: The onsite processing of shale drill cuttings should be prohibited, which often contain hazardous substances and radioactive materials and require thorough analysis and special handling. (130)

Response: The Department reviews proposals for onsite processing of shale drill cuttings to ensure protection of public health and safety and the environment prior to authorizing such activities.

1261. Comment: § 78a.58 – Onsite Processing - The Department should encourage the processing, recycling and beneficial reuse of fluids and waste at well sites. The natural gas industry has been recycling and/or reusing water and minimizing fresh water use for quite some time now, and unfortunately the Draft Final Rule did not incorporate or address commenter's prior comments and the revisions will in fact force operators to rethink its recycling versus disposal options. In order to increase the amount of water being reused and recycled in the Commonwealth, the regulations need to provide an avenue for the operator to document, move, or reuse water from one site to another. Adding references in § 78a.58(f) and (h) regarding compliance with the Solid Waste Management Act and Chapter 287 do not enhance or enable environmentally beneficial solutions and more likely deter operators from recycling and reuse of water. (213)

Response: The Department does support the processing, recycling and beneficial reuse of fluids and other waste materials at well sites. However, certain activities present enough of an environmental hazard that the Department should have the opportunity to review and approve those activities prior to implementation. Therefore, the Department has retained the proposed rulemaking language in this section. The Department notes that operators may receive deemed approval for use of a prior approved fluid processing procedure under subsection (g) with only notice to the Department.

1262. Comment: In 2015, PADEP proposed changes to § 78a.58 for onsite processing to add its newly proposed centralized tank storage site to the list of facilities authorized to conduct onsite processing. PADEP also added mine influenced water to the list of wastes allowed for onsite processing and required onsite processing to be conducted inside a containment system.

The 2014 Comments recommended onsite processing be conducted inside a containment system. We appreciate PADEP's inclusion of the containment system requirement. We remain concerned the revised regulations still do not address procedures and tests used to characterize waste and mitigate air pollution. We also oppose the proposal to permit processing of mine-influenced water at Oil and Gas Operations.

We recommend the following changes to the proposed regulations at § 78a.58:

§ 78a.58. Onsite processing.

[For pits in existence on July 29, 1989, the operator may request approval for an alternate method of satisfying the requirements of § 78.57(c)(2)(iii) (relating to control, storage and disposal of production fluids), the angle of slope requirements of § 78.57(c)(2)(v) and the liner requirement of § 78.57(c)(2)(vi)—(viii) by affirmatively demonstrating to the Department's satisfaction, by the use of monitoring wells or other methods approved by the Department, that the pit is impermeable and that the method will provide protection equivalent or superior to that provided by § 78.57. The operator shall request approval under § 78.57(c)(1).]

(a) The operator may request approval by the Department to process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells ~~OR MINE-INFLUENCED WATER~~ at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(1) THE OPERATOR SHALL PROVIDE THE DEPARTMENT WITH A COPY OF THE PROCEDURES AND TESTS THAT WILL BE USED TO CHARACTERIZE WASTE, TO ENSURE IT IS PROPERLY TREATED, HANDLED, AND DISPOSED.

(2) ONSITE PROCESSING OF VOLATILE MATERIALS AND WASTES SHALL BE CONDUCTED IN CLOSED-LOOP TANK SYSTEM. ROUTINE VENTING OF VAPORS IS PROHIBITED. VAPORS SHALL BE ROUTED TO POWER GENERATION EQUIPMENT (PREFERABLY) OR, UPON DEMONSTRATION OF GOOD CAUSE, SHALL BE ROUTED TO AN INCINERATOR OR FLARE.

(b) Approval from the Department is not required for the following activities conducted at a well site [,] OR CENTRALIZED TANK STORAGE SITE PERMITTED UNDER § 78a.57a (RELATING TO CENTRALIZED TANK STORAGE) [or centralized impoundment permitted under § 78a.59c (relating to centralized impoundments)]:

(1) Mixing fluids with freshwater.

(2) Aerating OF NON-VOLATILE fluids.

(3) Filtering solids from fluids.

(c) ACTIVITIES DESCRIBED IN SUBSECTION (b) MUST BE CONDUCTED WITHIN A CONTAINMENT SYSTEM MEETING THE STANDARDS OF § 78a.56, § 78a.57, or § 78a.57a, AS APPLICABLE.

[no further changes recommended for this section] (211)

Response: The Department disagrees with the changes proposed by the commentator. The Department reviews proposals for onsite processing to ensure protection of public health and safety and the environment prior to authorizing such activities.

See response to comment 1257 regarding processing wastewater under the author of §§ 78.58 and 78a.58.

The Department has removed sections 78.57a and 78a.57a relating to centralized tank storage facilities from the final rulemaking.

Air emissions are regulated by the Department under Article III and are beyond the scope of this rulemaking.

1263. Comment: Existing Pits used for the Control, Storage and Disposal of Production Fluids. Onsite Processing (§ 78.58 and § 78a.58)

The commentator also requests an opportunity to preview and comment on any proposed plan for the electronic notification submittal process. (205)

Response: The commentator's request is beyond the scope of this rulemaking.

1264. Comment: Existing Pits used for the Control, Storage and Disposal of Production Fluids. Onsite Processing (§ 78.58 and § 78a.58) The commentator agrees with the Department's intention to be notified or acquire pre-approvals for certain non-routine activities that may occur on a well site. This may include new treatment technologies. However, there are certain routine activities that occur as part of fluid reuse and recycling. Impoundment maintenance and reclamation that is considered routine should not require additional notification or pre-approval. The commentator suggests that language requiring notification to the Department three days prior to these routine activities is removed, which includes, but may not be limited to aeration, filtration, dilution, and sludge/sediment removal. (205)

Response: The Department has revised the final rulemaking to remove the notification requirements for aeration, filtering solids from liquids and mixing with fresh water.

1265. Comment: §78a.58. Onsite processing - Subsection (d) would require operators to notify DEP prior to conducting activities that would be exempt from obtaining DEP approval. These activities typically take place during multiple phases (drilling, completions, flowback) of well development and would be a burden on the operators and DEP to notify each time one of these activities are commenced. DEP should consider removing this notification requirement or allow operators to submit one notification to cover all phases of well development. (193)

Response: The Department has revised the final rulemaking to remove the notification requirements for aeration, filtering solids from liquids and mixing with fresh water.

1266. Comment: § 78.58. [Existing pits used for the control, storage and disposal of production fluids.] Onsite Processing.

The commentator objects to the requirements that are not justified by a compelling environmental need and impose unnecessary additional costs on oil and gas operations.

[(d)] (f) Processing residual waste generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells other than as provided for in subsections (a) and (b) shall comply with the Solid Waste Management Act (35 P.S. §§ 6018.10106018.1003).

Comment: Subsection (f) above improperly alters a legislatively created exemption from Solid Waste Management requirements for activities conducted on bonded and permitted well sites. The subsection must be stricken. (212)

Response: The Department disagrees that the waste management activities mentioned in section (f) are exempt from the Solid Waste Management Act requirements since these activities do not take place on well site. The activities described in subsections (a) and (b) are exempt, however, since they occur on a well site, in accordance with Section 3273.1 of the Oil and Gas Act.

1267. Comment: 78a58(a). DEP should not allow onsite processing and reuse of fluids that result from onsite processing without water quality standards set that all reused fluids must meet before being used again. Standards should be promulgated through rulemaking by DEP and uniformly applied. Safe Drinking Water Act water quality standards must be applied to ensure the fluids being reused do not exceed safe limits because these fluids are being injected through the aquifer and can leak into the groundwater from pits or tanks or as a result of casing or cement leakage or construction flaws, can spill on the surface and seep into the ground or migrate through underground fissures and fractures and through natural migration of groundwater to surface water, or the surface of the land. This exposes aquifers, which supply drinking water to residents, surface water supplies, and the environment and its living resources to an unacceptable risk of contamination.

“Mine influenced” water, which contains contaminants, should not be allowed to be mixed with freshwater for use without prior treatment to water quality standards. DEP should require “mine influenced” water to be treated as wastewater. DEP should remove the allowance to use “mine influenced” water to develop, drill or stimulate a well. In no instance should DEP allow “mine influenced” water to be used from unconventional wells in conventional wells; this would move specific contaminants from unconventional wells to conventional wells, expanding the potential for pollution of water and air resources.

Fluids that result from drilling and hydraulic fracturing that are typically reused contain many contaminants. Contaminants "...can include, but are not limited to: salts (chlorides, bromides, and sulfides of calcium, magnesium, and sodium); metals (including barium, manganese, iron, and strontium); oil, grease, and dissolved organics (including benzene and toluene); naturally occurring radioactive materials; and production chemicals from hydraulic fracturing... Exposure to these contaminants at high levels may pose risks to human health and the environment" The lack of water quality standards for produced water or flowback that is reused poses a substantial water quality problem. Operators reported to the GAO that they "treat the water to meet their own operating requirements" and that "...they had previously treated the water to a very high quality before reusing it for hydraulic fracturing, they are currently experimenting with lower levels of treatment." For example, one operator reported that they used to remove the salt but no longer go to that expense to reduce operating costs and is considering eliminating other treatment if the reused wastewater can still meet their individual operating needs.

One problem caused by reuse is the resulting concentration of certain contaminants. Reuse of this produced water will generally increase the contaminant load in the produced water in the subsequent well, both from additives and formation contaminants because there will be no dilution of the contaminants. If a leak occurs in the top few hundred feet in the gas well being fractured, the leak will contain very contaminated water under high pressure, and even a small leak can release large amounts of contaminants that can pollute aquifers and usable domestic water. Fluids containing chemicals commingle with formation fluids and the toxic contaminants they naturally contain during the construction, drilling, stimulation (such as fracking), and extraction and production of gas from the gas well. Drill cuttings and muds that are produced by drilling and fracking also mix with these fluids during well development and may be stored together in pits or tanks. The chemical additives used in fracking are examined in New York State's Draft Supplemental Generic Environmental Impact Statement (DSGEIS). Table 5-3 lists many of the fracking chemicals, which include biocides, friction reducers, scale inhibitors, proppants, stabilizers, gelling agents, surfactants, corrosion inhibitors, cross linkers, iron control, and acids.

Chemical suppliers operating in Pennsylvania's Marcellus Shale, West Virginia, and other states provided additive product compositional information to New York which includes approximately 260 unique chemicals whose CAS numbers have been disclosed to the New York Department of Environmental Conservation (DEC) and an additional 40 compounds which require further disclosure since many are mixtures. Table 5.4 of the DSGEIS lists products which only partial chemical composition information has been provided to the DEC. Table 5.6 is a list of chemical constituents and their CAS numbers that have been extracted from complete chemical compositional information and MSDS information submitted to New York and includes nearly 200 products used or proposed for use in hydraulic fracturing operations. Compound specific toxicity data are limited for many of the chemical additives so chemicals are grouped together based on their chemical structure in Table 5-7.

According to the GAO, produced water is "generally of poor quality, with levels of contaminants varying widely". Fracking can yield poorer quality produced water than other extraction processes. A previous study from the U.S. Department of Energy concludes that produced water from gas drilling is 10 times more toxic than those from off shore oil drilling.

The Marcellus Shale contains radionuclides including uranium-238, thorium-232, and their decay products. Radioactive concentrations in the Marcellus Shale formation are at concentrations 20 to 25 times background, making shale gas wastewater extremely radioactive. The produced water from Marcellus Shale has higher levels of radionuclides than water from Barnett Shale wells,

according to the GAO. Sampling and data-gathering by New York State detected radiological parameters in Marcellus Shale flowback, including Radium-226, the longest lived isotope of radium with a half-life of 1600 years. Gross Alpha, Gross Beta, Total Alpha Radium and Radium-228 were also found. This is a significant wastewater management issue because radioactivity poses human health risks.

The radioactive component is also particularly challenging, since any “treatment” of the waste water to remove the radioactive components (e.g. radium) will result in a more concentrated (but lower volume) waste with proportionally higher radioactivity. The radioactive elements do not “go away”, but are simply concentrated in some other form if removed from the produced water.

The Maryland Department of Public Health concluded that there is a “high likelihood” that unconventional natural gas development will cause air pollution at levels that will impact public health. The Maryland Department of the Environment and the Maryland Department of Health and Mental Hygiene concluded from scientific literature that the closer a gas well is to drinking water wells, the more likely it is to be impaired. An EPA report concludes that fluids produced by hydraulic fracturing contain the original fracturing fluids and natural pollutants from the target oil and gas formation such as radionuclides and heavy metals. Another study found that chemicals from hydraulic fracturing fluids and methane can spread into the aquifer from various natural and drilling and fracturing-related forces. DEP should delete this allowance. (182)

Response: The Department reviews proposals for onsite processing of shale drill cuttings to ensure protection of public health and safety and the environment prior to authorizing such activities. The commenter is incorrectly assuming that water used for hydraulic fracturing must meet safe drinking water act standards in order to be used. The Department encourages the recycling and beneficial reuse of fluids and other waste materials generated by oil and gas development.

Air emissions are regulated by the Department under Article III and are beyond the scope of this rulemaking.

See response to comment 1257 regarding processing wastewater under the author of §§78.58 and §78a.58.

The Department’s 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. The Department has added 78.58(d) to this rulemaking which requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

1268. Comment: Section 78a.58(a) - On-Site Processing

The use of the word “may” is unclear in the introductory phrasing “The operator may request approval ...” Are operators now required to request this approval for certain types of processing, or is it only an option? (222)

Response: Operators must request approval for any waste processing methods they propose to utilize that are not listed in §§ 78a.58(a) and (b), however operators are not required to conduct on-site processing.

1269. Comment: § 78a.58 (a) The proposed provision is unclear with respect to whether a separate approval is required for the use of fluid at each well on a multi-well well site. In addition, this provision should include any operator obligations associated with requesting the approval, and time frame for PADEP's review and approval. (210)

Response: The provision clearly applies on a well site basis. Operator obligations associated with requesting the approval and the timeframe for the Department's approval will be provided in forms or guidance, as appropriate.

1270. Comment: 78a.58(b) These operations should not be permitted as they can trigger changes in listing and hence treatment under hazardous waste regulations – be they solids, liquids, gases, or sludges.

- (1) Mixing fluids with freshwater (diluting the solution)
- (2) Aerating fluids (releasing VOCs)
- (3) Filtering solids from fluids (creating potential hazardous waste) (161)

Response: The Department disagrees that mixing fluids with freshwater, aerating fluids and filtering solids from fluids should not be allowed. These are routine operations that occur at well sites and are appropriate when performed in accordance with Section 78a.58.

1271. Comment: 78a.58(b)(1). DEP should not allow the mixing of fluids on well sites. We oppose the mixing of fluids with what DEP calls “freshwater” – the definition of freshwater is not explicitly provided and should be defined as uncontaminated water. See comments above at 78a.58(a). DEP should delete this allowance.

78a.58(b)(2). DEP should require that all aerated fluids be monitored for air pollutants and filtered to remove pollution to meet clean air standards. Area air monitoring should be required. 78a.58(b.3). DEP should not allow the filtering of solids on well sites due to the hazardous materials that can be contained in the solids. If DEP allows filtering on site, DEP needs to provide greater safeguards for the filtering of solids. The filtering of solids from fluids can emit pollutants into the air and, unless properly contained, can also be a source of pollution to air, soil and water. This activity needs the strictest of required safeguards to eliminate pollution pathways. DEP fails to provide those safeguards in this section.

Radioactive materials, NORM and TENORM, are contained in Marcellus shale. Uranium-238 and its radioactive decay products are at much higher levels than the normal background. The liquids and solids produced represent a health and safety hazard when being processed to the workers and areas surrounding the well site. Of particular concern is radium 226, the longest lived isotope of radium with a half-life of 1600 years. Radium-226 is taken up like calcium into bone where it concentrates. Radium-226 can cause lymphoma, bone cancer, and diseases that affect the formation of blood, such as leukemia and plastic anemia. The radioactive decay product of radium is radon, which is very dangerous and is the second leading cause of lung cancer in the United States. EPA has set federal air limits, cleanup standards, and a maximum contaminant level for radium 226 and 228 under the Safe Drinking Water Act due to human health hazards.

See comments above at 78a58(a). (182)

Response: The Department disagrees that mixing fluids with freshwater, aerating fluids and filtering solids from fluids should not be allowed. These are routine operations that occur at well sites and are appropriate when performed in accordance with Section 78a.58. The Department has revised the definition to be “well development impoundments” instead of “freshwater impoundments”. While the term “freshwater” is not defined, the term “well development impoundment” is defined by the materials that may be stored within the impoundment which includes surface water, fresh groundwater and other Department approved sources which the Department must review and approve based on a variety of factors including the quality of the water and the risks of storage of the water.

The Department’s 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. The Department has added 78.58(d) to this rulemaking which requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

1272. Comment: § 78a.58 (c) This proposed subsection is overly broad, as it conflicts with 58 Pa. C.S. § 3218.2, which provides a specified list of materials that require storage and containment systems. (210)

Response: The Department acknowledges that §3218.2(c) does list 6 materials that require use of containment systems when stored on an unconventional well site but disagrees with the comment. Section 402(a) of the Clean Streams Law (35 P.S. §691.402(a)) states that whenever the Department finds that any activity creates a danger of pollution of the waters of the Commonwealth or that regulation of the activity is necessary to avoid such pollution, the Department may, by rule or regulation, establish the conditions under which such activity shall be conducted.

1273. Comment: § 78a.58 (d) - Onsite processing activities are currently conducted under a Request for Approval of Alternative Waste Management Practices (OG0071) at which time it is required to notify the Department of the time frames at which such activities are to be conducted. Therefore, an additional 3-day notification in advance is administratively burdensome and unnecessary. There is no environmental benefit to this notification. (187, 209)

Response: The Department has revised the final rulemaking to remove the notification requirements for aeration, filtering solids from liquids and mixing with fresh water.

1274. Comment: 78.58 [(d)] (f) Processing residual waste generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells other than as provided for in subsections (a) and (b) shall comply with the Solid Waste Management Act (35 P.S. §§ 6018.101-6018.1003).

This revision would remove a legislatively created exemption from the SWMA and exceeds the Department and EQB’s authority. (213)

Response: See the response to comment 1268.

1275. Comment: Section 78a.58(d) - On-Site Processing

Use of the word “installation” and the last sentence of this subsection seems misplaced as there is no reference to installation previously in this rule. Was this an error? (222)

Response: See response to comment 1273.

1276. Comment: Section 78a.58(d) - On-Site Processing

This subsection would require three days' notice before mixing fluids with freshwater. Would the Department view the comingling of produced water and freshwater to qualify as “processing” described in (b)(1)? For example, as part of routine site maintenance, produced water trucks may vacuum rainwater from secondary containment or from well cellars, etc. Please confirm via revision to the rule that these types of practices do not require three days' advance notice because these notices would hinder ordinary, necessary and prudent site maintenance activities. To address this issue, we recommend revising the regulation to apply only to the activities described in 78a.58(b)(2) and (b)(3) so this section would read: “Operators conducting activities described in subsections (b)(2)-(3).

Alternatively, rather than requiring operators to provide constant and rolling advance notices, we encourage the Department to accept one single advance notice of any activities described in (b)(1), (b)(2) or (b)(3). (222)

Response: See response to comment 1273.

1277. Comment: § 78a.58 (d) The commentator recommends that all centralized tank storage site requirements be located within § 78a.57a, unless otherwise cross-referenced in that section.

This provision is broadly written and could be construed to require multiple, if not daily, notification to PADEP. The activities listed in subsection (b) may be ongoing, intermittent, or could occur infrequently over an extended period of time at an active well site. The requirement to notify PADEP each time the activity begins places an undue burden on the operator and provides little benefit to PADEP. Additionally, PADEP offers no alternative to electronic notice in this new provision, which could be problematic if PADEP’s website is not functioning correctly. (210)

Response: Section 78.57a, Centralized Tank Storage, has been removed from the rulemaking. The Department has revised the final rulemaking to remove the notification requirements for aeration, filtering solids from liquids and mixing with fresh water.

1278. Comment: § 78a.58 (d) OPERATORS CONDUCTING ACTIVITIES DESCRIBED IN SUBSECTIONS (b)(1- 3) AT A WELL SITE, OR CENTRALIZED TANK STORAGE SITE PERMITTED UNDER § 78a.57a (RELATING CENTRALIZED TANK STORAGE), MUST NOTIFY THE DEPARTMENT THAT THE ACTIVITY WILL BE CONDUCTED AT A PARTICULAR LOCATION AT LEAST THREE BUSINESS DAYS PRIOR TO CONDUCTING THE ACTIVITY. THE NOTICE SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE. IF THE DATE OF INSTALLATION IS EXTENDED, THE OPERATOR SHALL RENOTIFY THE DEPARTMENT WITH THE DATE THAT THE INSTALLATION WILL BEGIN, WHICH DOES NOT NEED TO BE 3 BUSINESS DAYS IN ADVANCE

The commentator has concerns about the requirement that notifications must occur 3 business days prior to conducting permitted activities under Section 78a.58(b)(1-3). At the point this notification is required, these activities will have already been approved by the Department, thus additional notification serves no environmental benefit and unfairly places additional costs and burden on an operator. Additionally, during an active operation, an operator may not have 3 days' warning that certain activities, such as adding additional freshwater, will need to be conducted, while other activities, such as aeration, may be ongoing. This provision has the potential to decrease efficiency, add unnecessary delay, and increase costs, while adding no public or environmental benefit. As such, the commentator suggests that this provision be stricken from the rule. (199)

Response: See response to comment 1273.

1279. Comment: § 78a.58 (e) - Depending upon contractor availability an operator may not know the exact cuttings process in advance to the commencement of such activity as these processes can be contractor specific. At what point of the well permitting process can this form be submitted? What would be the approval timeframe for this request? (187)

Response: The form may be submitted at any time during the well permitting process.

1280. Comment: 78a58(e). DEP should not allow drill cuttings to be processed on site; this practice should be performed at an industrial site that is equipped to process and capture pollutants that will be handled and potentially emitted. DEP sets no standards for "processing" which leads to inconsistency in practices used by operators across the state, unfairly burdening areas where less protective measures are taken to control pollution. Drill cuttings can contain and emit pollutants that are health hazards and environmental hazards. All drill cuttings should be removed to facilities designed for this purpose.

Drill cuttings can contain metals, including aluminum, barium, boron, calcium, iron, magnesium, manganese, sodium, arsenic, chromium, potassium, strontium, titanium, and zinc. Barium has been found in Marcellus shale drill cuttings as high as hundreds of parts per million. Analyses of Marcellus shale gas well drill cuttings from Dimock, PA contained Al at 8,930 mg/kg; As at 26.3 mg/kg; Ba 12,4000 mg/kg; Mg 8,150 mg/kg; Mn 630 mg/kg; Fe 24,2000 mg/kg. Total dissolved solids, specific conductance, chloride, pH, oil and grease, and TOC are also found in drill cuttings. The levels of these contaminants can pose substantial health and environmental hazards and should not be processed on a well site. See comments above at 78a58(a).

Drill cuttings can also contain high levels of radioactivity at concentrations far above background and above safe standards. See comments above at 78a58(a). Marcellus shale drill cuttings have been found to raise the levels of radioactivity in leachate at West Virginia landfills, averaging 250 picocuries per liter in 2014 at one landfill and spiked as high as 2,000 picocuries per liter. Based on the EPA cleanup standards of 5 pCi/g on the top 15 cm of land and 15 pCi/g below 15 cm for radium 226 and 228, cuttings from the Marcellus shale can contain concentrations that are far in excess of acceptable limits and should not be processed on well sites. New York Department of Environmental Conservation environmental agency found radium-226 at concentrations as high as 206 pCi/g from drill cuttings going to a landfill in New York.

DEP should delete this allowance and should only allow drill cuttings to be processed at an Industrial facility designed to process contaminated cuttings. (182)

Response: Processing drill cuttings on site is appropriate when performed in accordance with Section 78a.58.

The Department’s 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. The Department has added 78.58(d) to this rulemaking which requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

1281. Comment: § 78a.58 (e)

Comment: Depending upon contractor availability, an operator may not know the exact cuttings process in advance of the commencement of such activity as these processes can be contractor specific. At what point during the well permitting process will this form be required to be submitted? What would be the approval timeframe for this request?

The processing of drill cuttings is not defined. The use of a centrifuge and solidification in preparation for reuse and/or disposal should not be considered “processing”. (209)

Response: The form may be submitted at any time during the well permitting process.

The term “process or processing” is defined in the rulemaking. The Department disagrees that centrifuging or solidification of drill cuttings is not processing.

1282. Comment: [(c)] (e) The operator may request to process drill cuttings only at the well site where those drill[ing] cuttings were generated by submitting a request to the Department for approval. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

The phrase “to process drill cuttings” is unclear. Solidification material such as sawdust or wood pellets should be permitted to be used without Department approval. (213)

Response: The term “process or processing” is defined in the rulemaking. The Department disagrees that solidification of drill cuttings is not processing.

1283. Comment: 78a.58(f). The entirety of the Solid Waste Management Act must be adhered to by all operators, not only Section 6018.1003. (182)

Response: Subsection (f) does require residual waste processing activities other than those provided for in subsections 78a.58 (a) and (b) to comply with the entire Solid Waste Management Act, as referenced by the citation to the act, § § 6018.101-6018.1003.

1284. Comment: § 78a.58 (f) The Legislature addressed the handling of residual waste at the well site in the Oil and Gas Act of 1984 (the previous 58 P.S. § 601.603a) and the Legislature preserved that provision in the current Oil and Gas Act of 2012. 58 P.S. § 3273.1 of the Oil and Gas Act of 2012 provides that the obligation to obtain a permit and post a bond under the Solid Waste

Management Act for “any pit, impoundment, method or facility employed for the disposal, processing or storage of residual wastes generated [by drilling or production] which is located on the well site” is satisfied if the well is permitted, bonded, and otherwise operated in compliance with the Oil and Gas Act of 2012. Additionally, 25 Pa. Code § 287.2(g) provides a general exemption from Solid Waste Management Act regulation for facilities storing or processing residual waste generated by oil or gas activity, when the residual waste is located on the well site. In light of these long recognized exemptions, this subsection (f) should be deleted.

On a related note and for similar reasons pertaining to the aforementioned exemption, the processing of drill cuttings at a well site under Subsection 78a.58(e) is an activity that does not require compliance with the requirements of the Solid Waste Management Act.

The commentator’s suggested amendatory language:

Delete subsection (f). (210)

Response: See the response to comment 1268.

1285. Comment: 78a58(g). DEP should not allow the manner used to process fluids on one site to be used on subsequent sites and should require each site to test the fluids before applying water quality standards and processing methods appropriate to the constituents to be processed. Subsequent wells can vary greatly in quality and properties of the fluids generated, so methods of processing can vary depending on the constituents of the materials. A recent study by USGS found that the quality of fluids that result from drilling and extraction is not predictable because VOCs are not distributed evenly. The GAO found that “Generally, the quality of produced water from oil and gas production is poor, and it cannot be readily used for another purpose without prior treatment. The specific quality of water produced by a given well, however, can vary widely according to the same three factors that impact volume—hydrocarbon, geography, and production method.” These findings support individual well testing to ascertain the safest management and processing practices. (182)

Response: The Department does not apply water quality standards to fluids processed under Section 78a.58. The industry continues to use significant quantities of produced water to hydraulically fracture wells and considers that the processed water meets their standards for reuse. Deemed approval of a particular on-site process is protective of public health and safety and the environment.

1286. Comment: 78a58(h). DEP’s requirement that sludges, filter cake, or other solid waste be characterized under Section 287.54 supplies needed protocols. However, DEP should place more rigorous controls on the testing and tracking of this waste. USGS found that VOCs are not predictably consistent from different wells and the GAO found that the quality of water produced by a well can vary widely by hydrocarbon, geography, and production method. These findings forecast the difficulty in predicting the content of the waste materials, including the sludges and solids that remain after processing on the well site.

The residual waste chemical analysis only requires annual reporting and that can be waived if the operator certifies that the waste has not changed. Without testing and tracking each shipment of materials that leave the well site in order to determine the proper disposal system required to treat the constituents, it is not reasonable or possible to assure adequate treatment and disposal of these materials. DEP should develop a more robust chemical analysis process that addresses the known variability of the solids that leave the well site. (182)

Response: The Department has revised subsection 78a.121 to require monthly reporting of wastes generated on an individual well basis.

1287. Comment: 78a.58(h) Sludge, filter cake or other solid waste should be tested for radioactivity before the solid waste leaves the site. (161)

Response: Residual waste characterization requirements are established under Chapter 287.

1288. Comment: [(f)] (h) Sludges, filter cake or other solid waste remaining after the processing or handling of fluids under subsection (a) or (b), including solid waste mixed with drill cuttings, shall be characterized under § 287.54 (relating to chemical analysis of waste) before the solid waste leaves the well site.

Often times sludge, filter cake or other solid waste remaining after the processing or handling of fluids at a well site may be taken to a treatment or recycling facility that must complete its own characterization. It is impracticable to require operators to retain this material onsite to conduct a full chemical analysis, which may take up to 27 days. Completing a full chemical analysis should only be required when the solid waste leaves the well site for disposal, rather than for further treatment. (213)

Response: Residual waste characterization requirements are established under Chapter 287. Waste characterization is necessary to ensure any waste leaving the site does not pose a health and safety or environmental concern during transport or at the receiving facility. Modifications to residual waste characterization requirements is beyond the scope of this rulemaking.

1289. Comment: § 78a.58 (h) As stated, it is unclear whether the chemical analysis must be completed before the materials in subsection (f) can be moved off-site. It is unreasonable to require material-by-material characterization which could result in long-term storage of materials at a well site. Sludges, filter cake or other materials need to be characterized only one time, as long as the processes generating them remain the same, i.e., using generator knowledge. The analysis should be allowed to be used for materials generated at a well site using the same process.

The commentator's suggested amendatory language:

(h) Sludges, filter cake or other materials remaining after the processing or handling of fluids pursuant to this Section, including materials mixed with drill cuttings, shall be characterized pursuant to 25 Pa. Code § 287.54. (210)

Response: The subsection requires a waste characterization to be conducted in accordance with Chapter 287.54. The Department believes that this is an appropriate cross-reference, as the subsection only concerns those wastes that will be leaving the well site where they were generated. Once the waste leaves the well site, the exemptions under section 3273.1 no longer apply and the residual waste regulations apply to the management of the waste. The scope of this rulemaking does not include the residual waste regulations.

§§ 78.59a and 78a.59a Impoundment embankments

1290. Comment: 78a59a - DEP should require that freshwater impoundment embankments for oil and gas activities meet the applicable requirements of 25 Pa. Code Chapter 105, Subchapter B. Dams and Reservoirs. This includes the sections on classification and design criteria for approval of construction, operation, modification, and maintenance; the construction requirements; the requirements related to the commencement of the storage of fluids; the requirements related to the restoration of aquatic life; the requirements related to operation, maintenance, and emergencies. The Chapter 105 requirements are far more complete and ensure the safety, sizing, operation, and construction standards that should apply to these impoundments and to the restoration of living resources. (182)

Response: The final regulations impact only dams that are not regulated under Chapter 105. Therefore there are no applicable requirements in Chapter 105 that are not addressed by the regulation.

1291. Comment: §78a.59a., We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1292. Comment: § 78a.59 (a) (1) - The following language should be added: “unless competent bedrock occurs at depths less than 2-feet.” (187, 209)

Response: The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided. Additionally, under no circumstances should this provision be interpreted to allow unsuitable subgrade material to remain. If stripping and grubbing to a minimum depth of 2 feet below existing contour does not reveal suitable subgrade material, excavation should continue until all unsuitable subgrade material is removed prior to any placement or compaction of fill.

1293. Comment: § 78a.59 (a) (2) - The following language should be added: “or materials used to drain springs that are certified or approved by registered P.E. or P.G.” (187, 209)

Response: The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided. Type A sand provides a filter for all types of soils in PA. So not only does it drain occasional seeps, it also filters out any soil particles that would flow with the spring.

1294. Comment: § 78a.59 (a) (4) - The following language should be added: “unless otherwise certified or approved by registered P.E. or P.G.” (187, 209)

Response: The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided. The soil types prescribed by the regulation have not been proven to be stable when placed steeper than a 3:1 slope.

1295. Comment: § 78a.59 (a) (5) - A minimum sample rate of 1 to 1,000 cubic yards of fill is overly restrictive based on the materials utilized. A minimum sample rate of 1 to 3,000 cubic yards is more reasonable. (187, 209)

Response: The rulemaking requires a laboratory analysis at a rate of 1 test per 10,000 cubic yards of placed fill with at least one test per source. A visual identification and description must be conducted at a rate of at least one sample per 1,000 cubic yards of placed fill to ensure consistency of the material used.

1296. Comment: We support the Department’s revisions to subsections (a)(5) and (a)(8)(iv) to incorporate standard methods for soil testing. We believe, however, that the operator should be required to report results to the Department, rather than making them available to the Department upon request. The Department’s failure here and elsewhere to require the submission of information that must be generated by the operator prevents the public from obtaining access to the information. (231, 231a)

Response: It is the responsibility of the operator constructing embankments for well development impoundments to ensure that all work and materials conform to the requirements included in this section. The requirement of soil samples is to ensure that the operator is aware that material being used to construct the embankments is appropriate and meets minimum specifications included in this section.

1297. Comment: § 78a.59 (a) (8) (i) - The following language should be added: “or other equivalent method.” (187, 209)

Response: The Department disagrees that additional language should be provided. The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

1298. Comment: § 78a.59 (a) (8) (iii) and (iv) - If you satisfy the requirements of (iv) then the requirements in (iii) should not be required. (187, 209)

Response: The Department disagrees that compaction to 95 percent of the standard proctor is sufficient to ensure the embankments are properly constructed.

1299. Comment: § 78.59a (impoundment embankments) and § 78.59b (freshwater impoundments)

In the 2015 Proposal, the DEP significantly expands the requirements for freshwater impoundments beyond the requirements introduced in the 2013 Proposal. In response to the 2013 requirements, we commented that the proposed regulations were out of touch with the nature of freshwater usage in the conventional context. Indeed, a new conventional well uses only a few hundred barrels of freshwater. That freshwater is drawn from either streams or impoundments. The “impoundments” are nothing more than small ponds, indistinguishable from what one knows as a small “farm pond.” A single pond might serve a hundred or more new wells over the span of many years, and the frequency and impact of the ponds is so small that the types of items regulated in the 2013 Proposal were strangely ill-fitting. The 2015 Proposal compounds that problem in that the regulatory requirements are heightened. As with the 2013 Proposal, there is no statement of need for the new regulations, the requirements are out of touch with the actual nature of the ponds (like any pond, the impoundments are aesthetically pleasing and serve the needs of wildlife), and the regulatory cost is not analyzed by the DEP. We specifically incorporate its previous comments inasmuch as they are even more applicable to the heightened requirements contained in the 2015 Proposal.

In addition, we object to the Department's attempt to expand the scope of Chapter 78 beyond wells and well sites. Oil and gas operators are subject to numerous environmental statutes, including the Pennsylvania Clean Streams Law, the Dam Safety Act, the Air Pollution and Control Act, the Solid Waste Management Act, as well as applicable federal laws and regulations. Chapter 32 of Act 13 applies to wells and well sites. Chapter 78 should be accordingly limited in scope to avoid the application of unnecessary and duplicative requirements on this particular industry when other industries are not similarly regulated. Accordingly, freshwater impoundments used for oil and gas operations are sufficiently regulated under existing law and should not be subject to additional regulation through the oil and gas program. Absent compelling justification, which the Department has not provided, these sections must be deleted from the final rule. (212)

Response: The scope and type of use of well development impoundments by the oil and gas industry is significantly different than the scope and type of use by other industries in such a manner that the Department has determined that the regulations are appropriate.

1300. Comment: §78a59a, like §78a.59b, includes provisions that apply to freshwater impoundments - e.g., embankments. Rather than have two (2) sections that speak to the same or similar facilities, it is recommended that these sections be combined to facilitate a more seamless regulation. (193)

Response: The sections address different issues.

1301. Comment: §78a59a The Department is proposing new regulations for activities that have been implemented through forms, approvals, and policies for several years. As a regulation, flexibility must be added to address changes that may become necessary to address unforeseen issues that may arise in the future or to address other practical issues that may be very onerous if implemented as absolute regulatory requirements. The commenter commends the Department for the proposed new subsection (b), which would allow operators to deviate from the requirements of this section upon the demonstration that an alternative practice provides equivalent or superior protection. (210)

Response: The Department acknowledges the comment. The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

1302. Comment: §78a59a (a) Under these proposed oil and gas regulations, the Department will be regulating freshwater impoundments which are not regulated under Chapter 105 or any other portion of Title 25 of the Pennsylvania Code. Regulating only oil & gas freshwater impoundments and no other person, group, or industry's freshwater impoundments is arbitrary and capricious. Consequently, freshwater impoundments must either be removed from the proposed oil and gas regulations, or Title 25 needs to be revised to regulate all persons, groups, or industries equally. Lastly freshwater impoundments are defined in this Chapter and do not need to be qualified in this section as being used "for oil and gas operations."

The commentator's suggested amendatory language:

Unless otherwise approved by the Department pursuant to subsection (b), embankments constructed for freshwater impoundments must meet the following requirements: (210)

Response: The purpose of Chapter 78 is to eliminate or minimize pollution resulting from oil and gas related activities. Chapter 78 does not regulate other activities that may build well development impoundments. Well development impoundments present the risk of potential pollution to waters of the Commonwealth resulting from Oil and Gas activities therefore they need to remain in the final rulemaking.

1303. Comment: §78a59a (a) (1) This section, as many others, is overly detailed and prescriptive. If not altered to allow performance based standards, flexibility must be provided in the rule. In many cases this requirement would cause an overly conservative excavation through suitable subgrade material. In some cases this requirement may allow unsuitable subgrade material to remain.

The commentator's suggested amendatory language:

(1) The foundation for each embankment must be stripped and grubbed to a minimum depth of 2 feet below existing contour prior to any placement and compaction of fill, or as otherwise approved by the Department. (210)

Response: The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided. Additionally, under no circumstances should this provision be interpreted to allow unsuitable subgrade material to remain. If stripping and grubbing to a minimum depth of 2 feet below existing contour does not reveal suitable subgrade material, excavation should continue until all unsuitable subgrade material is removed prior to any placement or compaction of fill.

1304. Comment: §78a59a (a) (5) The testing frequency specified is excessive and in most cases would generate redundant results. At the proposed frequency, preconstruction sampling would not be economically feasible. Consequently, sampling and testing at 1 per 10,000 cubic yards would need to be performed during the course of the earthwork and could cause expensive construction delays while waiting for test results. For a typical impoundment, approximately 70,000 cubic yards of earthwork would be required. Pursuant to the proposed subsection, 7 samples would be required for testing. It is suggested that the specification be changed to state "Soil samples shall be classified at a frequency of 1 sample per soil type."

The commentator's suggested amendatory language:

(5) Soils to be used for embankment construction shall be classified in accordance with ASTM D-2487 (Unified Soils Classification). Soil samples shall be classified at a frequency of 1 sample per soil type. Results of testing of materials shall be provided to the Department upon request. (210)

Response: The specified sampling and testing rate of 1 per 10,000 cubic yards of placed fill is appropriate to ensure that the fill used is appropriate. Proper planning will allow construction without delays due to soil sampling.

1305. Comment: §78a59a (a) (6) Acceptable slope stability factors of safety can be achieved using soils with less than 20% of the particles retained on the No. 200 sieve, and an acceptable factor of safety can be achieved with soils that do not meet the textural classifications specified. Therefore, it is recommended that the subsection be modified to allow site-specific soils to be evaluated within the proposed design by an appropriately qualified professional utilizing laboratory analysis

(if needed) and supporting calculations.

The commentator's suggested amendatory language:

(6) The embankment shall be constructed out of soils designated as GC, GM, SC, SM, CL or ML, only. Soils with split designations where one of the designations is not GC, GM, SC, SM, CL or ML shall not be used. The soils' gradation shall have a minimum of 20 percent retained on the No. 200 sieve, unless site-specific soils with less than 20 percent retained on the No. 200 sieve are part of an alternate design provided by an appropriately trained professional. Results of testing of materials shall be provided to the Department upon request. (210)

Response: The regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

1306. Comment: §78a59a (a) (8) (iv) The commentator suggests the following clarifications to the Department's newly proposed compaction requirements.

The commentator suggested amendatory language:

(IV) Soil shall be compacted to a minimum of 95% of the maximum dry density as determined by the ASTM D698 standard proctor test. Compaction shall be verified by field density testing in accordance with ASTM d1556 (standard test method for density and unit weight of soil in place by the sand cone method) or ASTM D6938 (Standard test method for in-place density and water content of soil and soil-aggregate by nuclear methods (shallow depth)) with a minimum of one test per 2,000 square yards of lift surface and at least one test per lift. (210)

Response: The Department acknowledges that the intent of the regulatory language is to ensure that soil is compacted to 95 percent of the maximum dry density as determined using the standard proctor test and believes that the language used is commonly understood to meet this intent.

1307. Comment: §78a59a (a) (9) (ii) In most cases the rock layer placed on the out-slope of the embankment will consist of a well-graded soil consisting of oversized rock with fines from the site excavation, which will not be susceptible to stormwater infiltration and erosion of the embankment-to-rock-fill interface. Due to the time consuming effort necessary to install a geotextile separation layer and the added cost, the commenter recommends that the subsection be changed to the following: "..., and underlain by a Class 2, Type A geotextile when a course aggregate with very few fines is used as fill."

The commentator's suggested amendatory language:

(ii) Compacted rock fill or riprap placed on the downstream face of the embankment as a cover having a minimum depth of two feet. The rock fill shall be durable, evenly distributed, and underlain by a Class 2, Type A geotextile when a course aggregate with very few fines is used as fill. (210)

Response: The geotextile underlayment provides protection for the embankment materials.

1308. Comment: In 2013, the EQB proposed new design and construction standards for freshwater and centralized impoundments. In 2015, PADEP modified the proposed regulation to exclude new

centralized impoundments and to add soil test and compaction standards.

The 2014 Comments opposed the use of centralized impoundments for waste handling. We continue to oppose centralized impoundments. We continue to support improved design and construction standards for freshwater impoundments. However, we remain concerned the proposed regulations do not require existing impoundments to meet the new standard.

We also remain concerned that the proposed requirements, although somewhat improved over the 2014 version, still do not meet the standards that would be required for impoundment embankments under Chapter 105, Subchapter B, Dams and Reservoirs. It does not seem reasonable that impoundment embankments required for Oil and Gas operations should meet a lesser standard. Impoundments that include construction of embankments should be subject to the requirements of Chapter 105, Subchapter B, Dams and Reservoirs. Specifically, the requirements of §§ 105.91–105.99 related to classification and design criteria for approval of construction, operation, modification, and maintenance; §§ 105.101– 105.109 related to construction requirements and procedures; § 105.111 related to the commencement of storage of water, fluid, or semifluid; § 105.123 related to the restoration of aquatic life; and §§ 105.131– 105.136 related to operation, maintenance, and emergencies.

More specifically, we simply recommend replacing the proposed regulation with the following language:

§ 78a.59a. Impoundment Embankments.

NEW EMBANKMENTS CONSTRUCTED FOR FRESHWATER IMPOUNDMENTS FOR OIL AND GAS ACTIVITIES SHALL MEET THE APPLICABLE REQUIREMENTS OF 25 PA. CODE CHAPTER 105, SUBCHAPTER B. DAMS AND RESERVOIRS. ANY EXISTING IMPOUNDMENTS MUST MEET THESE STANDARDS BY _____ (EDITOR'S NOTE: THE BLANK REFERS TO ONE YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS PROPOSED RULEMAKING.). (211)

Response: The final regulations impact only dams that are not regulated under Chapter 105. Therefore there are no applicable requirements in Chapter 105 that are not addressed by the regulation.

1309. Comment: § 78a.59a(9)(i) - We are pleased to see reference to requirements found at 25 PA Code, Chapter 102. Additionally, we recommend the use of native trees and shrubs. The use of native plant species to stabilize impoundment embankments will reduce the introduction of non-native invasive species on oil and gas sites and would help limit the potential spread of non-native or other invasive species to adjacent private or public lands such as units of the National Park System. (200)

Response: The Department acknowledges the comment. The Department encourages the use of native plant species for all projects where vegetative cover is used for permanent stabilization.

1310. Comment: Sections 78a.59a and .59b set certain criteria and requirements for freshwater impoundments. Monitoring of all water placed in such a freshwater impoundment must be required to ensure no water tainted with regulated substances is mixed in with fresh water. Perhaps sampling of the contents of a freshwater impoundment should be routinely required of

the well operator, with appropriate records kept. If a well operator desires to mix fresh water with flowback or any other polluted water, the storage structure must meet every permitting requirement required of a storage structure for regulated substances. (295)

Response: By definition in Chapters 78 and 78a, well development are only those impoundments which are not regulated under Chapter 105.3 (relating to scope) this definition precludes impoundments which contain regulated substances. Department inspectors will conduct inspections at well development to ensure compliance with these requirements.

1311. Comment: Centralized impoundments should be prohibited. (382)

Response: The Department believes that centralized impoundments should be regulated in the same manner as other waste transfer facilities are regulated under Subpart D, Article IX. Therefore, in order to ensure consistency the Department has revised Section 78.59c to require any new centralized impoundments to be authorized by a residual waste permit under Subpart D, Article IX. In addition, Section 78.59c also requires operators of existing centralized impoundments permitted under a Dam Permit for a Centralized Impoundment Dam to either submit a closure plan to the Department within 6 months and close the centralized impoundment with 3 years of the effective date of the rulemaking or obtain a residual waste permit for the operation of the centralized impoundment with 3 years of the effective date of the rulemaking.

§§ 78.59b and 78a.59b Well development impoundments

1312. Comment: 78a59b(a). DEP should require that freshwater impoundment embankments for oil and gas activities meet the applicable requirements of 25 Pa. Code Chapter 105, Subchapter B. Dams and Reservoirs. This includes the sections on classification and design criteria for approval of construction, operation, modification, and maintenance; the construction requirements; the requirements related to the commencement of the storage of fluids; the requirements related to the restoration of aquatic life; the requirements related to operation, maintenance, and emergencies. The Chapter 105 requirements are far more complete and ensure the safety, sizing, operation, and construction standards that should apply to these impoundments and to the restoration of living resources. (182)

Response: The final regulations impact only dams that are not regulated under Chapter 105. Therefore there are no applicable requirements in Chapter 105 that are not addressed by the regulation.

1313. Comment: Subsection (a) states that “any new freshwater impoundments must be in compliance with this section”, thereby indicating that the section as a whole applies only to “new” impoundments,” that is, those constructed after the effective date of the pending rulemaking. However, the next subsection, (b), applies exclusively to freshwater impoundments that are not “new,” i.e., those constructed before the effective date of the rulemaking. Commentator recommends that this section be restructured to avoid this apparent inconsistency. (231, 231a)

Response: The Department disagrees that the structure of the section creates an apparent inconsistency and has not restructured the section.

1314. Comment: 78a59b(b). DEP should require the closure of all existing freshwater impoundments that do not comply with Chapter 105 within six months to one year. This section only requires

registration and allows the old impoundments which had even fewer standards than are being proposed herein to remain in use. This endangers public health and safety. (182)

Response: The final regulations impact only dams that are unregulated under Chapter 105. Therefore there are no applicable requirements in Chapter 105. However, the Department has added language to subsections 78.59b(b) and 78a.59b(b) which requires that the well development impoundments that do not comply with the requirements of Subsections (d), (e) and (h) to be upgraded to meet the requirements of the subsection or be restored.

1315. Comment: 78a.59b(c). DEP should require that registration information that is electronically filed be made publicly available on an easily accessible web platform. (182)

Response: The Department agrees that registration information should be available to the public.

1316. Comment: 78a.59b(d) and 78.59b(d) - Commenter questions the requirement that a freshwater impoundment be constructed with a synthetic impervious liner under subparagraph (d). This is an unnecessary requirement that only serves to increase costs to operators without any associated benefit to the environment. (190)

Response: The scope and type of use of well development impoundments by the oil and gas industry is significantly different than the scope and type of use of impoundments by other industries in such a manner that the Department has determined that the final regulations are appropriate.

1317. Comment: 78a.59b(d). DEP should require liners to be constructed of material that is compatible with the fluids stored; this will require sampling of the fluids as each batch is added to the impoundment and will also require sampling of the impoundment “water” to provide accurate characterization of the substances in the impoundment. Given the nature of the material stored and the expense associated with clean up, a double liner system with leak detection between layers must be considered. The leak detection system is the critical part of the double liner system. (182, 239)

Response: The Department does not agree that a double liner system with leak detection is necessary for well development impoundments.

1318. Comment: 78a.59b(e). DEP should require fencing at all sites at all times to provide protection and prevent accidents or tampering. Netting to prevent birds from using the impoundment should be considered to protect wildlife. (182)

Response: Section 78a.59b(e) requires fencing or continuous presence at the site to prevent unauthorized acts of third parties and damage caused by wildlife. The Department acknowledges the comment about bird netting. There are federal laws that protect migratory birds, including the requirement for bird netting. These laws are administered by the U.S. Fish & Wildlife Service and are outside the scope of this rulemaking.

1319. Comment: 78a.59b(f). DEP should not allow impoundments to be as close as 20 inches above the seasonal high groundwater table due to danger of pollution to the groundwater and aquifers. The potential for leaks and seeps into the groundwater table through liners is great. According to a report by State University of New York at Stony Brook researchers, “According to PA-DEP records from July 2009 to June 2010, there were about 4,000 permitted Marcellus wells in PA. Of

these wells, about 850 wells were producing gas, 400 wells were not producing, and 2,800 wells were planned or in process. During this same time, 630 environmental, health, and safety violations were issued for Marcellus wells in PA, of which approximately half were for discharges up to 60 m3 or for potential to cause discharge. These data are acknowledged by public officials to be underreported.” The presence of contaminants in the fluids to be contained in the impoundments poses an unacceptable risk of pollution to the aquifer and to water supplies that rely on the aquifer.

DEP should not allow an underdrain to lower the seasonal high water table. This is damaging to the groundwater, can cause damaging changes to the shallow groundwater system and the hydrologically connected water systems such as wetlands, vernal pools, and base flow to streams. The statement that “In no case shall the regional groundwater table be affected” is not possible if the seasonal high ground water table is being drained. The drained seasonal high groundwater is the recharge that eventually moves into and becomes the regional groundwater table. It is important to remember that the elevated seasonal high groundwater table provides the additional head level that promotes a higher rate of recharge in the late spring than at any other time of the year. To remove and drain the seasonal high groundwater is to remove the annual recharge reaching the aquifer and should not be allowed.

There appears to be some confusion as to the definition of seasonal high groundwater and perched groundwater tables both in this section and in the definition section. In either case, shallow ground waters should not be drained as these resources support wetland hydrology in the dry, hot summer months as well as baseflow and other features such as vernal pools. (182, 239)

Response: The 20 inch separation requirement allows for a physical barrier between the seasonal high groundwater table and the bottom of the pit to prevent mixing of impounded materials and groundwater and to ensure structural integrity of the impoundment. The intent of the language is to ensure that passive drainage systems are installed to drain only seasonal high groundwater tables as defined in Chapter 78 and 78a. The Department does not anticipate any significant environmental harm from passive drainage systems that are installed to divert seasonal high groundwater tables away from well development impoundments.

1320. Comment: Section 78.59b(f), This section does not specify the minimum number of readings that are required to document the season high groundwater table levels. It also does not specify a minimum length of time that is required for the documentation. 1 week? 1 month? 1 year? The operator can effectively take 2 readings, 2 weeks apart and submit the documentation supporting this and establish the seasonal high water table. Minimum standards should be provided and listed for this important determination in this section as well as all related sections. (9)

Response: The section requires use of accepted and documented scientific methods to determine the elevation of the seasonal high groundwater table.

1321. Comment: **78a.59b(g) and 78.59b(g)** – The commenter has the same concerns about the strict 9-month time frame for restoring a freshwater impoundment as discussed for centralized storage tank sites above. The 9-month time frame for restoration is simply too short a time period under current development practices. Also it is inappropriate to tie the life of the freshwater impoundment to the drilling schedule. The commenter recommends an 18-month time frame for completing restoration work after the impoundment is no longer being utilized. (190)

Response: The regulations allow oil and gas well operators to obtain an extension of the restoration timeframe for well development impoundments under 78a.65 and 78.65.

1322. Comment: 78a.59b(g). DEP should require a comprehensive restoration plan that follows these standards: Prior to site disturbance, identification of soil types and locations, soil layer depths, and at least 98% of existing plant species (identify genus and species) including herbaceous plants, shrubs and trees, and a calculation of the prevalence of those species, should be required to inform site restoration. Utilization of qualified soil scientists for the soil investigation, and qualified botanists for the plant species identification and quantification should be required. The plant survey should be performed in season(s) appropriate for identifying the herbaceous species. For sites larger than 1 acre, provide mapping of the locations of soils and species groups is necessary and should be required.

Soil during use of the site should not be compacted and if compacted should be renovated. Soil analysis should include a compaction analysis (such as a soil permeability test and/or soil pore analysis) and compacted soil should be renovated to natural soil conditions. There should be a minimum requirement for the top 6” minimum of the soil to be “conductive for plant growth typical in the area”. This prevents backfill of the upper portions with material detrimental for plant growth. This needs to be increased in areas where the pre-disturbance survey reveals additional topsoil depth.

The vegetation that is planted should establish a diverse, effective, permanent, vegetative cover which is capable of self-generation and plant succession. Vegetation should be native species unless pre-condition is lawn or crops. Original conditions that must be restored include pre-construction soils types and layers, herbaceous plants, shrubs, and trees. An exception to the requirement to return to pre-conditions is that non- native invasive plant species should not be installed even if they were pre-existing. This is to prevent the addition of invasive species, which harm ecosystems and habitats.

DEP should require that the site support the land uses that existed prior to the gas and oil operations, including ecosystem functions such as plant communities and habitats that support wildlife species. “To the extent practicable” needs to be carefully applied in regards to restoration because in order to restore to original conditions fence enclosure to prevent deer and other animal predation, soil renovation, leaf compost layers, and monitoring and maintenance until plants are established add costs but are essential in order to meet a standard that does avoid degradation of the natural environment. (182)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements. Projects meeting those requirements will not pose a threat of significant environmental harm.

1323. Comment: Section 78.59b(g). It is unclear as to why the Department would allow an applicant to file for a 2 year restoration request after an impoundment is no longer needed or will be used. Two years is a very long time to leave an impoundment open after the site will no longer have security, activity or a need for a very large, un-guarded, open body of water. Two years seems excessive after the well is no longer serviced by the impoundment. (9)

Response: Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse, or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment, or labor. If the restoration timeframe is extended, the impoundment will continue to be subject to all of the requirements in Chapter 78.59b or 78a.59b.

1324. Comment: 78a.59b(h). DEP should prohibit “mine influenced water” in freshwater impoundments. “Mine influenced water”, which contains contaminants, should not be allowed to be mixed with freshwater in impoundments. DEP should require “mine influenced” water to be treated as wastewater. There is no monitoring or sampling of the water added to the impoundment required (the proposed text at this section states testing “may” be required), no sampling of the impoundment water and inadequate controls and safeguards are provided for potentially hazardous substances in the “mine influenced water”; only uncontaminated water should be allowed in freshwater impoundments. (182)

Response: The Department has modified Chapters 78 and 78a to change “Freshwater Impoundment” to “Well Development Impoundment” to clarify the meaning of the term. In regards to storage of mine influenced water in a well development impoundment, the quality of mine influenced water varies greatly throughout the Commonwealth and the term includes mine influenced water that has been treated, which may be very high quality. Before mine influenced water is allowed to be stored in a well development impoundment, the Department must review and approve the storage based on a variety of factors including the quality of the water and the risks of storage of the water.

1325. Comment: Freshwater impoundments will be allowed to receive polluted water – namely “mine influenced water.” The proposed “mine influenced water storage plan” is a first step toward addressing the concern, but the Department should go further. The construction standards for freshwater impoundments containing mine influenced water should be commensurate with the threat of harm to ground and surface waters. At a minimum, the Department should establish, for the required synthetic liner, standards for: maximum permeability, maximum seepage rate, and material type. (231, 231a)

Response: See response to comment 1324.

1326. Comment: Section 78.59b(i) This section indicates the Department may require the operator to test water sources proposed to be stored in freshwater impoundment prior to storage. Taken into account that these impoundments are considered and titled freshwater, that they are massive in size containing 200,000 gallons of water the Department should certainly mandate that ALL sources of water be tested prior to being stored in them and this testing information should be required for the permit application to be complete. (9)

Response: The Department disagrees that all sources of water must be tested prior to storage in a well development impoundment. Many water sources throughout the Commonwealth are known to be consistently of a sufficient quality to be stored in a well development impoundment. Requiring testing of all sources prior to storage in a well development impoundment is unnecessary.

1327. Comment: 78.59b(g) The restoration to “approximate” original condition should be changed to restoration using the best management practices available or ABACT to original condition. The landowner should not be able to waive this provision given its impact to surrounding lands. (161)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. The Department does not anticipate any significant environmental harm to result from freshwater impoundments that are left unrestored in accordance with this section.

1328. Comment: 78.59b(h) Storage of mine-influenced water in a freshwater impoundment is problematic even with DEP approval. “Mine-influence water” is contaminated by acid mine drainage and is considered a serious pollutant. Once it is used in oil and gas production activities or becomes in contact with the produced oil or gas, its classification changes. There are serious liability issues in such activity and should not be allowed at this time under these regulations. (161)

Response: See response to comment 1324.

1329. Comment: 78.59b(h)(1)(i) What constitutes a “demonstration?” (161)

Response: The operator responsible for the construction and maintenance of the well development impoundment must demonstrate that the mine influenced water is of a quality that if it were to escape from the well development impoundment, it will not result in air, water, or land pollution or endanger persons or property. This demonstration will include a water quality analysis of the mine influenced water at a minimum and may include other analysis depending on the proposal.

1330. Comment: 78.59b(h)(1)(ii) Tracers should be added to all fluids in impoundment pits to promote accountability in the event of an incident. (161)

Response: The Department disagrees that chemical tracers are necessary in all impoundments to ensure accountability in the event of an incident.

1331. Comment: 78.59b(h)(1)(iii) What limits are being put on the tested water? Where will the data be kept? (161)

Response: The water quality analysis must be included as part of the demonstration that escape of the mine influenced water will not result in air, water or land pollution or endanger persons or property.

1332. Comment: 78.59b(h)(2)(i) The Department requires all water sources to be tested prior to storage in a fresh water impoundment. (161)

Response: The provision referenced by the commenter is specific to storage of mine influenced water. Not all sources must be tested prior to storage in a freshwater impoundment.

1333. Comment: §78a.59b., 78a.60 We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1334. Comment: §78.59b and §78a.59b. Freshwater impoundments.

§78.59b and §78a.59b should be amended to stipulate that freshwater impoundments should be constructed only for the storage of freshwater. Earthworks and many other organizations and residents have strongly recommended that Pennsylvania’s oil and gas regulations include a clear definition of “freshwater,” yet the final draft regulations continue to omit it. Any other substances could potentially volatilize harmful chemicals into the air, and in the case of impoundment overflow or leaks, could contaminate soil and water.

Given the lack of review on the characteristics and potential environmental risks of using mine influenced water in oil and gas operations, we object to the ability of operators to store this substance in freshwater impoundments. These sections stipulate that operators would provide a mine influenced water storage plan to DEP and test the substance. At minimum, these sections should be amended to include concentration thresholds for a set of chemical parameters that mine influenced water must meet in order to qualify for storage. In addition, operators should be required to provide laboratory results to DEP (i.e., not simply make them available upon request). (188)

Response: The Department has modified Chapters 78 and 78a to change “Freshwater Impoundment” to “Well Development Impoundment” to clarify the meaning of the term. In regards to storage of mine influenced water in a well development impoundment, the quality of mine influenced water varies greatly throughout the Commonwealth and the term includes mine influenced water that has been treated, which may be very high quality. Before mine influenced water is allowed to be stored in a well development impoundment, the Department must review and approve the storage based on a variety of factors including the quality of the water and the risks of storage of the water.

1335. Comment: § 78a.59b (b) - Provide further clarification regarding the meaning of “Proper Construction”. (187, 209)

Response: The requested clarification is included in the subsection which states “... proper construction of the impoundment in accordance with subsections (d, e, and h).”

1336. Comment: § 78a.59b (d) - Provide definition of “synthetic impervious liner”. (187, 209)

Response: The definitions of the terms are their common definitions.

1337. Comment: § 78a.59b (f) - “Pit bottom” should be replaced with “impoundment bottom”. (187, 209)

Response: The Department agrees and has made the change.

1338. Comment: § 78a.59b (i) - The operator should not be responsible to collect samples from the fresh water sources they are utilizing to fill the impoundment. The water quality of a fresh water source is outside the control of the operator, as the operator cannot be responsible for the quality of such source. (187, 209)

Response: While the operator may not be able to control the quality of a freshwater source, the operator can control placement of water from a particular water source into an impoundment. If a particular water source is not of sufficient quality for storage in a freshwater impoundment then it is the responsibility of the operator to ensure that water from such a source is not placed into a well development impoundment.

1339. Comment: The above-captioned subsections are extremely similar and somewhat complimentary of one another. Given the common elements associated therein, it is recommended that these subsections be combined into a comprehensive subsection – e.g., § 78.59. Embankments and Freshwater Impoundments.

Response: The sections address different issues.

1340. Comment: § 78.59b(g): As written, the operational trigger for restoration of a freshwater impoundment is “...within 9 months of completion of drilling...”. In our opinion, the Department has referenced the incorrect operation trigger for restoration. That is, given the occasional disjointed nature of development operations due to multiple external factors, it is possible that a well could be drilled to total depth and subsequently remain idle for some time before needing to utilize the freshwater impoundment in well completion operations. Therefore, we strongly encourage the Department to incorporate the following language in lieu of the above: “...within 9 months of the date of first production of the last well to be brought into production that serviced by the impoundment.” (195)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1341. Comment: § 78a.59b - This entire section is overly burdensome and not commensurate with the non-hazardous nature of freshwater. What other industries are regulated by the Department to this degree regarding freshwater impoundments? (209)

Response: See response to comment 1316.

1342. Comment: § 78a.59b[(e)] (f) The bottom of the impoundment shall be at least 20 inches above the seasonal high groundwater table. The applicant may maintain the required separation distance of 20 inches by PASSIVE artificial means such as an under-drain system throughout the lifetime of the impoundment. In no case shall the regional groundwater table be affected. The operator shall document the depth of the seasonal high groundwater table, the manner in which the depth of the seasonal high groundwater table was ascertained, the distance between the bottom of the impoundment and the seasonal high groundwater table, and the depth of the regional groundwater table if the separation between the impoundment bottom and seasonal high groundwater table is maintained by artificial means. A SOIL SCIENTIST OR OTHER SIMILARLY TRAINED PERSON USING ACCEPTED AND DOCUMENTED SCIENTIFIC METHODS SHALL MAKE THE DETERMINATION. THE DETERMINATION MUST CONTAIN A STATEMENT CERTIFYING THAT THE PIT BOTTOM IS AT LEAST 20 INCHES ABOVE THE SEASONAL HIGH GROUNDWATER TABLE ACCORDING TO OBSERVED FIELD CONDITIONS. THE NAME, QUALIFICATIONS AND STATEMENT OF THE PERSON MAKING THE DETERMINATION AND THE BASIS OF THE DETERMINATION SHALL BE PROVIDED TO THE DEPARTMENT UPON REQUEST. [The operator shall submit records demonstrating compliance with this subsection to the Department upon request.] This section requires the same groundwater table determination practices for freshwater impoundments as for produced water impoundments. These practices are wholly unnecessary for freshwater which poses no environmental risk, they provide no tangible environmental benefit, and they will add additional cost in time, resources, and capital funding to perform the studies required. Additionally, as previously stated in our general comments,

regulations should produce consistent and logical results that fulfill the agency's intentions and further the public interest. This means that rules should not regulate activity that creates no public harm nor should rules conflict with the very practice they are meant to regulate and lead to counterproductive results. Rules should also be cost effective and further green practices where appropriate. Again, regulatory inconsistency and confusion are particularly problematic for unconventional well development because of the substantial investments and extensive drilling and completion programs required. For all of these reasons, the section should be removed in its entirety. If the section is retained, then the requirements should reflect the lack of risk that freshwater impoundments pose. Additionally, the section should authorize a "professional geologist" to make the determinations and certifications of the pit bottoms.(199)

Response: The 20 inch separation requirement allows for a physical barrier between the seasonal high groundwater table and the bottom of the impoundment to prevent mixing of impounded water and groundwater and to ensure structural integrity of the impoundment. It is appropriate to ensure that this requirement is met in order to prevent significant environmental harm. The Department has modified Chapters 78 and 78a to change "Freshwater Impoundment" to "Well Development Impoundment" to clarify the meaning of the term. Additionally, the regulation allows for "other similarly trained persons" to make the determinations and certification of pit and impoundment bottoms. Other similarly trained persons may include professional geologists.

1343. Comment: § 78a.59b(g) Freshwater impoundments, when not needed for operations and not wanted by the surface owner, should be restored in accordance with applicable site restoration plans. Like centralized tank storage sites, centralized freshwater impoundments reflect major capital investments by the operator and are intended to service wells within a geographical area for multiple years as the operator develops the reservoir. Like centralized tank storage sites, centralized freshwater impoundments are vital to water sourcing generally and are not tied to one single well pad. Requiring restoration tied to a specified timeframe (drilling or completion) will lead to premature closure of freshwater impoundments and may increase land disturbance and result in less efficient resource development. To avoid these problems, commenter requests that the Department amend this section to tie restoration of a freshwater impoundment to the end of the impoundment's usefulness and to the end of development within the reservoir operating area.(199)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1344. Comment: §78a.59b. Freshwater impoundments -The first sentence of subsection (g) has unnecessary wording that should be removed so that the meaning is clear. It is recommended that the words "that the impoundment is registered to" be deleted so that it is clear that the restoration, and not the registration, is to be within 9 months of completion of drilling. (193)

Response: The registered operator of the well development impoundment is responsible for restoration of the well development impoundment in accordance with the subsection.

1345. Comment: The same sentence of Subsection (g) requires that the freshwater impoundment be restored within nine months of completion of drilling of the last well serviced by the impoundment. This does not provide a suitable amount of time since wells are not always

hydraulically fractured and completed immediately upon the conclusion of drilling. It is recommended that the wording be changed from "... within nine months of drilling ..." to "... within nine months of completion of the last well ..." (193)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1346. Comment: Subsection (g)(1)(i) includes the requirement that the operator demonstrate that the impoundment will prevent air pollution. It is suggested again, as in prior comments, that since air pollution control falls within the jurisdiction of another program, the reference to air pollution be deleted from this subsection. (193)

Response: The language in this section is consistent with language in §105.3(a)(3) which is used to determine if a well development impoundment requires a permit under the Dam Safety and Encroachments Act. Any impoundment that contains fluids or semi fluids other than water, the escape of which will result in air, water or land pollution or endanger person or property requires a permit under the Dam Safety and Encroachments Act. Therefore the language regarding air pollution is appropriate.

1347. Comment: Subsection (e) requires a fence "to prevent unauthorized acts of third parties and damage caused by wildlife," however no fence can absolutely ensure "prevention" of unauthorized acts of third parties or damage caused by wildlife. The word "prevent" should be replaced with "discourage ." (193)

Response: The intent of the section is to prevent unauthorized acts by third parties. The Department acknowledges that fencing will not prevent unauthorized acts of third parties in all cases but replacing "prevent" with "discourage" would not satisfy the intent of the section.

1348. Comment: Freshwater Impoundments (§ 78.59b and § 78a.59b) •The Department should specify that freshwater impoundments be restored 9 months after the well is "turn inline (TIL) ready", not after "drilling" of the last well. Changing this language would make this section more consistent with industry practices taking into consideration the time required to complete all phases of well construction and development (also see previous section § 78a.57a comments). (205)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1349. Comment: § 78a.59b The proposed regulations have extensive new requirements for impoundments storing freshwater, beyond those any other industry must follow for storing fresh water. However, the DEP cost estimate considers only the cost of fencing around existing impoundments, ignoring all the other requirements associated with both existing impoundments and the construction of new impoundments, to reach an estimated cost of \$0.7 million to \$5 million. We believe the cost of all the new requirements applicable to fresh water impoundments is more likely in excess of \$250,000 to \$500,000 per impoundment, producing a total cost of \$25

million at the low end of the estimate, or five times DEP's figure. (210)

Response: The Department disagrees with the commenter's cost estimate. The standards under § 78a.59b provide reasonable requirements to ensure that well development impoundments are structurally sound and protective of public health and safety and the environment. The standard of structurally sound and protective of public health and safety and the environment is a standard that all well development impoundments should meet. The Department also notes that §§ 78.59a(b) and 78a.59a(b) allow an owner or operator to deviate from the requirements in this section provided that the alternate practices provides equivalent or superior protection to the requirements in §§ 78.59a and 78a.59a. Therefore, these sections should not create any significant new costs.

1350. Comment: § 78a.59b (b) Subsection § 78a.59b(b) conflicts with subsection § 78a.59b(a) in that the latter states that compliance with this section is required for any new freshwater impoundment, while the former states that compliance is required for existing freshwater impoundments. The requirement to certify that impoundments constructed prior to the effective date of the rule were constructed according to these new standards which were not required at the time of the construction is inappropriate and should be deleted. For freshwater impoundment structures that are not required to be permitted under Chapter 105, the above requirements are excessive.

The commentator's suggested amendatory language:

(b) A well operator that constructed a freshwater impoundment prior to (Editor's Note: The blank refers to the effective date of adoption of this rulemaking.) shall register the location of the freshwater impoundment by _____ (Editor's note: the blank refers to the 60 days after the effective date of adoption of this proposed rulemaking.) by providing the Department, through the Department's website, with electronic notification of the GPS coordinates, township and county where the freshwater impoundment is located. (210)

Response: The certification requirements are to ensure that existing well development impoundments are constructed with a synthetic impervious liner, fencing or other appropriate security measures and to ensure the mine influenced water is being stored appropriately. Ensuring compliance with these provisions is appropriate for all well development impoundments including those which were constructed prior to promulgation of these regulations.

1351. Comment: § 78a.59b (g) Freshwater impoundments, when not needed for operations and not wanted by the surface owner, should be restored in accordance with applicable site restoration plans. There is no obligation to return such sites to approximate original contours. In addition, the use of impoundments for operations at multiple well sites requires additional flexibility in the rule. For example, the phrase "completion of drilling the last well" should be changed to "completion of the last well." 58 P.S. § 3216(g) does not directly address freshwater impoundments, so extensions would not be limited to two years as proposed.

The "last well serviced by the impoundment" is often unknown at the time of construction of a freshwater impoundment for various reasons (economics, future leasing and acquisitions, permitting delays, etc.). Freshwater impoundments are designed to serve a geographic area of operations. As such, the Department should allow an operator the flexibility to extend the life of the borrow pit by adding more well sites to be serviced as they are determined. Lastly, the Department's proposed cross reference to Section 78a.65(d) is incorrect.

The commentator's suggested amendatory language:

(g) Freshwater impoundments shall be restored by the operator to whom the impoundment is registered by removing excess water and the synthetic liner and restoring the site in accordance with a site restoration plan within nine months of completion of the last well serviced by the impoundment. A restoration extension may be requested consistent with the extension requirements described under section 3216(g) of the act (58 Pa.C.S. § 3216(g)) that apply to well site restoration obligations. (210)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor. The Department has corrected the cross reference to Section 78a.65.

1352. Comment: § 78a.59b(h)(1)(iii) The reference to procedures and schedules to “test” the mine water requires clarification by the Department, the proposed provisions are vague. The specific tests and parameters for approval should be specified by the Department. (210)

Response: It is not necessary or appropriate to include a set of specific tests and parameters that mine influenced water must meet in order to qualify for storage in the regulation. Guidance regarding specific tests and parameters will be provided on the mine influenced water Storage Plan forms described under 78a.59b(h)(1).

1353. Comment: Suggest the section read as follows: Freshwater impoundments shall be restored by the operator that the impoundment is registered to within 9 months of completion of the last well or Turn in Line date (date the well is placed into production) serviced by the impoundment. Subsequently suggest a definition of “Completion of a Well” is added to definition section. (232)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1354. Comment: 78a.59b (d). Given the nature of the material stored and the expense associated with clean up, a double liner system with leak detection between layers must be considered. The leak detection system is the critical part of the double liner system. (182)

Response: The Department does not agree that a double liner system with leak detection is necessary for well development impoundments.

1355. Comment: 78a.59b(f). The statement that “In no case shall the regional groundwater table be affected” is not possible if the seasonal high ground water table is being drained. The drained seasonal high groundwater is the recharge that eventually moves into and becomes the regional groundwater table. It is important to remember that the elevated seasonal high groundwater table provides the additional head level that promotes a higher rate of recharge in the late spring than at any other time of the year. To remove and drain the seasonal high groundwater is to remove the annual recharge reaching the aquifer and should not be allowed.

There appears to be some confusion as to the definition of seasonal high groundwater and perched groundwater tables both in this section and in the definition section. In either case, shallow ground waters should not be drained as these resources support wetland hydrology in the dry, hot summer months as well as baseflow and other features such as vernal pools. (182)

Response: The intent of the language is to ensure that passive drainage systems are installed to drain only seasonal high groundwater tables as defined in Chapter 78 and 78a. The Department does not anticipate any significant environmental harm from passive drainage systems that are installed to divert seasonal high groundwater tables away from well development impoundments.

1356. Comment: In 2013, the EQB proposed new registration, performance, safety and security standards for freshwater impoundments and proposed to allow mine influenced water to be stored in “freshwater” impoundments. In 2015, PADEP added a new requirement for existing impoundments to meet a portion (not all) of the new standards. PADEP also proposed a soil scientist verify the pit bottom is at least 20” above the seasonal high groundwater table.

The 2014 Comments supported improved registration, performance, safety, and security standards for freshwater impoundments. We appreciate PADEP partially addressing our recommendation that existing impoundments meet the new standards. However, the newly proposed language in § 78a.59b(b) requires that existing impoundments meet only the new standards in § 78a.59b (d), (e) and (h) but not the standards of § 78a.59b (f) and (g). We recommend that § 78a.59b(a) be modified to require that any existing impoundment meet the new standards within one year.

We remain concerned that PADEP is still proposing to allow storage of mine influenced water (a waste) in a freshwater impoundment. A “freshwater” impoundment by its title is only designed to store uncontaminated “freshwater” that meets the definition proposed in the 2014 Comments. Mine influenced water should be handled as wastewater.

We continue to recommend that all water stored in a freshwater impoundment be tested and verified to meet a “freshwater” standard prior to storage, and that test data should be provided to PADEP.

The 2014 Comments did not support the proposed language at § 78.59b(e), allowing for the artificial lowering of the seasonal high water table, because the use of an artificial underdrain system is likely to affect the adjoining groundwater system beyond the impoundment, including by causing potentially damaging impacts on wetlands and headwater streams through the lowering of the groundwater. Soil moisture conditions are almost certain to be affected by the impoundment construction, and an artificial underdrain system would further exacerbate these impacts. Altered groundwater and soil moisture conditions will directly impact established woodland vegetation. Additionally, the presence of a seasonal high groundwater table indicates a hydrologic connection to adjacent streams and wetlands, and hence, an additional path for direct contamination, should a leak or discharge from the impoundment occur. We pointed out that Chapter 73 of the Pennsylvania Code (related to Standards for On-lot Sewage Treatment Facilities) prohibits the installation of on-lot sewage facilities if the seasonal high water table is within 20 inches (§ 73.14(5)). There is no option for an alternate underdrain system if a seasonal high-water table condition exists. The same standards should apply to impoundments.

In response to our comments, PADEP proposed to have a soil scientist, “or other similarly trained person” to verify the impoundment bottom is at least 20 inches above the seasonal high groundwater table. This response does not address our primary concern. Impoundments should not be permitted within 20 inches of a seasonal high groundwater table, and should not be allowed to artificially lower the seasonal high groundwater table. The water quality implications from an impoundment can be far more significant than an on-lot sewage treatment system; the standards should not be less stringent.

The 2014 Comments expressed concern about the proposal to allow impoundment site waivers, if the landowner consents. We remain concerned that PADEP still allows this option (§ 78a.59b (g)). Sites must be fully restored to protect interconnected water supplies, forests, and habitats. The impoundment site should be restored based on a survey of existing conditions prior to disturbance, to ensure that the ecological integrity and habitat values of a forested or naturally vegetated area are fully restored. Impoundments require maintenance and inspection for continued safety of the structure, and the landowner may not be fully aware of these requirements. The required removal of the liner will alter the impoundment capacity to retain water and the impoundment structure itself. PADEP should require restoration to original contours.

More specifically, we recommend the following changes to the proposed regulations at § 78a.59b:

§ 78a.59b. Freshwater impoundments.

(a) IMPOUNDMENTS MAY BE CONSTRUCTED FOR UNCONTAMINATED FRESHWATER. ONLY UNCONTAMINATED FRESHWATER MAY BE STORED IN A FRESHWATER IMPOUNDMENT. MINE-INFLUENCED WATER MAY NOT BE STORED IN A FRESHWATER IMPOUNDMENT. CENTRALIZED WASTE IMPOUNDMENTS ARE PROHIBITED. In addition to meeting the requirements of §78a.59a (relating to impoundment embankments), ANY NEW freshwater impoundments must be in compliance with this section. ANY EXISTING FRESHWATER IMPOUNDMENTS MUST MEET THESE STANDARDS BY _____ (EDITOR'S NOTE: THE BLANK REFERS TO ONE YEAR AFTER THE EFFECTIVE DATE OF ADOPTION OF THIS PROPOSED RULEMAKING.).

[no revisions recommended for (b)–(d)]

~~[(d)]~~ (e) Unless ~~an individual~~ **THE OPERATOR OR ITS CONTRACT STAFF** is continuously present at a freshwater impoundment, a fence must completely surround the freshwater impoundment to prevent unauthorized acts of third parties and damage caused by wildlife.

~~[(e)]~~ (f) ~~The bottom of the impoundment must be at least 20 inches above the seasonal high groundwater table. The applicant may maintain the required separation distance of 20 inches by artificial means such as an under-drain system throughout the lifetime of the impoundment. In no case shall the regional groundwater table be affected. The operator shall document the depth of the seasonal high groundwater table, the manner in which the depth of the seasonal high groundwater table was ascertained, the distance between the bottom of the impoundment and the seasonal high groundwater table, and the depth of the regional groundwater table if the separation between the impoundment bottom and seasonal high groundwater table is maintained by artificial means. A SOIL SCIENTIST~~

~~OR OTHER SIMILARLY TRAINED PERSON USING ACCEPTED AND DOCUMENTED SCIENTIFIC METHODS SHALL MAKE THE DETERMINATION. THE DETERMINATION MUST CONTAIN A STATEMENT CERTIFYING THAT THE PIT BOTTOM IS AT LEAST 20 INCHES ABOVE THE SEASONAL HIGH GROUNDWATER TABLE ACCORDING TO OBSERVED FIELD CONDITIONS. THE NAME, QUALIFICATIONS AND STATEMENT OF THE PERSON MAKING THE DETERMINATION AND THE BASIS OF THE DETERMINATION SHALL BE PROVIDED TO THE DEPARTMENT UPON REQUEST. [The operator shall submit records demonstrating compliance with this subsection to the Department upon request.]~~

~~[(f)] (g) Freshwater impoundments shall be restored by the operator [so] that the impoundment is registered to WITHIN 9 MONTHS OF COMPLETION OF DRILLING THE LAST WELL SERVICED BY THE IMPOUNDMENT. AN IMPOUNDMENT IS RESTORED UNDER THIS SUBSECTION by THE OPERATOR removing excess water and the synthetic liner, [and] returning the site to approximate original BASELINE conditions, including preconstruction contours, and [can support] SUPPORTING the land uses that existed prior to oil and gas [activities] OPERATIONS. THE OPERATOR SHALL ENSURE THAT THE ECOLOGICAL INTEGRITY AND HABITAT VALUES OF A FORESTED OR NATURALLY VEGETATED AREA ARE RESTORED to the MAXIMUM extent practicable [within 9 months of completion of drilling the last well serviced by the impoundment]. [A 2-year restoration extension may be requested under section 3216(g) of the act (relating to well site restoration)]. AN EXTENSION OF THE RESTORATION REQUIREMENT MAY BE APPROVED UNDER § 78a.65(d) (RELATING TO SITE RESTORATION). If [written] REQUESTED BY [is obtained from] the landowner IN WRITING, ON FORMS PROVIDED BY THE DEPARTMENT, the requirement to return the site to approximate original contours may be waived by the Department if the liner is removed from the impoundment.~~

~~[(g)] (h) Prior to storing mine influenced water in a freshwater impoundment, the operator shall develop a mine influenced water storage plan and submit it to the Department for approval.~~

~~(1) The mine influenced water storage plan shall be submitted on forms provided by the Department and include the following:~~

~~(i) A demonstration that the escape of the mine influenced water stored in the freshwater impoundment will not result in air, water or land pollution, or endanger persons or property. (ii) A procedure and schedule to test the mine influenced water. This testing shall be conducted at the source prior to storage in the impoundment.~~

~~(iii) A records retention schedule for the mine influenced water test results.~~

~~(2) An operator with an approved mine influenced water storage plan shall maintain records of all mine influenced water testing prior to storage. These records shall be made available to the Department upon request.~~

~~[(h)] (i) The Department may require the operator SHALL to test water sources proposed to be stored in a freshwater impoundment prior to storage TO VERIFY THAT THE WATER QUALITY MEETS THE § 78A.15 FRESHWATER STANDARD. THE WATER TEST DATA MUST BE PROVIDED TO THE DEPARTMENT 10 DAYS PRIOR TO STORING FRESHWATER IN THE FRESHWATER IMPOUNDMENT.-(211)~~

Response: The Department disagrees with the proposed changes.

The Department has modified Chapters 78 and 78a to change “Freshwater Impoundment” to “Well Development Impoundment” to clarify the meaning of the term. The Department disagrees that existing well development impoundments must be certified to ensure that the bottom of the impoundment is at least 20 inches above the seasonal high groundwater table. The Department also disagrees that well development impoundments that have been restored must be certified to have been restored in accordance with Subsection (g).

The quality of mine influenced water varies greatly throughout the Commonwealth and the term includes mine influenced water that has been treated, which may be very high quality. Before mine influenced water is allowed to be stored in a well development impoundment, the Department must review and approve the storage based on a variety of factors including the quality of the water and the risks of storage of the water.

The Department disagrees that all sources of water must be tested prior to storage in a well development impoundment. Many water sources throughout the Commonwealth are known to be consistently of a sufficient quality to be stored in a freshwater impoundment. Requiring testing of all sources prior to storage in a freshwater impoundment is unnecessary.

The comparison between on-lot sewage treatment facilities and well development impoundments is not appropriate because on-lot sewage treatment systems are disposal facilities that rely on soil to effectively treat wastewater. Well development impoundments are not waste disposal facilities and do not rely on soil to provide treatment of wastes. The 20 inch separation requirement allows for a physical barrier between the seasonal high groundwater table and the bottom of the impoundment to prevent mixing of impounded water and groundwater and to ensure structural integrity of the impoundment. The Department does not anticipate any significant environmental harm from passive drainage systems that are installed to divert seasonal high groundwater tables away from well development impoundments.

Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. The Department does not anticipate any significant environmental harm to result from well development impoundments that are left unrestored in accordance with this section.

1357. Comment: Section 78a.59b- Freshwater Impoundments

The Department should revise subsection (f) to account for regional differences throughout the gas producing areas of Pennsylvania. The seasonal high groundwater table varies in different parts of the state. Thus, it may be more difficult to construct these facilities 20 inches above the ground water table in North Central Pennsylvania, where the groundwater table is naturally high. This rule, as written, could effectively prohibit the construction of new freshwater impoundments in entire regions. (222)

Response: The 20 inch separation requirement allows for a physical barrier between the seasonal high groundwater table and the bottom of the well development impoundment to prevent mixing of impounded water and groundwater and to ensure structural integrity of the well development impoundment. It is appropriate to ensure that this requirement is met in order to prevent significant environmental harm.

1358. Comment: § 78a.59b – Freshwater Impoundments - Any new rule for freshwater impoundments specifically targeting oil and gas operations is inappropriate and should be deleted from Chapter 78a. In addition, the requirement to certify that impoundments constructed prior to the effective date of the rule were constructed according to these new standards which were not required at the time of the construction is inappropriate and should be deleted. It also conflicts with paragraph (a) that says that this section applies to “any new freshwater impoundment.” Finally, no fence can absolutely ensure “prevention” of unauthorized acts of third parties or damage caused by wildlife. (213)

Response: The scope and type of use of well development impoundments by the oil and gas industry is significantly different than the scope and type of use of impoundments by other industries in such a manner that the Department has determined that the final regulations regarding new well development impoundments are appropriate. In addition, the certification requirements are to ensure that existing well development impoundments are constructed with a synthetic impervious liner, fencing or other appropriate security measures and to ensure the mine influenced water is being stored appropriately. Ensuring compliance with these provisions is appropriate for all impoundments including those which were constructed prior to promulgation of these regulations. Finally, the intent of the section is to prevent unauthorized acts by third parties. The Department acknowledges that fencing will not prevent unauthorized acts of third parties in all cases but replacing “prevent” with “discourage” would not satisfy the intent of the section.

1359. Comment: §78a.59 Freshwater Impoundments

The proposed revision to Sub-Paragraph (f) state that a determination that the base of a freshwater impoundment shall be more than 20 inches above seasonal high groundwater shall be made by:

A SOIL SCIENTIST OR OTHER SIMILARLY TRAINED PERSON USING ACCEPTED AND DOCUMENTED SCIENTIFIC METHODS SHALL MAKE THE DETERMINATION. THE DETERMINATION MUST CONTAIN A STATEMENT CERTIFYING THAT THE PIT BOTTOM IS AT LEAST 20 INCHES ABOVE THE SEASONAL HIGH GROUNDWATER TABLE ACCORDING TO OBSERVED FIELD CONDITIONS. THE NAME, QUALIFICATIONS AND STATEMENT OF THE PERSON MAKING THE DETERMINATION AND THE BASIS OF THE DETERMINATION SHALL BE PROVIDED TO THE DEPARTMENT UPON REQUEST.

There is no logical rationale to support the identification of soil scientists as qualified persons to make such a determination. Although a soil scientist can make such a determination, the remaining language of the sub-paragraph precludes soil scientists from preparing a legally binding certification of the determination. That is because Soil Science is not a regulated profession in Pennsylvania pursuant to the laws and regulations of the Department of State, Bureau of Professional and Occupation Affairs. Licensure by the BPOA provides the legal qualifications for a professional to certify the results of an investigation pertaining to conditions in the Earth, which, by statutes falls within the definition of the Practice of Geology.

“Geology” means the science which treats the Earth in general, the study of the physical Earth, the investigation of the Earth's crust and the rocks and other minerals which compose it and the applied science of utilizing knowledge of the Earth and its constituent rocks, minerals, liquids, gases and other materials for the benefit of mankind.

(n) “Practice of Geology” means the practice or the offer to practice geology for others for a fee, including, but not limited to, describing the natural processes acting on earth materials, gases or fluids, predicting the probable occurrence of natural resources, predicting and locating natural or man-induced phenomena which may be useful or hazardous to mankind and recognizing, determining and evaluating geologic factors. The term shall also include the performance of geological service or work, consultation, investigation, evaluation, planning, mapping and inspection of geological work required in implementing the provisions of any Federal or State law or regulation or the provisions of any ordinance, code, rule or permit required by any local political subdivision. The term shall not include the practice of engineering, land surveying or landscape architecture for which separate licensure is required.

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To provide for the certification of such determinations as required in the sub-paragraph, licensed design professionals (engineers, geologists) are required to sign and seal all work product (Section 7 of Act 367).

The clause “THE DETERMINATION MUST CONTAIN A STATEMENT CERTIFYING THAT THE PIT BOTTOM IS AT LEAST 20 INCHES ABOVE THE SEASONAL HIGH GROUNDWATER TABLE” should be removed from the proposed regulation to avoid a situation in which the Department has no recourse to hold to account unlicensed persons who have no legal authority to certify any condition in the field.

No suggestion is made herein that a soil scientist would be unqualified to make such determination. The intent of this comment is to ensure uniformity with exiting licensing laws. (308)

Response: The intent of the certification is to ensure that the soil scientist or similarly trained professional conducted the investigation and made the determination that the pit or impoundment bottom is at least 20 inches above the seasonal high groundwater table. A licensed professional geologist is not required to make this determination.

1360. Comment: The sections regarding freshwater impoundments and the constructions requirements imposed therein will end such impoundments for conventional operations. They are simply too expensive to comply with. (361)

Response: The Department disagrees with the commenter’s cost estimate. The standards under § 78.59b provide reasonable requirements to ensure that well development impoundments are structurally sound and protective of public health and safety and the environment. The standard of structurally sound and protective of public health and safety and the environment is a standard that all well development impoundments should meet. The Department also notes that §§ 78.59a(b) and 78a.59a(b) allow an owner or operator to request approval from the Department to deviate from the requirements in this section provided that the alternate practices provides equivalent or superior protection to the requirements in §§ 78.59a and 78a.59a. Therefore, these sections should not create any significant new costs.

1361. Define “freshwater” that is used in oil & gas operations. Water leftover from fracking and contaminated fluids being recycled for fracking (such as from mining or sewage) is often mixed

with clean water for additional operations. The lack of a clear definition allows operators to avoid regulations on the use and disposal of polluted substance. (382)

Response: See response to comment 1324.

§§ 78.59c and 78a.59c Centralized impoundments

1362. Comment: Commentator strongly supports the Department's requirement that centralized impoundments either be closed or be permitted under the Department's Chapter 289 regulations. Commentator also supports the Department's proposed improvements to the requirements for closing and restoring centralized impoundments. Centralized impoundments for oil and gas operations are residual waste disposal impoundments and should be properly regulated as such. (231, 231a)

Response: The Department acknowledges the comment.

1363. Comment: Centralized waste impoundments create dangerous conditions for pollution. (290, 291, 292, 4870-4914)

Response: The Department acknowledges the comment.

1364. Comment: 78a59c(a). DEP should require a comprehensive restoration plan upon closure of existing impoundments that follows the standards stated above at 78a.59b(g). (182)

Response: Section 78a.59c(b) includes closure requirements for centralized impoundments.

1365. Comment: Neither environmental regulators nor the public has reliable information about the location of drilling waste impoundments in Pennsylvania, which makes it nearly impossible to track or hold drillers accountable for air and water pollution from these sites. Therefore, DEP must require all waste impoundments to be immediately and properly disclosed. (151, 241, 3057-3093)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking.

The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. Modifying the scope of these chapters is beyond the scope of this rulemaking.

Regarding disclosure of pit and impoundment location information, the Department acknowledges that the permit by rule structure in § 78.56 does not allow for convenient tracking and locating of pits but notes that revisions to § 78a.56 eliminating the use of on-site pits at unconventional well sites and § 78.56 requiring an approval by the Department for large on-site pits at conventional well sites should address much of the commenter's concern. The location of permitted centralized impoundments are easily tracked and known.

1366. Comment: I live next to an open impoundment on my neighbor's land and I worry constantly about what is evaporating from it - and what my father and I are breathing - because of it. Please strengthen *Standards for pits and impoundments (Sections 78.56, 78.57, 78.58, and 78.59).* (198)

Response: See response to comment 1365. Air emissions from oil and gas activities are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

1367. Comment: We continue to urge the Department to prohibit the use of all pits, centralized impoundments, and open tanks (or approved storage structures) as well as the use of underground tanks. We recommend the use of above-ground closed-loop tank systems for waste management at all well sites and for centralized waste storage serving multiple wells. Pits, impoundments, and underground tanks carry unnecessary risks of contaminating soil, groundwater, and surface water. Open pits, impoundments, tanks, and other approved storage structures expose occupants of nearby properties to volatile toxic emissions. We therefore recommend a requirement that all existing centralized impoundments be closed in one year. Closed-loop tank systems should be used instead to reduce the risk of contamination from leakage and spills and to contain volatile materials (including wastes), and wherever possible the systems should route captured vapors for use or sale as power. It is substantially more efficient to use closed-loop tank systems for waste collection, because wastes not needed for re-use can be transported directly to a waste handling facility. (211)

Response: See response to comment 1365.

1368. Comment: I support your proposal to end on-site drilling waste pits, factor schools into the permitting process of fracking sites, and require companies to restore contaminated drinking water sources. And I urge you to go further in protecting communities from fracking by ending all use of massive open air waste pits. (3122-4840)

Response: See response to comment 1365.

1369. Comment: §§ 78.59c and 78a.59c. Centralized impoundments - All wastewater pits should be closed and future ones banned. (196)

Response: See response to comment 1365.

1370. Comment: I urge you to go further in protecting communities from fracking by ending all use of massive open air waste pits. I support your proposal to end on-site drilling waste pits. (148)

Response: See response to comment 1365.

1371. Comment: We again ask that with expediency you impose the following regulations, which are critical to protecting the health of our children: Frack pits should be prohibited (Sections 78.56, 78.57, 78.58, and 78.59) Frack pits leak and emit hazardous air pollutants, thus polluting both air and water. DEP should amend the final regulations to: prohibit operators from utilizing any open-air pits and tanks regardless of size or location for storage and treatment of drilling and fracking wastes, including wastewater, drill cuttings, and dangerous substances (like gels and cement) that return to the surface after fracking. The new revisions prohibit the use of production pits at shale gas well sites, an important change that should be supported, but the use of huge open impoundments to service multiple wells will still be allowed. Centralized impoundments should be prohibited. (130)

Response: See response to comment 1365.

1372. Comment: 78.59c and 78a.59c allows the use of centralized open-air impoundments for the storage of toxic liquid waste. Centralized toxic liquid waste pits merely combines many pits to one giant pit and does nothing to address the on-going problem of what to do with the toxic liquid waste. Small or large, open air pits are prone to leaking and overflow causing contamination of the surrounding soil, leaching into private water wells, and possible spills into waterways. Open-air pits are a cheap method of storage and only benefits the natural gas industry. The health of citizens, the environment, and all organisms occupying the environment should take preference over cost saving measures preferred by drillers. (119)

Response: See response to comment 1365.

1373. Comment: 78.59c and 78a.59c allows the use of centralized open-air impoundments for the storage of liquid fracking waste. Open-air pits filled with poison constitute a serious threat to the environment and all living things therein. All forms of open-air poison storage should be strictly forbidden. The health of citizens, the environment, and all organisms occupying the environment should take preference over cost saving measures preferred by drillers. (118)

Response: See response to comment 1365.

1374. Comment: I applaud your decision to ban open frack pits on well sites, but I urge you to take the proposed rule a step further by banning all frack pits that endanger Pennsylvania's drinking water and public health and require that all natural gas drilling waste be stored in enclosed tanks.

To ban some open frack pits on well sites, but not all such as centralized impoundments does not make sense. These larger frack pits are roughly the size of 2 football fields and can hold 15 million gallons of toxic wastewater. They pose a serious risk for contaminating ground and surface water supplies, releasing harmful toxins into the air, and harming wildlife. These issues have also led to the largest fines you've ever leveled against an operator. Hundreds of Pennsylvania families have already suffered water contamination from fracking. I want you to ban all frack pits today!

Please change the regulations to ban the use of all open-air frack pits, immediately close and clean up all existing pits, and require a closed-loop system that utilizes above ground tanks for storage of wastewater. If several other states like Illinois can ban dirty and dangerous open frack pits, Pennsylvania can too!

I appreciate your dedicated efforts to keep my family and all Pennsylvanians safe and healthy. (8, 388-1761)

Response: See response to comment 1365.

1375. Comment: **78.59c** - Mounting violations and the potential for water and air pollution have already led some companies to transition away from pits and standardize the use of closed loop systems for the storage and treatment of waste. Issues with Frack pits have led to contaminated water and resulted in the largest state fines ever against a driller in Pennsylvania, both over \$4 million, to Range Resources and XTO for water contamination due to leaking. DEP should amend the final regulations to:

Prohibit operators from using ANY open-air pits and tanks regardless of size or location. for storage and treatment of regulated wastes including wastewater, drill cuttings, and substances (like gels and cement) that return to the surface after fracking. The new revisions prohibit the use of production pits at shale gas well sites, an important change that should be supported. But the use of huge impoundments to service multiple wells would still be allowed. Waste should be stored and treated only in closed, aboveground systems. (294)

Response: See response to comment 1365.

1376. Comment: **78.59c** - Require that tanks used for the storage of waste be completely enclosed. The revisions give operators the option of using tanks “without lids” to store waste on well sites- making it more likely that polluting spills and emissions will occur. (294)

Response: See response to comment 1365.

1377. Comment: In 2013, the EQB proposed new requirements for centralized impoundments at § 78.59c. In 2015, PADEP revised § 78a.59c to require that existing centralized impoundments be closed or receive a residual waste permit within three years.

For the reasons stated in the 2014 Comments and in our discussion of pits, above, we continue to oppose the use of centralized impoundments for waste handling. We recommend that the pace of phasing out centralized impoundments be accelerated, and the proposed regulation clearly prohibit their use in the future. We believe it is reasonable to require an operator to provide its closure plan within 60 days, instead of six months. The centralized impoundment should be closed and remediated within one year, instead of three years. If existing centralized impoundments are not required to close, each operator of an existing impoundment should be required either to close the impoundment or to obtain a residual waste impoundment permit within one year. More specifically, we recommend the following changes to § 78a.59c:

§ 78a.59c. Centralized Impoundments.

**** PADEP proposed deleting existing regulation sections (a) – (m) and replacing it with the new regulatory language below****

(a) CENTRALIZED IMPOUNDMENTS ARE PROHIBITED. AN OPERATOR USING A CENTRALIZED IMPOUNDMENT AT THE TIME OF THE EFFECTIVE DATE OF THESE REGULATIONS SHALL SUBMIT ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE A CLOSURE PLAN FOR THE CENTRALIZED IMPOUNDMENT FOR REVIEW AND APPROVAL NO LATER THAN (Editor’s Note: The blank refers to a date ~~six months~~ 60 DAYS from the effective date of this regulation). THE OPERATOR SHALL PROPERLY CLOSE THE

CENTRALIZED IMPOUNDMENT IN ACCORDANCE WITH THE APPROVED PLAN. OR OBTAIN A PERMIT IN ACCORDANCE WITH CHAPTER 289 (RELATING TO RESIDUAL WASTE DISPOSAL IMPOUNDMENTS) NO LATER THAN (Editor's Note: The blank refers to a date ~~three years~~ ONE YEAR from the effective date of this regulation).

~~[(n)]~~ (b) ~~[Centralized impoundments shall be restored according]~~ **THE CLOSURE PLAN SHALL PROVIDE FOR THE FOLLOWING ~~[to the following requirements]:~~**

(1) REMOVAL OF ANY IMPERMEABLE MEMBRANE, CONCRETE AND EARTHEN LINER SO THAT WATER MOVEMENT TO SUBSOILS IS ACHIEVED, AFTER THE WASTE HAS BEEN REMOVED.

(2) RESTORATION OF THE SITE TO APPROXIMATE ORIGINAL CONDITIONS TO ENSURE THAT THE ECOLOGICAL INTEGRITY AND HABITAT VALUES OF A FORESTED OR NATURALLY VEGETATED AREA ARE FULLY RESTORED INCLUDING PRECONSTRUCTION CONTOURS, AND BACKFILLING THE IMPOUNDMENT TO ABOVE FINISHED GRADE TO ALLOW FOR SETTLEMENT OF FILL AND SO THE IMPOUNDMENT WILL NO LONGER IMPOUND WATER.

(3) A PLAN FOR THE REMOVAL OF EQUIPMENT, STRUCTURES, WASTES AND RELATED MATERIAL FROM THE FACILITY.

~~(4) AN ESTIMATE A SCHEDULE OF WHEN FINAL CLOSURE WILL OCCUR, TO DEMONSTRATE COMPLIANCE WITH THE ONE-YEAR CLOSURE AND REMEDIATION REQUIREMENT IN § 78a.59c(a) INCLUDING AN EXPLANATION OF THE BASIS FOR THE ESTIMATE.~~

[no further changes recommended for this section] (211)

Response: The Department disagrees that the compliance timeframes proposed by the commentator are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements. Additionally, restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements.

1378. Comment: While Companies should also be required to immediately close their pits or bring them under the standards of a residual waste permit. The three years from the implementation of the regulations that operators are being given is too long. These open impoundments have a history of incurring violations and a track record of water contamination. We simply can't wait three years to stop or improve this antiquated practice. (229)

Response: The Department disagrees that the compliance timeframes are too long. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1379. Comment: Though the majority of operators are clearly avoiding well-site storage pits in their future plans, eliminating any possibility of permitting will clearly define that this dangerous practice will not be approved in future operations. In addition require that all centralized wastewater impoundments of any type shall be closed within six months of implementation date for these regulations. This action will send a strong signal to the industry that these practices are a risk that must be eliminated. However, if temporary permitting is required all such actions must meet the mandates of the Residual Waste Regulations at 25 PA code Chapter 299. (157)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department believes that the technical standards for temporary pits prescribed under §78.56 ensure protection. The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1380. Comment: New regulations should require that plans be submitted immediately to close existing waste impoundments with completion of closing required in 6 months. (129)

Response: See response to comment 1378.

1381. Comment: DEP should also require operators to close all centralized waste impoundments immediately upon the effective date of the regulations. (2848-3056)

Response: See response to comment 1378.

1382. Comment: All existing waste impoundments should be required to be properly closed immediately upon the effective date of the regulations. Allowing operators 3 years to properly close their existing impoundments, allows toxic pollution to continue, threatening air and water quality. (130)

Response: See response to comment 1378.

1383. Comment: Require all waste impoundments to be properly closed IMMEDIATELY upon the effective date of the regulations. The revisions give operators 3 years to either properly close their existing impoundments or bring them under compliance with the construction requirements in residual waste permits. This allows toxic pollution to continue, threatening air and water quality and keeps people in harm's way. This is unacceptable! (111, 299)

Response: See response to comment 1378.

1384. Comment: I agree that centralized open waste impoundments must be addressed, but I remain concerned that DEP's requirement that such impoundments be phased out or upgraded to meet residual waste regulations may not address pollution risks quickly enough. Under DEP's

proposal, it may take more than 3 years before open storage of waste is eliminated.

Instead, I support a prohibition of open waste impoundments to take effect immediately after the rules are adopted, due to significant risk of air and water pollution, as well as risk of human exposure to hazardous substances; I support DEP's proposed prohibition on the use of temporary on-site waste storage pits. Waste should be contained in closed systems to ensure that it does not leak into the environment. (24, 25, 31, 40, 41, 45, 48, 50, 51, 53, 54, 55, 59, 60, 62, 63, 64, 65, 66, 67, 68, 70, 73, 91, 92, 93, 94, 206, 268, 270, 294, 345, 381)

Response: See response to comment 1378.

1385. Comment: **78.59c** - Allowing operators three years to properly close waste impoundments or bring them into compliance with construction standards for residual waste permits is too long. This should be shortened to half a year, one year maximum. (230)

Response: See response to comment 1378.

1386. Comment: 78a59c(a). DEP should require all currently used and existing centralized impoundments to be closed within 6 mos., not three years. The standards to which current impoundments were built are less stringent and could provide pollution pathways and dangers to health and safety.

DEP should not allow centralized impoundments for fluids that result from gas and oil well extraction. Even under the Residual Waste Disposal Impoundment permitting program, the waste in these impoundments is highly toxic and poses water and air pollution hazards. We oppose the use of open impoundments for the storage of oil and gas wastewater and fluids; all waste and fluids should be stored in closed and sealed containers with filtration systems and comprehensive secondary containment. (182)

Response: See response to comment 1378. In addition, the final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. Modifying the scope of these chapters is beyond the scope of this rulemaking.

1387. Comment: Other suggestions: A prohibition of open waste impoundments to take effect immediately after the rules are adopted, as risk of air and water pollution, as well as risk of human exposure to hazardous substances is prevalent. (34)

Response: See response to comment 1378.

1388. Comment: Regarding open waste impoundments, the proposed requirement that these I agree that centralized open waste impoundments must be addressed, but I remain concerned that DEP's requirement that such impoundments be phased out or upgraded to meet residual waste regulations may not address pollution risks quickly enough. The DEP should adopt regulations that prohibit of open waste impoundments. (58)

Response: See response to comment 1378.

1389. Comment: **78a.59c(a) and (b) and 78.59c(a) and (b)** - Subparagraphs (a) and (b) of this section are duplicating requirements that are already part of the ESCGP-2 process. Provisions that duplicate ESCGP-2 requirements should be deleted from this section in order to avoid confusion. (190)

Response: Erosion and sediment control requirements are separate from the requirements described in Sections 78a.59c and 78.59c. In addition, not every centralized impoundment will be subject to the requirements of ESCGP-2.

1390. Comment: Close immediately all open air frack pits and impoundments, NOW! Not within three years from when these regulations go into effect. We have been waiting 10 years for this ugly groundwater and air-polluting hazard to end. Why do we have to wait three more years? Why does the industry get more time? Dr. Michel Boufadel at University of Pennsylvania has shown how leaking impoundments can leave a 200-year legacy of groundwater pollution. News reports have said that DEP does not even know how many such impoundments exist or where they are. Simple rule - CLOSE THEM ALL, NOW, and don't bury them either. If they are still there six months from now, the operator should go to jail. (354)

Response: The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

1391. Comment: All waste impoundments should be required to be properly closed immediately upon the effective date of the regulations. Allowing operators 3 years to properly close their existing impoundments, allows toxic pollution to continue, threatening air and water quality.(382)

Response: See response to comment 1378.

1392. Comment: §78.59c and 78a.59c. Centralized impoundments.

We strongly support the proposal to phase out centralized waste impoundments as currently constructed and permitted. For years, DEP's permitting and regulation of centralized impoundments has been less than clear, with parts of both Chapter 105 and the Solid Waste Management Act being used. Earthworks and others have documented how oil and gas operators can change the intended use of impoundments over time, creating further regulatory uncertainty and traffic and environmental problems for communities. After years of resident complaints, for example, in 2014, DEP issued a record \$4.15 million fine to Range Resources for several violations of five state laws, following investigations that confirmed soil and groundwater contamination at eight centralized waste impoundments in Washington County.

§78.59c and §78a.59c should be amended to require operators to submit a closure plan within 60 days, instead of six months. If operators have been maintaining proper documentation on the construction, maintenance, and use of their impoundments, they will not need six months to develop a closure plan. In addition, centralized impoundments should be fully closed and remediated within one year. Allowing a closure period of three years could prolong improper use and maintenance—and in turn environmental and health risks—of impoundments that operators eventually plan to close.

We object to the allowance of the continued construction and use of centralized waste impoundments. §78.59c(a) and 78a.59c(a) should be amended to remove the option of permitting and repermitting impoundments under Chapter 289 on residual waste. If DEP retains this option, at minimum the regulations should state that oil and gas operators will have to comply with requirements for Class I residual waste impoundments under Chapter 289.

Earthworks recently documented gaps in the characterization and testing of waste disposed of at Pennsylvania landfills, as well as growing scientific and field evidence that oil and gas field waste contains toxic, hazardous, and radioactive substances. Chapter 289 includes additional requirements for Class I residual waste impoundments that are necessary to apply to oil and gas waste management (e.g., pertaining to liners, leachate testing, and waste classification). In addition, oil and gas wastes would meet the definition of wastes disposed at Class I impoundments, i.e., those with “the greatest degree of potential for adverse effects on groundwater and the greatest potential impact on public health, safety and the environment.” (188)

Response: The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements. The scope and content of Chapter 289 is beyond the scope of this rulemaking.

1393. Comment: §78a.59c. We support the prohibition and closing of centralized waste water impoundments. We are extremely supportive of the Department taking this step to protect our water resources. There have been several operators with very costly violations associated with centralized waste water impoundments. We’ve had concerns regarding ineffective leak detection systems. We were not confident that the use of centralized waste water impoundments provided adequate and sufficient protection of our water supplies. Thank you for discontinuing their utilization.

We recommend that in the case that as closure proceeds and contamination is noted in either soil or on-site monitoring water wells, that all owners of water supplies within a minimum of 1,000’ be notified of contamination, along with instructions of how they may contact the Department should they notice any changes in the water quality of their private water supply. In such cases, we also recommend the Department pull water samples to determine whether there are any impacts beyond the on-site monitoring water wells

With the addition of the private water supply consideration we recommend the provisions as written be adopted at a minimum. (170)

Response: The Department acknowledges the comment. In the event that spills or leaks are detected, they must be reported and remediated in accordance with §78a.66 which requires the operator to complete the Act 2 clean-up process.

1394. Comment: 78a.59c(b)(2) Restoration of the site to “approximate” original conditions should be clarified to use the term ABACT or using best management practices available. (161)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. The Department does not anticipate any significant environmental harm to result from impoundments that are restored in accordance with this section.

1395. Comment: 78a59c(b.2). DEP should require a comprehensive restoration plan that follows these standards: Prior to site disturbance, identification of soil types and locations, soil layer depths,

and at least 98% of existing plant species (identify genus and species) including herbaceous plants, shrubs and trees, and a calculation of the prevalence of those species, should be required to inform site restoration. Utilization of qualified soil scientists for the soil investigation, and qualified botanists for the plant species identification and quantification should be required. The plant survey should be performed in season(s) appropriate for identifying the herbaceous species. For sites larger than 1 acre, provide mapping of the locations of soils and species groups is necessary and should be required.

Soil during use of the site should not be compacted and if compacted should be renovated. Soil analysis should include a compaction analysis (such as a soil permeability test and/or soil pore analysis) and compacted soil should be renovated to natural soil conditions. There should be a minimum requirement for the top 6" minimum of the soil to be "conducive for plant growth typical in the area". This prevents backfill of the upper portions with material detrimental for plant growth. This needs to be increased in areas where the pre-disturbance survey reveals additional topsoil depth.

The vegetation that is planted should establish a diverse, effective, permanent, vegetative cover which is capable of self-generation and plant succession. Vegetation should be native species unless pre-condition is lawn or crops. Original conditions that must be restored include pre-construction soils types and layers, herbaceous plants, shrubs, and trees. An exception to the requirement to return to pre-conditions is that non- native invasive plant species should to be installed even if they were pre-existing. This is to prevent the addition of invasive species, which harm ecosystems and habitats.

DEP should require that the site support the land uses that existed prior to the gas and oil operations, including ecosystem functions such as plant communities and habitats that support wildlife species. "To the extent practicable" needs to be carefully applied in regards to restoration because in order to restore to original conditions fence enclosure to prevent deer and other animal predation, soil renovation, leaf compost layers, and monitoring and maintenance until plants are established add costs but are essential in order to meet a standard that does avoid degradation of the natural environment. (182)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements. Projects meeting the requirements will not pose a threat of significant environmental harm.

1396. Comment: 78a.59c(b)(8) and 78.59c(b)(8) - Commenter submits that subparagraph (b)(8) should be deleted. Considering this proposed rule is for a freshwater centralized impoundment, there is no need for a soil sampling plan and no need to report spills and leaks to DEP. This would be akin to DEP requiring homeowners to report spills and leaks regarding their swimming pools. This rule creates an unnecessary burden and expense on operators and will provide no associated benefit to the environment. As a result this rule should be removed from the ANOFR. (190)

Response: Sections 78a.59c and 78.59c address centralized impoundments which are impoundments that may be used to store wastewater.

1397. Comment: Section 78.59c(c)(6) The 500 feet minimum distance from private water supplies should be increased to at least 1000 feet considering the massive size, capacity and potential for impact to private water supplies that these centralized impoundments have. Private water supplies could be private wells for homeowners, private springs for farmers, etc. Construction and operation of these massively large centralized impoundments containing 250,000 to 500,000 + gallons of water certainly can and will impact the surface and ground water sources of the private landowner unless these features are far enough away so adequate infiltration, runoff and groundwater recharge can maintain supply. (9)

Response: The subsection the commenter mentions was deleted on the final rulemaking.

1398. Comment: Section 78.59c(e), (3) A great deal of detail is provided in the leak detection system and zones, which is important and needed, however there is no reference or requirement for the sump pumps or collection system to have an audible alarm when a leak or failure is detected. Can an audible alarm be added (as a minimum measure) for ALL leak detection systems for these very large facilities? (9)

Response: The subsection the commenter mentions was deleted on the final rulemaking.

1399. Comment: Section 78.59c(f)(1) Hydrogeologic investigation standards section. This section is vague in providing the minimum size of investigation required to be performed. It doesn't state if it is within 10 or 1000 feet of the well pad, if the investigation should be upstream or downstream or provide any minimum area. A minimum size of an area or boundaries should be provided for this vital investigation. In addition – this section does not provide a minimum length of time or number of samples required for the water quality testing, groundwater elevation studies or locations. It is possible the investigation can be limited to within 10 feet of the site, be only 6 months long and have little to no actual valuable data collected to evaluate the actual site and surrounding conditions. Much more direction and detail is needed for this section in order to be able to protect the Commonwealth waters, private water supplies and the environment. (9)

Response: The subsection the commenter mentions was deleted on the final rulemaking.

1400. Comment: Section 78.59c(f)(5) This section doesn't specify which types of passive treatments are acceptable, nor does it provide sizes, types, quantities or limitations of the passive treatments. The only condition is that they may not alter the supply of receiving water bodies or downgrade uses. A passive treatment could be a 10' x 20' rock channel and after installation it is too difficult to determine or more importantly prove alteration, let alone find a solution. It may be helpful to provide additional definition to the passive treatments allowed as well. (9)

Response: The subsection the commenter mentions was deleted on final rulemaking.

1401. Comment: § 78a.59c. Centralized impoundments. These provisions require the oil and gas industry to comply with residual waste standards for centralized impoundments, which is above and beyond what other industries that similarly utilize such impoundments are required to do. Commenter believes strongly that regulatory programs should be fair and equitable and create a level playing field, and to this end they should be clear and comprehensible. An agency should not impose disparate requirements or disproportionate costs on one particular economic or extractive sector. Nor should they create unnecessary risk, costs, or uncertainty for the regulated community. These concepts of fairness and clarity are particularly important for natural gas development, which involves a commodity that is widely used and provides important economic and public benefits to the Commonwealth and the nation. In addition, these provisions place

additional challenges and costs against the industry's ability to stage and store water for a robust reuse and recycling program. As a general matter, they will increase costs and consume resources putting unconventional wells at a disadvantage. In addition, we support comments on the extensive list of concerns related to this section. These provisions should be eliminated entirely or standards should be modified for all industries utilizing centralized impoundments. (199)

Response: The Department disagrees with the commenter's assertion that the regulations impose disparate requirements or disproportionate costs on the oil and gas industry. The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX which will ensure that Chapter 78 does not result in disparate requirements or disproportionate costs on one particular economic or extractive sector. Subpart D, Article IX contains the requirements for managing residual waste properly, and these requirements apply to residual waste that is generated by any type of industrial, mining or agricultural operation.

1402. Comment: Centralized Impoundments (§ 78.59c and § 78a.59c) we respect and share the Department's concern as they relate to management and integrity of centralized impoundments . Protection of water resources and our ability to lessen demand on water resources are driving factors in our operations. The ability to utilize this infrastructure plays a vital role in our ability to achieve greater than 90% reuse of produced fluids and flowback as part of our fluid recycling initiative. Our ability to consistently achieve these types of reuse percentages year after year greatly lessens the demand on freshwater and other water resources of the Commonwealth.

Commenter appreciates the Department's consideration to allow for continued use of these facilities by providing for a mechanism to allow for permitting and operation of this important infrastructure through Bureau of Waste Management.

Future operations rely heavily on the planned infrastructure that has already been designed and submitted for permit approval to the Department. Commenter would appreciate consideration for a mechanism for expedited permitting process for centralized impoundments that were received by the Department and for which the Department has reviewed for completeness prior to the date of the §78a proposed regulations. This would provide relief to operators from costly project delays or cancellations. (205)

Response: The Department will take into consideration operators' concerns related to the processing of centralized impoundment permit applications.

1403. Comment: § 78a.59c The Department has not provided an adequate statement of need or estimate of cost to the regulated community pursuant to the requirements of Pennsylvania's Regulatory Review Act. The ANFR is not a substitute for an agency to fulfill any of the formal steps of the Regulatory Review Act or the accompanying requirements imposed on the promulgating agency. Accordingly the Department should not proceed to finalize this totally rewritten provision regarding centralized impoundments, but should withdraw Section 78a.59c and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA.

The majority of this section was removed from the ANFR thereby disallowing centralized impoundments through the Office of Oil and Gas Management and Bureau of Waterways Engineering and Wetlands, Division of Dam Safety. We respectfully disagree with the Department's new proposed requirement to close centralized impoundments that have been or will be built to current Department specification. The elimination of these centralized

impoundments severely impacts operators' abilities to reuse water, minimize disposal, minimize dependence on freshwater withdrawals, and to minimize water truck traffic. Substantial increased costs will be incurred by operators for alternative fluid storage systems and the locations necessary for citing these systems. Additionally, original capital and subsequent capital improvements by operators to these existing centralized impoundment facilities, as well as centralized facilities in the process of being improved, are now wasted capital.

The alternative to a centralized impoundment proposed in this section of the ANFR, a "residual waste disposal impoundment", is defined in Chapter 287 defined as "a facility for disposing of residual waste by impoundment." Operators that presently use authorized centralized impoundments are clearly not disposing of fluids by placing it into impoundments, rather such impoundments are used to hold or store fluids until the fluids can be reused and recycled at subsequent well sites and related oil and gas operations for development. The Department's previous definition of centralized impoundment acknowledged this fact ("A facility that is...[c]onstruced solely for the purpose of servicing multiple well sites.").

The new ANFR provision would require current "centralized impoundments" to obtain a permit in accordance with the Residual Waste requirements for disposal impoundments under 25 Pa. Code Chapter 289 ("Residual Waste Disposal Impoundments"). Blanket application of Chapter 289 disposal impoundment requirements to Centralized Impoundments results in many instances of inappropriate information, design, and operational requirements that are severely lacking in clarity and intent – and are not suitable – when applied to a temporary storage impoundment for fluids intended for the purpose of servicing oil and gas operations.

It is not clear whether the Department has considered or established the necessary steps or timeframes required to convert existing centralized impoundments. As proposed, three years is insufficient time to permit new disposal impoundments under Chapter 289. A groundwater study and one year of groundwater data (per 25 Pa. Code § 289.122(a)(9)) is required before submission of a Phase I application. This requirement alone would require a subsurface investigation, well installation, one year of monitoring, evaluation, and reporting within the Phase I application, which would likely take at least 16 months. Considering the requirement for both completeness and technical submissions/reviews and application revisions for both the Phase I and Phase II applications, a five year period at minimum is a more realistic transition time for replacement permits under Chapter 289. This is not to mention that in certain circumstances the setback and buffer zones set forth by the residual waste regulations for disposal impoundments will require an altering of the current location of the existing centralized impoundment.

These and other factors will lead to uncertainty within the regulated community and with PADEP technical staff as to the completeness and adequacy of permit applications for temporary oil and gas fluid storage impoundments. Other than stating that obtaining a permit in compliance with Chapter 289 is required, PADEP has not clarified the applicable portions of the residual waste regulations suitable for temporary oil and gas fluid storage impoundments. We have identified the following critical deficiencies in the current proposed approach, which is not an exclusive list:

- Inside dike slopes of 25% (4:1) and a protective cover under 25 Pa. Code § 289.272, which may be appropriate for a permanent disposal impoundment, are not appropriate for a temporary fluid storage impoundment and not required for permitted dams in Pennsylvania. It is not clear if the agency will accept an exposed geomembrane as meeting the protective layer requirement for slopes, which is appropriate for a storage impoundment, but historically not acceptable by PADEP for residual waste disposal impoundments.

- There does not appear to be a mechanism for grandfathering existing ponds that do not meet the new setback or buffer zone requirements under 25 Pa. Code § 289.422. This will result in a requirement that centralized impoundments, without evidence of releases, be closed and reconstructed at a new location. This is not an environmentally sound approach to land management when liner systems and dikes can be upgraded, when necessary, at locations of existing centralized impoundments to meet Chapter 289 design requirements. Current Chapter 289 requirements appear to have grandfathered impoundments existing at the time of the effective date of these regulations. Existing centralized impoundments that are permitted with a defined location at the time of the effective date of this rulemaking should be grandfathered as well.
- As proposed in the ANFR, it is not clear if centralized impoundments will need to meet all requirements for residual disposal impoundments that are referenced within Chapter 289, such as Chapter 287 environmental assessment requirements, or whether compliance with Chapter 289 requirements would be sufficient.
- Pursuant to 25 Pa. Code § 289.242, clean closure is not an option for closure of temporary oil and gas fluid storage impoundments. A final cover and cap are required to be placed at closure, which would be inappropriate for temporary oil and gas fluid storage impoundments.
- A leachate collection zone is required under §289.431, which is not feasible temporary oil and gas fluid storage impoundments.
- Waste disposal impoundments may not have waste placed within 25 feet of the edge of a liner system per 25 Pa. Code § 289.432. This is inappropriate and does not add to the protectiveness of a temporary oil and gas fluid storage impoundment.
- It is unclear how the Department will define captive versus non-captive facilities when the storage is limited to reclaimed wastewater designated for reuse/recycling. Shipments received recycling could all be considered non-captive wastes subjecting facilities to unnecessary and inappropriate setback and buffer zones, weighing requirements, and recordkeeping.
- A waste solidification plan required under 25 Pa. Code § 289.114 for fluids that are temporarily stored, not disposed, in the impoundment is inappropriate.
- An evaluation of soils to be used for an intermediate and final disposal cover under §289.124 for an impoundment that will be used to temporarily store fluids is inappropriate.
- As gas monitoring and control plan under 25 Pa. Code § 289.162 is inappropriate for an oil and gas fluid storage impoundment.
- Weighing of wastewaters under 25 Pa. Code § 289.224 unless an alternate method of measurement is approved is inappropriate for an oil and gas fluid storage impoundment.. Tracking volumes of fluids for such impoundments may be sufficient.
- Fugitive air contaminant control measures under 25 Pa. Code § 289.227 are inappropriate for oil and gas fluid storage impoundments.

- Daily volume limitations under 25 Pa. Code § 289.229 which appear to prohibit receiving waste volumes “in excess of the maximum or average daily volume in the permit” are inappropriate for a oil and gas fluid storage impoundment.
- Operational records are required under 25 Pa. Code § 289.301 are inappropriate and unnecessary for an oil and gas fluid storage impoundment, including gross weight of delivery vehicles, registration, and county of generator.

For the above reasons, regulating oil and gas fluid storage impoundments under permanent disposal impoundment Chapter 289 regulations creates many problems and ambiguities for both the regulated community and for PADEP technical staff that will make permitting, operating, and timely regulatory transition of the oil and gas fluid storage impoundments unmanageable. Since the proposed revisions of this section were introduced in this ANFR and were not December 2013 proposed rulemaking, the Department has not provided the regulated industry, or the public for that matter, with its reasoning and other support for permitting temporary oil and gas fluid storage impoundments as permanent residual waste impoundments.

The commentator’s Estimated Summary of Costs

The additional cost to permit a new centralized impoundment under Chapter 289 may add a range of \$120,000 to \$230,000 in costs, based on site conditions. If an existing permitted centralized impoundment facility is forced to close due to the proposed changes in this ANFR, an owner may realize a loss of \$1,500,000 to \$2,500,000 of investment plus the immediate additional costs to restore the site. If a centralized impoundment permit has been submitted to PADEP under the current regulations and is pending review, an applicant would realize a loss of \$150,000 to \$250,000 plus costs associated with the time to prepare the application as a result of this proposed revision.

(210)

Response: The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. Modifying the provisions in this article is beyond the scope of this rulemaking. The final rulemaking allows operators to continue to develop and utilize centralized impoundments in the Commonwealth and also ensures that Chapter 78 does not result in disparate requirements or disproportionate costs on one particular economic or extractive sector. The rulemaking allows an adequate timeframe for operators to obtain the proper permits or upgrade existing facilities, as necessary. See the final regulatory analysis form for an explanation of the need of the regulation as well as an economic analysis.

1404. Comment: § 78a.59c (b)(6) It appears the paragraphs numbered (a)(7) – (11) are intended to be subparagraphs under (a)(6), so they should be renumbered (i) – (v) instead of (7) – (11). (210)

Response: The Department acknowledges the comment and has made the change.

1405. Comment: When applied to oil and gas operations, the standards provided in Chapter 289 should include:

- Double lining with leak detection.
- Ongoing inspection with prompt reporting, remediation, and repair requirements.
- Documentation of inspections and repairs maintained for sufficient time to allow for Department review during routine inspections. (225)

Response: The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. Modifying the provisions in this article is beyond the scope of this rulemaking.

1406. Comment: Centralized Impoundments: The majority of §78a.59c has been removed thereby disallowing centralized impoundments through the Oil & Gas and Dams & Waterways programs and requiring closure of existing impoundments. This severely impacts operators' abilities to reuse water, minimize disposal, minimize dependence on freshwater withdrawals, and minimize water truck traffic. Substantial increased costs will be incurred by operators for alternative storage systems. Additionally original capital and subsequent capital improvements by operators to these existing systems and systems in process are now wasted capital totaling millions of dollars. The Department has not provided an adequate statement of need or estimate of cost to the regulated community pursuant to the requirements of Pennsylvania's Regulatory Review Act. The ANFR is not a substitute for an agency to fulfill any of the formal steps of the Regulatory Review Act or the accompanying requirements imposed on the promulgating agency. Accordingly the Department should not proceed to finalize this totally rewritten provision regarding centralized impoundments, but should withdraw §78a.59c and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA.

At a minimum those impoundments that have recently been upgraded to engineering standards that meet or exceed those for residual waste storage impoundments or pending applications for new impoundments meeting those engineering standards should be allowed to proceed and continue in service for their useful life. Large volume storage is needed to get close to 100% recycling of flowback and produced water. The volume of water we generate, the level of our activity, the general nature of our operations, logistics, and state regulations on handling reuse water are the key drivers for our ability to reuse 100% of our flowback and produced water. Piping water to well locations is preferable from a traffic volume and safety perspective and typically more economical but can be limited by volume of reuse water storage. The availability of an adequately sized storage facility within the distance limitation of a pad being developed is critical in that it must provide adequate storage to be sufficiently front-loaded with water prior to the well completion. If the storage facility is not large enough, little or no advantage is gained as opposed to trucking reuse water directly to a location. There is a misconception that above ground steel tanks offer better environmental protection than in-ground impoundments. While tank farms certainly can be constructed to operate safely, placing a large volume of reuse water above grade with hydrostatic heads up to 36" does warrant some attention. This provides potential energy from the hydrostatic head that, in the event of a piping leak or other equipment failure could result in a catastrophic, large volume release to the environment. Further, steel tanks and piping are susceptible to corrosion and leakage over time, enhanced by salt in flowback and produced water. For properly constructed in-ground impoundments, there is no above-grade hydrostatic potential, therefore no risk of catastrophic leakage. Plastic liners in in-ground impoundments are not susceptible to corrosion. Leak potential from impoundments is limited to the types of very low volume leaks that various operators have experienced over the past several years which will be significantly reduced using current construction and operating methods. Centralized tank facilities have a much larger footprint on the land than centralized impoundments. Based on 13.5 million gallons, the footprint of a tank farm made up of 1 million gallon tanks is 7 acres versus 4 acres for one centralized impoundment. In addition, a comparable capacity tank farm will cost nearly seven times as much to construct as a centralized impoundment. The 1 million gallon tanks likely to be used are approximately 36' high and 70' in diameter. Thirteen to fourteen tanks of this size would be much more visible than an earthen impoundment. The tanks would resemble a fuel tank farm or other similar industrial facility.

Several of these highly visible tank farms would be required to replace the multiple impoundments currently used by Range. There is no rational basis to essentially ban centralized impoundments, especially those holding pre-treated water. Anecdotal complaints and apocryphal reports do not support this action. The Department should revert to the prior version of this section or withdraw the section for further collaboration with stakeholders. Section 78a.59c would also require that centralized impoundments be permitted as residual waste disposal impoundments. The definition of Residual Waste Disposal Impoundment in Chapter 287.1 is a facility for disposing of residual waste by impoundment. Material is not being disposed of by placing it into an impoundment nor is that the intent, so this is not applicable. Fluid holding or storage is the appropriate description in that the fluids are only being held until they can be used again. Since this is the case, Chapter 299 would be a more applicable regulatory framework for these operations. If future centralized impoundments are required to obtain residual waste permits they should only be required to meet the residual waste storage impoundment regulation, as are applicable to all other forms of residual waste. (191)

Response: The procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

The Department disagrees with the commenter's assertion that the final rulemaking essentially bans all centralized impoundments. The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. This allows operators to continue to develop and utilize centralized impoundments in the Commonwealth and also ensures that Chapter 78 does not result in disparate requirements or disproportionate costs on one particular economic or extractive sector. The rulemaking allows an adequate timeframe for operators to obtain the proper permits or upgrade existing facilities, as necessary. See the final regulatory analysis form for an explanation of the need of the regulation as well as an economic analysis.

1407. Comment: § 78a.59c – Centralized Impoundments - PIOGA objects to a prohibition against the use of pits and impoundments for temporary storage unless or until DEP provides practical storage alternatives that will encourage the reuse and recycling of flowback and produced water. The centralized storage tank proposal in § 78a.57a above does not provide such an alternative and will not be likely to be used by industry. PIOGA and its members would be happy to engage in detailed discussions about operational realities and technical details that must form the basis for such a regulatory option. (213)

Response: The Department acknowledges the comment. The Department has removed sections 78a.57a and 78.57a from the final rulemaking. The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. Modifying the scope of these chapters is beyond the scope of this rulemaking.

1408. Comment: We are pleased to see that centralized impoundments will no longer be allowed to be built under the proposed regulations. However, we would like clarification on the language in § 78a.59c(a) and § 78.59c(a). It appears that the owners of an already existing centralized impoundment have the option during a three year period to apply for a permit in accordance with Chapter 289 to convert their centralized impoundment to a residual waste disposal impoundment, with no clear direction or timeline for closing such a converted facility. Please clarify if we are reading this section correctly. If we are, we have concerns we'd like to see addressed. We believe

neighbors. including public land managers such as the NPS, should be notified in writing when the permit is first filed if the centralized impoundment is adjacent, uphill, upstream or would otherwise potentially impact said neighbors. Such a permanent facility could negatively impact the land, resources and values that the NPS is charged with protecting. Adequate notification would allow the NPS to participate in the permitting process.

Finally, we recommend that centralized impoundments never be permitted to convert to residual waste disposal impoundments if they are located within 500 feet of a water course or 100 feet from a 100-year floodplain, whichever is greater. NPS has responsibility under Section 7 of the Wild and Scenic Rivers Act for many hundreds of miles of these rivers in the Commonwealth that could potentially be adversely affected by leaks or failures of such impoundments. (200)

Response: The final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX. Modifying the provisions in this article is beyond the scope of this rulemaking.

1409. Comment: Prohibit open frack ponds that service one or multiple wells to curtail the many incidents of leaks and spills. Tanks used for the storage of waste must be completely enclosed. (129)

Response: See response to comment 1365.

1410. Comment: Require all waste impoundments to be properly closed IMMEDIATELY upon the effective date of the regulations. The revisions give operators 3 years to either properly close their existing impoundments or bring them under compliance with the construction requirements in residual waste permits. This allows toxic pollution to continue, threatening air and water quality and keeps people in harm's way. This is unacceptable! (84)

Response: See response to comment 1378.

1411. Comment: Standards for frack pits and impoundment - Require all waste impoundments to be properly closed immediately upon the effective date of the regulations. The three year grace period for industry to come into compliance is excessive and fails to protect human health and safety. (218)

Response: See response to comment 1378.

§§ 78.60 and 78a.60 Discharge requirements

1412. Comment: Section 78.60 (7) Discharge requirements. This section only specifies that the land application can be within 200 feet of a water supply or within 100 feet of a stream, watercourse, wetland or body of water. This distance should be at minimum doubled or tripled to take into account natural riparian and ecological areas that could be impacted if treatment options are required for false negative results, thus causing land applications to be contaminated and thus treatment required. There would also need to be available space to installed erosion control measures that would impact additional land. Allowing ANY land applications within 100 feet of a stream, wetland or water body, regardless of water quality or designated uses, is far too risky/close in the event there is an issue or the need for remedial work to be done. (9)

Response: The Department believes 100 feet setback from a stream, wetland or water body is adequate because the rulemaking allows the discharge of tophole water or water in a pit

from precipitation only if it includes no additives, drilling muds, regulated substances or drilling fluids other than gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impact.

- 1413.** Comment: Prohibit the land application of tophole water, pit water, fill, or dredged material. These substances can contain chemicals and sediments bound with pollutants that pose risks to water, air and soil. (129, 130)

Response: The rulemaking allows the discharge of tophole water or water in a pit from precipitation only if it includes no additives, drilling muds, regulated substances, or drilling fluids other than gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impact.

- 1414.** Comment: Prohibit the onsite burial of waste pits. Buried pits can leak and pollute groundwater over time, yet burial allows operators to walk away from any responsibility after completing operations. (130)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to prohibit this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste containing contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes containing contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

- 1415.** Comment: * Disposal of brine, drill cuttings, and residual waste (Sections 78.60, 78.61, 78.62, and 78.63, and 78.70) Prohibit the burial or land application of drill cuttings, which can contain polluting and radioactive substances. (130)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to prohibit this practice because it is not commonly used by unconventional

operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste containing contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes containing contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1416. Comment: Contaminated oil and gas wastes, including drilling muds and cuttings, that are buried underground or applied to land present an unacceptable risk of contaminating soil and groundwater. Tophole water that has been contaminated by oil and gas operations presents the same risk if it is discharged to land. We oppose the land application not only of all drilling muds and cuttings but also of residual waste. All contaminated drilling muds and cuttings, residual oil and gas wastes, and contaminated fluids, including contaminated tophole water, should be classified, handled, and disposed of as waste. (211)

Response: The rulemaking allows the discharge of tophole water or water in a pit from precipitation only if it includes no additives, drilling muds, regulated substances, or drilling fluids other than gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impact.

1417. Comment: 78a.60 We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1418. Comment: § 78.60 - § 78.63 Discharge and Disposal

The Department proposes to use the term “regulated substances” throughout these sections, which is overly broad and lacking in clarity necessary for regulatory guidance to the agency and the regulated community. “Regulated substances” as defined would include sediment or other natural constituents of tophole water or soil, which would effectively prohibit the discharge of tophole water and the disposal of uncontaminated drill cuttings, entirely defeating the purposes of subsections 78.60 and 78.61. The term should be removed from 78.60(b)(1), 78.61(a)(2), 78.61(b)(2), and elsewhere in these sections to avoid absurd results and unintended consequences.

The Department has also added a new prohibition to the discharge of tophole water or disposal of drill cuttings “within the floodplain,” which lacks both clarity and justification. Floodplains may extend thousands of feet beyond water courses in flat areas of the Commonwealth, which could improperly prohibit typical practices of conventional oil and gas operations unnecessarily.

Without a Comment/Response Document explaining why the Department is suggesting this revision, however, we cannot provide a fully informed comment on the proposal.

The Department has also added new notice requirements. DEP is an agency tasked only with the enforcement of environmental laws and regulations, and should not require or dictate landowner/operator communications beyond any provisions expressly provided in Act 13 or other enabling statutes.

The overall implication of both the 2013 Proposal and the new burdens in the 2015 Proposal is to treat these very small quantity materials as regulated substances without supporting data, statement of need, cost analysis or examination of alternatives. Similar problems were discussed by us in previous comments and those comments are incorporated herein inasmuch as they are even more applicable now in the face of the heightened burdens introduced in 2015. (212)

Response: The definition and use of the term “regulated substance” is intended to cover all substances that may cause pollution. Tophole water is not considered “contaminated” unless it is incorporated with material other than tophole water. Section 78.60(b)(1) acknowledges that some sediment is expected as a natural part of tophole water. Similarly, drill cuttings are not considered “contaminated” unless they are incorporated with material other than drill cuttings. The Department does not anticipate any absurd results or unintended consequences to result from the use of the term “regulated substances” in the final rulemaking.

Regarding the request for release of the draft Comment and Response Document, see response to comment 2220.

The Department disagrees that the definition of a floodplain or its application in the above referenced context lacks clarity. Floodplains are particularly vulnerable areas due to their proximity to bodies of water and frequency of inundation when the carrying capacity of a body of water is exceeded. Additional protection of these vulnerable flood-prone areas, regardless of the size of the floodplain, is necessary to protect waters of the Commonwealth from pollution events.

The Department believes that transparency and notice are important concerns, however, and has retained language in sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

1419. Comment: In 2013, the EQB proposed additional clarifications and requirements relating to discharge of tophole water to land. In 2015, PADEP’s revised the proposed regulation (§ 78a.60) to clarify discharge of all “regulated substances” to land is prohibited, and discharge is not allowed within a floodplain. PADEP also eliminated its proposed waiver provision.

We applaud PADEP’s decision to prohibit the discharge of all “regulated substances” to land, to prohibit discharges in a floodplain, and eliminate the waiver provision in response to the 2014 Comments. However, we remain concerned the proposed language still lacks clarity and contains potential loop-holes that might allow some harmful wastes to be discharged to land. Water discharged to land must contain no oil or grease at all or any other contaminant introduced by Oil and Gas Operations.

We recommend the following changes to the discharge requirements at § 78a.60.
§ 78a.60. Discharge requirements.

(a) The owner and operator may not cause or allow a discharge of a substance, **fill or dredged material** to the waters of this Commonwealth unless the discharge complies with this subchapter and Chapters 91—93, 95 [and], 102 and 105, The Clean Streams Law (35 P. S. §§ 691.1—691.1001), **the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27)** and the act.

(b) The owner and operator may **not** discharge tophole water or ~~water in a pit as a result of~~ precipitation **THAT ACCUMULATES IN CLEAN, UNCONTAMINATED STORAGE AREAS** by land application ~~unless~~ **ONLY IF** the discharge is in accordance with **ALL OF** the following requirements:

(1) **THE DISCHARGE DOES NOT CONTAIN ANY OF THE FOLLOWING: No** additives, oil, **GREASE** drilling muds, pollution materials, **REGULATED SUBSTANCES** or any drilling fluids other than gases or fresh water that have been added to or are contained in the water, ~~unless otherwise approved by the Department.~~

(2) The pH is not less than 6 nor greater than 9 standard units, or is characteristic of the natural background quality of the groundwater.

(3) The specific conductance of the discharge is less than 1,000 µmHos/cm.

(4) There is no sheen from oil and grease.

(5) The discharge water shall be spread over an undisturbed, vegetated area capable of absorbing the tophole water and filtering solids in the discharge, and spread in a manner that prevents a direct discharge to surface waters and complies with § 78a.53 (relating to erosion and sedimentation control).

(6) Upon completion, the area complies with § 78a.53.

(7) The area of land application is not within 200 feet of a water supply or within 100 feet of a [stream,] watercourse or, body of water **OR WITHIN THE FLOODPLAIN, [or a wetland] unless approved as part of a waiver granted by the Department under section [205(b) of the act (58 P. S. § 601.205(b))] 3215(b) of the act (relating to well location restrictions).**

(8) If the water does not meet the requirements of paragraph (1 ~~2-or~~ through 4.), ~~the Department may approve treatment prior to~~ discharge to the land surface **IS PROHIBITED.**

(9) THE OPERATOR SHALL TEST WATER PROPOSED TO BE DISCHARGED PRIOR TO DISCHARGE TO VERIFY THAT THE WATER QUALITY MEETS THE § 78a.60(b)(1)–(4) STANDARDS. THE WATER TEST DATA MUST BE PROVIDED TO THE DEPARTMENT WITHIN 7 DAYS OF THE TEST.

(c) Compliance with subsection (b) shall be documented by the operator and made available to the Department ~~upon request~~ while conducting activities under subsection (b) and submitted under § 78.65(f)(1) (relating to site restoration). (211)

Response: The Department disagrees with the commenter’s suggested revisions. The rulemaking allows the discharge of tophole water or water in a pit from precipitation only if it includes no additives, drilling muds, regulated substances, or drilling fluids other than

gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impact.

The Department believes that documentation kept by the Operator and made available to the Department upon request is sufficient regarding subsection (b).

1420. Comment: 78a60(b). DEP should not allow the discharge of tophole and pit water. Tophole and pit water contains toxic pollutants, including NORM and TENORM, hazardous substances, concentrated salts, and other pollutants, that are not addressed in this section. (182)

Response: The rulemaking allows the discharge of tophole water or water in a pit from precipitation only if it includes no additives, drilling muds, regulated substances, or drilling fluids other than gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impact.

1421. Comment: 78a.60(b)(1) Pollutonal should be reinserted for regulated to provide protection to our waters as would be consistent with other industrial operations. (161)

Response: The definition of the term “regulated substance” covers all substances that may cause pollution.

1422. Comment: 78a60(b.4). DEP should not use “sheen” as a measurement of the presence of oil, gas and grease. Sheen is not a good judge of whether water is polluted—many oil and gas pollutants do not cause sheen. (182)

Response: The testing requirements for discharge of tophole water are designed to allow operators to conduct them with field instrumentation. Combined with knowledge of the history of use of the pit, these tests are sufficient to ensure that contaminated water is not land applied. Land application of water in accordance with this section is not expected to cause any significant environmental impact. Noting the presence of a sheen is required to note the presence of oil and grease which is prohibited in discharge of tophole water or water in a pit as a result of precipitation. See response to comment 1426.

1423. Comment: 78a.60(b)(4) More stringent tests should be administered beyond a sheen of oil or grease. Assessments should be made for toxic substances, endocrine disrupters, and heavy metals consistent with such unconventional operations. “Water” that exceeds recommended scientific/medical limits for organisms should be disposed of using other approved techniques. (161)

Response: The testing requirements for discharge of tophole water are designed to allow operators to conduct them with field instrumentation. Combined with knowledge of the history of use of the pit, these tests are sufficient to ensure that contaminated water is not land applied. Land application of water in accordance with this section is not expected to

cause any significant environmental impact. Noting the presence of a sheen is required to note the presence of oil and grease which is prohibited in discharge of tophole water or water in a pit as a result of precipitation. See response to comment 1426.

1424. Comment: 78a.60(b.7). DEP should expand the setback to be protective of water supplies, wetlands and water courses. (182)

Response: The rulemaking allows the discharge of tophole water or water in a pit from precipitation only if it includes no additives, drilling muds, regulated substances, or drilling fluids other than gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impacts or impacts to water supplies so long as the established setbacks in § 78a.60 are followed.

1425. Comment: 78a.60(b)(7) The area of land application should be extended to 500 feet of a water supply or 300 feet from a stream, watercourse or body of water or a wetland. Floodplains are less easily determined, variable, and limited in scope relative to a wetland. (161)

Response: The Department provided the definition of a floodplain. The Department disagrees that this definition or its application in the above referenced context lacks clarity. The rulemaking allows the discharge of tophole water or water in a pit from precipitation only if it includes no additives, drilling muds, regulated substances, or drilling fluids other than gases or fresh water. In addition, the water must meet certain water quality standards and be discharged to an undisturbed, vegetated area capable of absorbing tophole water and filtering solids in the discharge. Tophole water or water in a pit as a result of precipitation may not be discharged to waters of the Commonwealth except in accordance with Chapters 91-93 and 95. Land application of water in accordance with this section is not expected to cause any significant environmental impact, so long as the established setbacks in § 78a.60 are followed.

1426. Comment: 78a.60(b.8). DEP must conduct a site specific inquiry with consideration of cumulative and long term impacts when considering allowing discharge to the land surface of tophole water or water from a pit. (182)

Response: Discharges authorized under section 78a.60 will be temporary discharges of uncontaminated water. It is appropriate to allow operators to treat the pH of the water or remove the oil sheen to comply with the requirements in section 78a.60. The requirements of § 78a.60(b) ensure that tophole water or water in a pit as a result of precipitation is not contaminated and can be discharged accordingly within the setbacks established in this section. Please also see response to comment 2413.

1427. Comment: 78a.60(c). DEP should require that compliance with this subsection be documented in a report filed electronically to DEP and made publicly available on an easily accessible web platform. (182)

Response: The information must be submitted to the Department in the well site restoration report under 78a.65.

1428. Comment: §§ 78.60 - 78.63 and §§ 78a.60 – 78a.63 Discharge and Disposal - The Department uses the term “regulated substances” throughout these sections, which is overly broad and lacking in clarity necessary for regulatory guidance to the agency and the regulated community. “Regulated substances” as defined would include sediment or other natural constituents of topsoil water or soil, which would effectively prohibit the discharge of topsoil water and the disposal of uncontaminated drill cuttings, entirely defeating the purposes of subsections 78.60 and 78.61. The term should be removed from §§ 78.60(b)(1), § 78a.60 (b)(1), 78.61(a)(2), § 78a.61 (a)(2), 78.61 (b)(2), § 78a.61 (b)(2) and elsewhere in these sections to avoid absurd results and unintended consequences. (213)

The Department has also added a new prohibition to the discharge of topsoil water or disposal of drill cuttings “within the floodplain,” which lacks both clarity and justification. Under Section 3215(f) of Act 13, well sites may be located within floodplains. Without a Comment/Response Document explaining why the Department is suggesting this blanket prohibition on certain disposal practices, the commentator cannot provide an informed comment on the proposal. Without compelling justification, however, the prohibition should be deleted. (213)

Response: See response to comment 1418.

§§ 78.61 and 78a.61 Disposal of drill cuttings

1429. Comment: Section 78.61(a)(3) and (b)(3). The listed and permitted distances are far close for ANY disposal of drill cuttings considering the water supply, streams, wetlands, or bodies of water that would be impacted and harm caused to the Commonwealth waters, environment, habitat and private land owners who’s water supply was contaminated. These distances should, at minimum, be doubled or tripled and water designation and uses be considered. (9)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than topsoil water, fresh water, or gases.

The prescribed setback distances are protective for uncontaminated cuttings from above the surface casing seat.

1430. Comment: Commentator strongly supports the Department’s proposal for subsection (a)(3) that would eliminate the possibility of waivers of the requirement prohibiting disposal of drill cutting within 100 feet of a watercourse or body of water, or within the flood plain. We believe, however, that the requirement should be expanded and strengthened. We suggest expanding the area ineligible for a waiver from 100 feet to 150 feet. As discussed above, riparian buffers are one of the most effective means of protecting waterbodies, and the Department’s Chapter 102 regulations recognize a 150 buffer for protection of special protection streams. *See* 25 Pa. Code § 102.14. We suggest that the Department’s proposed waiver ineligibility requirement be extended to 150 feet to minimize buffer disturbance and better protect our surface waters. (231, 231a)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than topsoil water, fresh water, or gases.

The prescribed setback distances are protective for uncontaminated cuttings from above the surface casing seat.

1431. Comment: 78a.61(a)(3) The disposal area should be extended to 500 feet of a water supply or 300 feet from a stream, watercourse or body of water or a wetland. Floodplains are less easily determined, variable, and limited in scope relative to a wetland. (161)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

The prescribed setback distances are protective for uncontaminated cuttings from above the surface casing seat.

1432. Comment: 78a.61(a)(4) The disposal area should be should be extended from 200 feet to 500 feet from a water supply given the ability of substances in cuttings to leach. This distance should be expanded as the mass of volume cuttings increases at a given site. (161)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

The prescribed setback distances are protective for uncontaminated cuttings from above the surface casing seat.

1433. Comment: 78a.61(b)(4)The disposal area should be should be extended from 200 feet to 500 feet from a water supply given the ability of substances in cuttings to leach. This distance should be expanded as the mass of volume cuttings increases at a given site. (161)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

The prescribed setback distances are protective for uncontaminated cuttings from above the surface casing seat.

1434. Comment: To provide additional environmental protections to adjacent lands and waters, such as areas owned or managed by the National Park Service, commentator recommends the following text in bold italics be added to the rest of the text:

“The disposal area is not within 300feet, of a watercourse or body of water unless approved as part of a waiver granted by the Department under section 3215(b) of the act (58 Pa.C.S.§ 3215(b)).”

We are pleased to see that most of this language was added to the current version of the regulations. We still feel however, that the 100' buffer distance described is not adequate for keeping floodwaters from nearby streams from impacting the disposal area. The additional distance we recommend would serve to account for more recent periods of increased precipitation and flooding due to increasingly erratic weather events.

We are also pleased to see that our recommendations in previous comments to cite Section 78a.53 have been incorporated. (200)

Response: Sections 78.61 and 78a.61 do not allow disposal areas to be within the floodplain.

1435. Comment: We are encouraged by the Department's wording in:

§ 78.61.a.3, 78.61.b.3 and 78a.61.a.3 which prevents disposal of drilling cuttings within the floodplain of a watercourse.

We respectfully request that the terms Source Water Protection Zone (SWPZ) and Source Water Protection Plan (SWPP) should be substituted everywhere in the proposed changes for wellhead protection zone and wellhead protection plan, respectively, thereby giving the Commonwealth laws that are more protective of all drinking water sources.

We also recommend that the amended text be changed as follows:

To better protect both surface and groundwater resources, § 78.61.a.4 should read "The disposal area is not within a within a SWPZ, as defined by a DEP-approved SWPP" (163)

Response: Regarding use of source water protection zone and source water protection plans instead of wellhead protection areas, see response to comment 2336. Regarding, prohibiting disposal of drill cuttings within the source water protection zone, Section 78.61 and 78a.61 only allow uncontaminated drill cuttings to be buried or land applied at the well site. The Department does not believe that the restriction proposed by the commenter is necessary or appropriate to ensure protection of public water supplies. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment. Subsections 78.61(a)(3)-(4) and 78a.61(a)(3)-(4) provide setbacks for watercourses or bodies of water and water supplies.

1436. Comment: 78.61.a.4 should not allow the disposal area to be within a SWPZ, as defined by a DEP-approved SWPP. (237, 246, 249)

Response: Section 78.61 and 78a.61 only allow uncontaminated drill cuttings to be buried or land applied at the well site. The Department does not believe that the restriction proposed by the commenter is necessary or appropriate to ensure protection of public water supplies. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment. Subsections 78.61(a)(3)-(4) and 78a.61(a)(3)-(4) provide setbacks for watercourses or bodies of water and water supplies.

1437. Comment: 78.61(c) Commenter is recommending that drill cuttings from below the surface seat only be disposed of in an approved landfill, unless appropriate overburden analysis has been done to show that the material does not have the potential to cause pollution to shallow groundwater. (265)

Response: Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1438. Comment: §§ 78.61—78.63 and 78a.61—78a.63. Disposal of drill cuttings and residual waste onsite (pits and land application) Alternate waste disposal at drill sites should be banned and never considered as beneficial use. (196)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1439. Comment: Drill cuttings should not be processed on site, nor should they be buried in waste pits; instead the cuttings should be properly transported to special radioactive waste sites as proposed by the DEP. Homeowners must do this for lead and asbestos, gas companies should be held responsible to properly dispose of waste and contaminants. (104)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1440. Comment: 78.61-78a.61 allow for on-site disposal of fracking waste. Allowing areas zoned for agriculture or residences to be used as toxic landfill sites is simply without any rational justification. (118)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling

muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than top hole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1441. Comment: 78.61-78.63 and 78a.61-78a.63 allow for on-site disposal of fracking waste. Fracking waste solids per DEP's own regulations are considered hazardous material and must be disposed in an approved landfill which is capable of safely handling such hazardous waste. Allowing areas zoned for agriculture or residences to be used as toxic landfill sites is inviting those areas to become superfund sites and possible cancer cluster areas. Dumping toxic waste in agriculture or residential areas is a cheap method of disposal and benefits the natural gas industry. The health of citizens, the environment, and all organisms occupying the environment should take preference over cost saving measures preferred by drillers.(119)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than top hole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1442. Comment: Prohibit the burial or land application of drill cuttings, which can contain polluting and radioactive substances. (129)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than top hole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1443. Comment: Disposal of brine, drill cuttings, and residual waste (Sections 78.60, 78.61, 78.62, and 78.63, and 78.70) Prohibit the burial or land application of drill cuttings, which can contain polluting and radioactive substances. (130)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than top hole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1444. Comment: In 2013, EQB proposed additional clarifications and requirements for land application of drill cuttings and proposed to allow onsite disposal of contaminated drill cuttings. In 2015, PADEP amended the proposed regulation to clarify cuttings would be limited to drill cuttings from above the surface casing seat, prohibit land application of drill cuttings within a floodplain, and require notice to the surface landowner prior to disposal.

The 2014 Comments opposed the land application of all drill cuttings. We strongly opposed long-term onsite burial of any contaminated drill cuttings. Drilling waste should be removed from the drilling location and properly disposed of at an approved waste disposal facility capable of handling the quantity and type of waste generated. The use of closed-loop tank systems to handle and store drilling muds and cuttings, and disposal of this waste at an offsite approved waste treatment facility is a best practice.

We recommend the proposed regulation at § 78a.61 be deleted in its entirety and replaced with the following:

§ 78a.61. Disposal of drill cuttings.

(A) CLOSED-LOOP TANK SYSTEMS SHALL BE USED TO HANDLE AND STORE DRILLING MUDS AND CUTTINGS. ALL DRILL CUTTINGS MUST BE DISPOSED OF AT AN OFFSITE APPROVED WASTE DISPOSAL FACILITY OR INJECTED INTO AN EPA APPROVED SUBSURFACE WASTE DISPOSAL WELL USING CUTTINGS REINJECTION TECHNOLOGY.

(B) USE OF PITS FOR DISPOSAL OF DRILLING MUDS AND DRILL CUTTINGS, REGARDLESS IF FROM ABOVE OR BELOW THE SURFACE CASING SEAT, IS PROHIBITED. (211)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §§ 78.61 or 78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than top hole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the

site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1445. Comment: 78a.61(a), 78a.61(a.3 and 4) DEP should prohibit the disposal of drill cuttings on both conventional and unconventional well sites, no matter what location in the well bore they are from. Drill cuttings contain hazardous materials and should not be allowed to enter the environment. We oppose the burial of drill cuttings on well sites under any circumstances due to the potential pathways of pollution that are made available for the pollutants in the cuttings. All drill cuttings should be required by DEP to be disposed of in facilities designed to fully and safely treat the waste. See comments above at 78a.55(a) and 78a.58(a). (182)

Response: Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than top-hole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1446. Comment: §78.61 and §78a.61. Disposal of drill cuttings.

We object to the allowance of drill cuttings disposal at the well site in pits and through land application. This regulation stipulates that only drill cuttings that aren't contaminated by any fluids other than water or gases can be disposed of onsite. However, DEP has no mechanisms in place to ensure that operators make this determination prior to disposal onsite (e.g., through chemical testing). Nor does the regulation require operators to complete and file waste characterization forms, as they must do when disposing of waste offsite at landfills and treatment facilities.

The draft regulation has been changed since 2014 to specify that onsite disposal is only allowed for cuttings from above the surface casing seat. Again, DEP has no mechanisms in place to require operators to demonstrate that the cuttings meet this criterion.

Regardless of the depth of the formation from which drill cuttings are removed, it is likely that they are contaminated with chemicals used in the drilling process (e.g., drill bit lubricants or friction reducers). The Argonne National Laboratory has noted that extensive treatment and washing of drill cuttings is necessary to adequately remove hydrocarbons, salinity, moisture, and other contaminants.¹⁹

The lack of waste characterization requirements for onsite disposal is particularly concerning with regard to the potential radioactivity of drill cuttings. It is notable that a recent report on TENORM in drilling wastes by DEP stated, "Because landfills accept natural gas industry wastes such as drill cuttings and treatment sludge that may contain TENORM [Technologically Enhanced Naturally Occurring Radioactive Material], there is a potential for leachate from those facilities to also contain TENORM." In a review of data from two landfills in West Virginia that take large

volumes of drill cuttings, Downstream Strategies found that leachate frequently contained concentrations of Ra-226 and Ra-228 that exceeded the federal Maximum Contaminant Level (MCL).²⁰

Yet despite the clear environmental and health risks that drill cuttings can pose, the proposed regulation would allow operators to leave waste behind with virtually no oversight. §78.61 and §78a.61 should be amended to require full chemical and radiological characterization of drill cuttings at the well site, their containment in closed-loop systems, and their removal from the well site for proper disposal at an approved facility capable of handling the quantity and type of waste generated.

We appreciate the inclusion of landowner notification of the burial and land application of drill cuttings and electronic filing with DEP, which will improve documentation of operator practices and the locations where disposal has occurred. However, §78.62 and §78a.62 should be amended to allow landowners to reject the onsite disposal of drill cuttings before it occurs and to establish a “zone of presumption” of operator liability should water and soil contamination result, similar to what is required under Act 13 for water supplies contaminated by drilling.²¹ (188)

Response: A leachate characteristics analysis is required to ensure that cuttings meeting the applicable requirements for disposal. Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

1447. Comment: To the extent the Department continues to allow disposal and land application of any drill cuttings or residual waste at the well site, it is recommended that sampling and testing be expressly required, with results submitted by the operator to the Department for review. Cuttings and waste managed at the surface should also be analyzed for constituents likely to be found in drilling fluids, salts and hydrocarbons. Disposal and application practices should be subject to on-site inspections by the Department. (225)

Response: A leachate characteristics analysis is required to ensure that cuttings meeting the applicable requirements for disposal. Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual

waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department.

All aspects of work on the well site and earth disturbance related to oil and gas operations are subject to inspection by the Department’s field staff.

1448. Comment: The onsite processing of shale drill cuttings should be prohibited, which often contain hazardous substances and radioactive materials and require thorough analysis and special handling.

Prohibit the burial or land application of drill cuttings, which can contain polluting and radioactive substances.

Prohibit the onsite burial of waste pits. Buried pits can leak and pollute groundwater over time, yet burial allows operators to walk away from any responsibility after completing operations. (382)

Response: A leachate characteristics analysis is required to ensure that cuttings meeting the applicable requirements for disposal. Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

Section 78.61 only allows uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings may be buried on site in accordance with section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Burial or land application of cuttings at an unconventional well site may only occur with a permit or other approval obtained from the Department. Additionally, as long as the requirements in §§78.62 and 78.63 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

Finally, onsite processing as authorized under subsection (e) is limited to processing drill cuttings only at the well site where the drill cuttings were generated. Therefore, this processing is temporary in nature and is intended to facilitate proper handling and disposal of the drill cuttings. The Department does not believe that processing drill cuttings in accordance with the subsection will result in any significant environmental harm.

1449. Comment: There is no explanation for the 90 day storage of drill cuttings at well heads except for the convenience of the industry. Due to the variation in the amount of radioactivity within each well, the radioactivity should be determined with a radiation detector. Using the arbitrary point of where the casing ends is not useful in sorting the less dangerous drill cuttings from the more radioactive ones. Some wells are cased to the bottom of the well bore, so all of these drill cuttings would be treated as less dangerous even though we know that the radiation rises abruptly at the Marcellus formation. (147)

Response: Subsection 78.56(d) establishes a time limit for the restoration of pits used during servicing, plugging, or recompleting a well. This time limit is needed because restoration after drilling is tied to the completion of drilling of the well, which is not applicable during

servicing, plugging, or recompletion activities. Drill cuttings from above the casing seat do not create a significant threat to the environment if the requirements in §78.61 or §78a.61 are met. The regulations require that drill cuttings not be contaminated with a regulated substance, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids, or drilling fluids other than tophole water, fresh water, or gases.

The Department’s 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. The Department has added 78.58(d) to this rulemaking which requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

1450. Comment: Section 78a.61(a)(2), (b)(2) - Disposal of Drill Cuttings - Subsections (a)(2) and (b)(2), list “drilling mud” among an inclusive list of “regulated substances.” However, the definition section defines “regulated substances” as: “Any substance defined as a regulated substance in section 103 of Act 2 (35 P.S. § 6026.103).” The definition found in section 103 of Act 2 further cross references to a list of various environmental statutes. It is not immediately clear if “drilling mud” is appropriately categorized under the definition of “regulated substances” in either context. The Department should clarify the specific statutory program under which “drilling mud” is regulated. Commenter recommends making a clear determination as to whether “drilling mud” is appropriately listed as a “regulated substance,” either by providing a list of examples within the definition of “regulated substances,” or by providing a definition for “drilling mud” that makes it clear whether it is a “regulated substance.” (222)

Response: Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103). The definition and use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution. The Department does not believe that additional language is needed to cover any additional substances not already covered by the expansive definition of “regulated substance” in Act 2.

1451. Comment: The mandatory three-day waiting period prior to disposal of drill cuttings (§ 78.61) and residual waste (§ 78.62) in a pit presents similar concerns, and is particularly nonsensical given the Department's recent findings in its TENORM study that there is “little potential for radiological exposure to workers and members of the public from the handling, hauling, and temporary storage of vertical drill cuttings.” Indeed, this is hardly hazardous material. All of these concerns are especially vexing given the absence of any meaningful explanation in the Department's regulatory analysis form as to why it needs this information and what it plans on doing with the information when it is received. (201)

Response: Certain activities present enough of an environmental hazard that the Department should receive notice. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

1452. Comment: 78a.61(e) and 78.61(e) - This proposed rule requires notice to DEP and to the surface landowner of disposal of drill cuttings. This notice requirement imposes unnecessary additional expenses and administrative burdens on operators without any corresponding benefits. Regarding unconventional operations, drill cuttings are typically disposed of on a daily basis with all required manifests. As a result, under this proposed rule DEP would be inundated with reports that will provide no additional value to DEP. Because the handling/disposal for drill cuttings already requires manifests, DEP already has a means for auditing: the volumes of cuttings disposed, method of transport, and the location of disposal on a case-by-case basis.

The information captured in the manifest documentation referenced above is already being provided to DEP every 6 months in each operator's *Production Waste Report Unconventional Wells*. The information provided by operators in this report is currently available to the public on DEP's website at http://www.portal.state.pa.us/portal/server.pt/community/de_p_home/5968 under its Oil and Gas page -Oil and Gas Reports -Oil and Gas Production Reports -Waste Reports. Requiring operators to provide this information on a more frequent basis than every 6 months will not provide any additional benefit to the public and it is worth noting that DEP has failed to provide any explanation as to why it believes this information is needed on a more frequent basis.

In light of existing manifest and reporting requirements, this new rule only serves to increase expense and reporting burdens on operators without creating any new additional benefits to either the public or DEP's records review capabilities. As a result, this new reporting requirement is unnecessary and should be deleted from the final rule.

Additionally, the commentator has concerns about requiring operators to share this information with surface landowners. No benefit is derived from this new notice requirement considering the average surface owner will not understand the information set forth in the documentation and their lack of understanding is likely to result in unnecessary alarm on their part, and therefore, unnecessary complaints to operators, legislators and the DEP. Also, similar to the DEP, surface owners will receive a large volume of these notifications and as a result are more likely to view such notices as an annoyance rather than useful information. (190)

Response: The Department disagrees that the regulations should include a requirement for landowner permission or consent. Prior to entering into a lease agreement with the well operator, the landowner may discuss and agree upon the terms and conditions that relate to the type of operations that will occur on the property. Additionally, the Department believes that the provisions of §§ 78.61 and 78a.61 are sufficiently protective that an operator meeting those requirements should not be required to obtain prior consent. The Department does believe that transparency and notice are important concerns, however, and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

Certain activities present enough of an environmental hazard that the Department should receive notice. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

1453. Comment: § 78a.61(e) - It is unclear the necessity or benefit to notify the department three days in advance of disposal of drill cuttings from a well site at an approved landfill. The current regulation to profile and obtain prior PADEP approval to dispose of cuttings is protective of the environment, additional notification is duplicative and creates undue burden without benefit. Further, it is unclear the necessity or benefit to provide notice of disposal to the landowner, this

notice is duplicative as all disposal record is publically available through the PADEP OGRE database. Neither of these provisions is consistent with the requirements for any other industry within the Commonwealth. (187, 209)

Response: The Department disagrees that the regulations should include a requirement for landowner permission or consent. Prior to entering into a lease agreement with the well operator, the landowner may discuss and agree upon the terms and conditions that relate to the type of operations that will occur on the property. Additionally, the Department believes that the provisions of §§ 78.61 and 78a.61 are sufficiently protective that an operator meeting those requirements should not be required to obtain prior consent. The Department does believe that transparency and notice are important concerns, however, and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

Certain activities present enough of an environmental hazard that the Department should receive notice. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

1454. Comment: The notice required by this section is unnecessary. The proposed revisions to Chapter 78 create an excessive burden on operators by imposing extensive notification requirements.

For example, the following sections include notification requirements: §§ 78.1 5(1), (b); § 78.52a(b); §§ 78.56(a) (e); § 78.57a(c); § 78.58(d). (g); § 78.59b (b); § 78.61(t); § 78.62(a); §78.63(a); §§ 78.66(b), (c); § 78.70(k); § 78.70a(q) ; and § 78.73(c).

The notice obligations must be simplified and consolidated for the conventional industry and small business owners.

(f) The owner or operator shall notify the Department at least 3 business days before disposing of drill cuttings under this section. This notice shall be submitted electronically to the Department through its web site and include the date the cuttings will be disposed. If the date of disposal is extended, the operator shall re-notify the Department of the date of disposal, which does not need to be 3 business days in advance. THE OWNER OR OPERATOR SHALL ALSO PROVIDE NOTICE OF DISPOSAL TO THE SURFACE LANDOWNER, INCLUDING THE LOCATION OF THE DISPOSED DRILL CUTTINGS, WITHIN TEN BUSINESS DAYS OF COMPLETION OF DISPOSAL. (212)

Response: The Department disagrees that the regulations should include a requirement for landowner permission or consent. Prior to entering into a lease agreement with the well operator, the landowner may discuss and agree upon the terms and conditions that relate to the type of operations that will occur on the property. Additionally, the Department believes that the provisions of §§ 78.61 and 78a.61 are sufficiently protective that an operator meeting those requirements should not be required to obtain prior consent. The Department does believe that transparency and notice are important concerns, however, and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

Certain activities present enough of an environmental hazard that the Department should receive notice. The Department believes that the notification timeframe established in the regulations is sufficient to allow Department field staff to plan inspection schedules.

1455. Comment: 78a.61(a)(2), 78a.61(b)(2) A regulated substance should be replaced by polluttional material for optimum protection given definitions that are less restrictive for the oil and gas industry. (161)

Response: Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103). The definition and use of the term “regulated substance” was intentionally selected to be very broad and cover all substances that may cause pollution. The Department does not believe that additional language is needed to cover any additional substances not already covered by the expansive definition of “regulated substance” in Act 2.

1456. Comment: Under the Department’s proposed regulations for unconventional wells, drill cuttings below the surface casing seat and residual waste may not be disposed on-site unless pursuant to a permit “or other approval” issued by the Department. § 78a.61(c). We support this change, which is a good first step to eliminating, or at least minimizing the impact from, what are essentially residual waste landfills on well sites. (231, 231a)

Response: The Department acknowledges the comment.

1457. Comment: 78a.61(d) Exception should not be permitted as such would fail to protect the Constitutional rights of Pennsylvanians and financial incentives may prompt owner requests. (161)

Response: The regulation sets an appropriate performance standard which must be met to obtain approval prior to onsite waste management. Because waste processing technology evolves over time, the performance standard allows the necessary flexibility in the approval process.

1458. Comment: §78a.61 We support the changes to this section, especially the landowner notification. We recommend the provisions be adopted. (170)

Response: The Department acknowledges the comment.

1459. Comment: § 78.61(a)(3) Please refer to the commentator’s comment regarding the broad definition of “watercourse.” The commentator objects to the use of watercourse in lieu of “stream, or a wetland” in this proposed subsection. Additionally, 58 P.S. § 3215(f) of the Oil and Gas Act of 2012 sets forth the circumstances when a well site may be located within a floodplain. The proposed subsection does not comply with Section 3215(f) and, therefore, the Legislature’s intent. Subsection (3) should be revised to acknowledge the provisions of Section 3215(f), including the ability to obtain a waiver from the Department pursuant to that subsection. (210)

Response: Use of this definition is appropriate to protect waters of the Commonwealth. The Department disagrees that §3215(f)(1) of the 2012 Oil and Gas Act should be interpreted to allow waste disposal in the floodplain. In accordance with § 3215(f)(1) of the 2012 Oil and Gas Act, no well site may be prepared or well drilled within any flood plain if the well will have a pit or impoundment containing drill cuttings, flowback water, produced water or hazardous materials, chemicals or wastes within the floodplain; or a tank containing hazardous materials, chemicals, condensate, wastes, flowback or produced water within the floodway.

1460. Comment: The Department has revised § 78.61 to distinguish between drill cuttings from above

and below the surface casing seat. We believe this is an improvement, but again, suggest regulatory distinctions that accurately reflect the primary issue of concern. For example, water- or air-based mud cuttings versus oil-based mud cuttings may be a more accurate and durable distinction for regulatory purposes. Additionally, if the Department is concerned about cuttings from a particular formation, the regulations should specifically address disposal of cuttings from those formations. Using the surface casing seat as a proxy for either of these issues – drilling mud or formation constituents – may be useful in some situations, but it does not ensure a proper result. (225)

Response: The section has been revised to clarify that referenced casing seat is the surface casing seat. Sections 78.83c and 78a.83c require use of air, freshwater or freshwater based drilling fluids when drilling the surface hole which is the portion of the hole above the surface casing seat.

Sections 78.61 and 78a.61 allow only uncontaminated drill cuttings to be buried or land applied at the well site while contaminated drill cuttings from a conventional well may be buried on site in accordance with Section 78.62(a)(5)-(16) and (b) (relating to disposal of residual waste – pits) or land applied at the site in accordance with Section 78.63(a)(5)-(20) and (b) (relating to disposal of residual waste – land application). Under §§ 78a.62 and 78a.63, the owner or operator of an unconventional well may not dispose of residual waste, including contaminated drill cuttings, at the well site by land application or in a pit unless the land application or the pit is authorized by a permit or other approval is obtained from the Department.

1461. Comment: DEP is an agency tasked only with the enforcement of environmental laws and regulations and should not require or dictate landowner/operator communications beyond any provisions expressly provided in Act 13 or other enabling statutes. (213)

Response: The Department believes that transparency and notice are important concerns, however, and has retained language in sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

1462. Comment: Section 78.61(f): should be expanded to include notification to the “municipality in which the disposal occurred.” This would guarantee that the municipality has knowledge of what is being done.

Response: The Department does not agree that notifying the municipality provides any utility to the overall management of the project or resource management for an Oil and Gas project. Information regarding the location of onsite disposal is available to the municipality in the Well Completion Report.

1463. Comment: Commentator supports the Department’s proposed revision to subsection (f) that would require the well operator to provide notice of any drill cutting disposal to the land owner within ten business days of the completion of disposal. Knowing the locations of these disposal areas is essential both to prevent possible hazards associated with unintended disturbance and in planning for the use or development of the property. (231, 231a)

Response: The Department acknowledges the comment.

1464. Comment: Sections that specify restoration of vegetative material such as § 78a.61. (a) (8) should specify that the vegetative cover consist of plants native to the local area rather than

invasive non-native plants that would push out established native colonies, and which would not provide the optimal environment to sustain the local animal and insect communities. (377)

Response: The Department encourages the use of native plant species for all projects where vegetative cover is used for permanent stabilization.

§§ 78.62 and 78a.62 Disposal of residual waste – pits

1465. Comment: Section 78.62 Disposal of residual waste pits section. This section also allows and will permit any size pit including pits with contaminated drill cuttings be disposed of within 200 feet of a building, 100 feet of a stream, water body or wetland, 200 feet of water supply and there are no provisions for monitoring (short or long term), encapsulation, deed restrictions on the actual pit locations or provisions to inform the surrounding landowners. The disposal of residual waste pits that may or may not contain contaminated drill cuttings should at very bare minimum require a deed restriction on their exact locations, sizes, etc. to allow for their locations to be identified 5, 10, 25, 50 years, etc. Currently in other programs, deed restrictions are required for stormwater best management practices, flowage easements, mitigation measures, etc. (9)

Response: The Department disagrees that the regulations should include a requirement for landowner permission or consent. Prior to entering into a lease agreement with the well operator, the landowner may discuss and agree upon the terms and conditions that relate to the type of operations that will occur on the property. Additionally, the Department believes that the provisions of §§ 78.61 and 78a.61 are sufficiently protective that an operator meeting those requirements should not be required to obtain prior consent. The Department does believe that transparency and notice are important concerns, however, and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

Additionally, as long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1466. Comment: 78a.62(a). DEP should not issue permits for disposal of residual waste in pit at both conventional and unconventional well sites. Drill cuttings contain hazardous materials and should not be allowed to enter the environment. We oppose the burial of drill cuttings on well sites under any circumstances due to the potential pathways of pollution that are made available for the pollutants in the cuttings. All drill cuttings should be required by DEP to be disposed of in facilities designed to fully and safely treat the waste. See comments above at 78a.55(a) and 78a.58(a). (182)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at

conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1467. Comment: Other suggestions: Closed systems to contain waste to prevent the leakage into our environment. Waste should be contained in closed systems to ensure that it does not leak into the environment. (34, 54, 104)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1468. Comment: Standards for frack pits and impoundments (Sections 78.56, 78.57, 78.58, and 78.59). Mounting violations and the potential for water and air pollution have already led some companies to transition away from pits and standardize the use of closed loop systems for the storage and treatment of waste. Issues with frack pits have led to contaminated water and resulted in the largest state fines ever against a driller in Pennsylvania, both over \$4 million, to Range Resources and XTO for water contamination due to leaking. DEP should amend the final regulations to:

Require all waste impoundments to be properly closed immediately upon the effective date of the regulations. The revisions give operators 3 years to either properly close their existing impoundments or bring them under compliance with the construction requirements in residual waste permits. This is an improvement but still puts nearby residents and the environment at risk.

Existing pits which contain fracking wastes, including wastewater, drill cuttings, and any other substances that returns to the surface after fracking may not be buried on-site (no “toxic teabags”). (354, 384)

Response: The Department disagrees that the compliance timeframes proposed by the commenter are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized

impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

See responses to comments 903 , 1027 and 1365 regarding use of open top structures for storage of wastes.

The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment. Under §§ 78a.62 and 78a.63, the owner or operator of an unconventional well may not dispose of residual waste, including contaminated drill cuttings, at the well site by land application or in a pit unless the land application or the pit is authorized by a permit or other approval is obtained from the Department.

- 1469.** Comment: Existing pits which contain fracking wastes, including wastewater, drill cuttings, and any other substances that returns to the surface after fracking must be transferred to closed above ground systems within one year of this regulation and may not be buried on-site [no “toxic teabags”]. (85, 179)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

- 1470.** Comment: 78.62-78a.62 allow for on-site disposal of fracking waste. Allowing areas zoned for agriculture or residences to be used as toxic landfill sites is simply without any rational justification. (118)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is

generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1471. Comment: The small, conventional wells that were drilled next to me were fracked under the cover of darkness, usually very early in the morning or near dusk. The temporary, holding pits were quickly covered over and I never saw any actually holding much. I can say the one close to the house had lots of spray and fluids going overtop the pit and into the field as the discharge from the drilling rig was a straight pipe without any elbow. I did not see any DEP presence at anytime. I know lots of old wells are re-fracked from time to time and this does not appear to be closely monitored either. I have also heard that drillers are now allowed to mix frack fluids with sawdust and dump it in landfills. Please have a strict accounting of what is in fracking fluids and where it is going. Please require that all fracking be monitored by reliable employees. This pertains to all wells, conventional and non-conventional.(135)

Response: The Department believes that transparency and notice are important concerns and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application. Additionally, §§ 78.62 and 78.63 require operators to provide 3 days' notice to the Department prior to disposing of residual waste including contaminated drill cuttings on the well site.

1472. Comment: Open-air pits and/or their contents may not be buried on site. (131, 161)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes

including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1473. Comment: Act 2 (35 P.S. § 6026.103) and 2630-BK-DEP 2724 defines some regulated waste as hazardous. 25 Pa. Code § 287.1 indicates that contaminated drilling and fracking waste are clearly not residual and therefore hazardous. Contaminated drill cuttings, fluids or solids generated by drilling or fracking that exceed the requirements of 25 Pa. Code § 261.24 or 40 CFR 261.24 must be labeled, handled and disposed of as a hazardous waste. (103)

Response: , The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

Additionally, under § 78.62(b)(1) the concentration of the contaminants in the leachate from the residual wastes cannot exceed 50 percent of the maximum concentration in 40 CFR § 261.24 as well as 50 times the primary maximum contaminant level in effect under 25 Pa. Code § 109.202. This conservative specification provides assurance that the waste is not hazardous.

1474. Comment: Please do not use open-air pits to store or treat drilling and fracking waste. Make the distance to protect streams and wetlands from edge of well pad or facility 300 feet, and use real time monitors for water quality. Please transfer existing frack waste pits of wastewater, drill cuttings, etc. to above ground systems, don't bury them on-site. Monitor and inspect all waste returned to surface weekly. (128)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at

conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1475. Comment: Disposal of brine, drill cuttings, and residual waste (Sections 78.60, 78.61, 78.62, and 78.63, and 78.70)

Prohibit the onsite burial of waste pits. Buried pits can leak and pollute groundwater over time, yet burial allows operators to walk away from any responsibility after completing operations.

Prohibit the land application of tophole water, pit water, fill, or dredged material. These substances can contain chemicals and sediments bound with pollutants that pose risks to water, air and soil. (129, 130)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1476. Comment: We recommend that DEP ban open-air pits and tanks for storage and treatment of regulated substances and require all waste storage tanks to be completely enclosed as soon as possible. While we are glad that DEP is addressing this issue we feel it could be safely done within a year and doesn't go far enough. Allowing additional time risks additional pollution to our water and soil from leaks and to our air from aeration. DEP must require all waste impoundments to be disclosed in order for DEP to track or hold drillers accountable for pollution from these sites. (144)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of

residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1477. Comment: Given the radioactivity of the drill cuttings, the proposed regulations offer no protection for workers or the public, walking above the pits, or our groundwater. The top of the highly radioactive cuttings would be only 18” underground and the pits would be only 20” above groundwater. While a plastic liner will stop alpha radiation, it will do nothing to stop gamma radiation and is unlikely to affect beta emissions. The rule of thumb is that paper stops alpha; aluminum stops beta; but only lead casing contains gamma radiation.

From contact with the radioactive drill cuttings, the pits and plastic liners are likely to be contaminated with radiation. This short gap measure creates an additional stream of radioactive waste and will require considerable additional DEP oversight cost to assure it is implemented, which the taxpayers of PA will foot.

Landowners cannot legally consent to disposal within 200 feet of their homes without full disclosure of the risks. Any disposal should be reflected in deeds to the property to assure that future purchasers know what is on the site. Pit disposal is not safe. Punctures will occur and long term monitoring is required. (147)

Response: The Department’s 2015 TENORM Study Report (Report) presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Report observed that there is little potential for radiological exposure to workers or members of the public from the handling, hauling, and temporary storage of vertical and horizontal drill cuttings on natural gas well sites. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report.

1478. Comment: we are encouraged by the Department’s wording in:

§ 78.62.a.7, which prevents construction of pits for residual waste within the floodplain of a watercourse.

We respectfully request that the terms Source Water Protection Zone (SWPZ) and Source Water Protection Plan (SWPP) should be substituted everywhere in the proposed changes for wellhead protection zone and wellhead protection plan, respectively, thereby giving the Commonwealth laws that are more protective of all drinking water sources.

We also recommend that the amended text be changed as follows:

§ 78.62.a.7 should read: “The disposal area is not within a within a SWPZ, as defined by a DEP-approved SWPP” (163, 237, 246, 249)

Response: Regarding use of source water protection zone and source water protection plans instead of wellhead protection areas, see response to comment 2336. The Department disagrees with the suggested regulatory language. The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department does not believe that the restriction proposed by the commenter is necessary or appropriate to ensure protection of public water supplies. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment. Subsections 78.62(a)(6)-(7) provides setbacks for watercourses or bodies of water and water supplies.

1479. Comment: -Pit locations should be 500 -1000 feet from stream wetlands or bodies of water instead of 100 feet. (160)

Response: The setback is consistent with the setback in the 2012 Oil and Gas Act.

1480. Comment: §78a.62 We do not support the use of Disposal of residual waste – pits authorized by permit or other Departmental approval. On-site disposal in the unconventional oil and gas plays is not a reasonable environmental disposal method. There are not controls such as those that would be available at a regulated landfill. The Department must not create an inventory of farmland filled with pits. The Department needs to ensure our agricultural areas are environmentally suited to former land use. Isolated forested areas do not create good disposal dumps. We have legacy of non-regulated landfills that dot our country-side prior to landfill regulations. The Department must not create a further legacy. It is totally inappropriate in this day and age that the Department would consider on-site disposal of contaminated drill cuttings. We recommend that these pits be prohibited, such that no situation would warrant well pad pit disposal.

We recommend the following language change.

The owner or operator of an unconventional well may not dispose of residual waste, including contaminated drill cuttings, in a pit at the well site. We do not support the remainder of the language change since the remainder of the section is proposed as deleted and there are no provisions as to how they will be handled should the Department determine to issue a permit or other approval.

In the case that the Department deems to adopt these provisions as is, we suggest the noted below additional provisions.

Proposal:

§78a.62 Disposal of residual waste – pits

(a)(1) In the case where a pit is authorized by permit or other approval is obtained from the Department the operator shall notify the landowner.

(a)(2) The operator shall record the location and contents of the pit at the county recorder’s office in the property’s deed.

The landowner needs to be aware of the onsite disposal as they are the landowners and stewards of their land. The Deed record is necessary in order to have full disclosure of the location and contents in the case that many years pass, memories fail and when the land is

sold, no one may recall. This is in the spirit of full disclosure so a buyer may be adequately aware of the onsite disposal. (170)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department.

1481. Comment: §78.62 and §78a.62. Disposal of residual waste—pits

We object to the allowance of residual waste disposal at the well site in pits. This section includes contaminated drill cuttings in the definition of residual waste that could be disposed of onsite. The environmental and health risks posed by drill cuttings (discussed above regard to §78.61 and §78a.61) are even more significant if the waste is known to contain drilling fluids, oil, brines, and other contaminants. In light of the potential environmental risks of disposing of waste onsite and DEP’s lack of ability to properly oversee and enforce the practice, §78.62 and §78a.62 should be amended to prohibit disposal of waste onsite through pit burial.

This section should be amended to require full chemical and radiological characterization of residual waste at the well site, its containment in closed--loop systems, and its removal from the well site for proper disposal at an approved facility capable of handling the quantity and type of waste generated.

While this section includes guidelines on pit burial, reviews of well files conducted by Earthworks and others have found no evidence that DEP inspectors ensure that they are followed, such as by being present during the process (e.g., to ensure that liners don’t tear and waste isn’t placed closer to streams or water wells than regulations allow).

Nor have we seen any evidence in DEP files and other documents that operators actually perform chemical analyses of waste prior to burial, despite regulatory limits on the chemical content of the leachate coming from pits.

In addition, §78a.62 contradicts the proposed prohibition on pits for temporary waste storage at unconventional well sites (78a.56). It makes no sense to prohibit waste storage in pits at well sites, (a regulation that we strongly support), but at the same time allow waste disposal via the burial of pits. This in effect creates a loophole that operators could exploit in order to construct and use production pits, claiming that they are for the disposal/burial of residual waste, rather than for “temporary storage.” This loophole would also make it virtually impossible for DEP to enforce §78a.62. As stated above, we strongly recommend regulatory consistency by prohibiting all production pits for all forms of waste containment and disposal.

We appreciate the inclusion in the final draft regulations of landowner notification of onsite residual waste disposal and electronic filing with DEP. Should DEP continue to allow onsite disposal of residual waste, this step will enable, for the first time, documentation of the number and location of buried waste pits. However, §78.62 and §78a.62 should be amended to allow

landowners to reject the burial of waste before it occurs, and to establish a “zone of presumption” of operator liability should water and soil contamination result, similar to what is required under Act 13 for water supplies contaminated by drilling.²³ (188)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment. The Department believes that transparency and notice are important concerns and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application. Additionally, §§ 78.62 and 78.63 require operators to provide 3 days’ notice to the Department prior to disposing of residual waste including contaminated drill cuttings on the well site.

1482. Comment: §§ 78.61—78.63 and 78a.61—78a.63. Disposal of drill cuttings and residual waste onsite (pits and land application)

Alternate waste disposal at drill sites should be banned and never considered as beneficial use. (196)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes

including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1483. Comment: Outlaw the practice of allowing oil and gas operators to dispose of waste in injection wells or any other operation that disposes of waste below ground. (13)

Response: Injection wells are outside the scope of this rulemaking. The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1484. Comment: In 2013, the EQB proposed amendments to § 78.62 to clarify that solid waste generated by hydraulic fracturing of unconventional wells or processing wastewater under § 78.58 (relating to onsite processing) may not be disposed of in a pit on the well site. The EQB proposed to allow residual waste, including contaminated drill cuttings, to be disposed of in a pit at the well site. In 2015, PADEP clarified an approval is required from PADEP to dispose of residual waste, including contaminated drill cuttings, in a pit (§ 78a.62).

The 2014 Comments strongly opposed long-term onsite burial of any contaminated waste in pits. Drilling waste should be removed from the drilling location and properly disposed of at an approved waste disposal facility capable of handling the quantity and type of waste generated. The use of closed-loop tank systems to handle and store drilling muds and cuttings, and disposal of this waste at an offsite approved waste treatment facility is a best practice. We recommend the proposed regulation at § 78a.62 be deleted in its entirety and replaced with the following:

§ 78a.62. Disposal of residual waste—pits PROHIBITED.

(A) THE USE OF PITS FOR DISPOSAL OF RESIDUAL WASTE IS PROHIBITED. CLOSEDLOOP TANK SYSTEMS SHALL BE USED TO HANDLE AND STORE RESIDUAL WASTE. ALL RESIDUAL WASTE MUST BE DISPOSED OF AT AN OFFSITE APPROVED WASTE DISPOSAL FACILITY. (211)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is

generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1485. Comment: We are pleased to see that disposal of residual waste in pits is no longer allowed for unconventional wells in CH 78a without a permit or other Department approval. It would be helpful if the nature of that permit and the requirements for approval were spelled out here in the regulations.

We are very concerned to see that disposal of residual waste, including contaminated drill cuttings and waste generated by the drilling or stimulation of an oil or gas well is allowed in a pit for conventional wells. Residual waste has now been defined using the definitions at 25 PA Code §87.1. This definition includes, “Garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous.” We would like clarification as to what materials generated by the drilling or stimulation of an oil or gas well would not be considered hazardous. We also would like clarification as to how contaminated drill cuttings would not be considered hazardous. We request clarification of this section so that we can understand what materials may be buried near National Park System lands. (200)

Response: Operators may not dispose of residual wastes including contaminated drill cuttings at the well site unless the waste meets the specified requirements in §§ 78.62(b) and 78.63(b). Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

1486. Comment: § 78.62(b)(2) and (3) - We are pleased to see our recommended correction to “50 times” from the previous “50%”. (200)

Response: The Department acknowledges the comment.

1487. Comment: § 78.62(a)(7) - We are pleased to see that floodplains have been added to this section. We recommend “300 feet” replace “100 feet” in this subsection. This would serve to account for more recent periods of increased precipitation and flooding due to increasingly erratic weather events. (200)

Response: The setback is consistent with the setback in the 2012 Oil and Gas Act.

1488. Comment: DEP is to be commended for its efforts to restrict the use of pits, impoundments, and

open-top structures generally. I emphatically support such restrictions. However, the regulations are overly complex and do not go far enough. The simple basic principle that should be adhered to is:

The only liquid substance which should be allowed in any pit, impoundment, open-top tank, or non-enclosed structure generally is potable water, where “potable” is defined as meeting the standards of the Safe Drinking Water Act. To put it colloquially: If you wouldn’t let your baby drink it, don’t keep it in anything which is not enclosed. (216)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1489. Comment: I am extremely concerned about PA's Chapter 78 oil and gas regulations. We are experiencing far too much toxic pollution to our air, water, private land, and neighborhoods. I strongly request that operators be prohibited from using open pits. (24)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

1490. Comment: The term “waste” should not be used in reference to uncontaminated drill cuttings

from above the casing seat. These materials are not residual wastes. (213)

Response: Only drill cuttings disposed of at a well site that has been properly restored are excluded from the definition of solid waste under the Solid Waste Management Act. Unless the material meets this definition of drill cuttings, it is a solid waste, and a residual waste since it is a material resulting from an industrial activity.

1491. Comment: Pits, Impoundments & Waste Management. Huge impoundments to service multiple wells are still allowed. DEP should standardize the use of aboveground closed loop systems for the storage and treatment of waste.

We remain concerned that sections 78.56(d) and 78.62(a)(15) allow for residual waste pits to be filled in, burying waste onsite. Under section 78.62, residual waste, including contaminated drill cuttings, must be stored in a lined pit with a bottom at least 20 inches above the seasonal high groundwater table. Those protective requirements are ultimately rendered ineffective after the operator fills in the pit and waste has an opportunity to migrate into the groundwater. The regulations state that the pit should be filled 18 inches over the top of the liner and graded to promote runoff with no depressions that would accumulate or pond water on the surface. This ignores the reality that the soil used to backfill the pit will absorb harmful constituents from the waste and the soil layer on top can shift and erode over time. (384)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under § 78.56. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under § 78.56. The Department believes that the technical standards for temporary pits prescribed under § 78.56 ensure protection.

The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in § 78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment. Under §§ 78a.62 and 78a.63, the owner or operator of an unconventional well may not dispose of residual waste, including contaminated drill cuttings, at the well site by land application or in a pit unless the land application or the pit is authorized by a permit or other approval is obtained from the Department.

§§ 78.63 and 78a.63 Disposal of residual waste – land application

1492. Comment: Commentator strongly supports the Department’s proposed revision to § 78a.63 that would prohibit the land application of waste from unconventional wells unless that land application is permitted or otherwise authorized by the Department. (231)

Response: The Department acknowledges the comment.

1493. Comment: 78.63-78a.63 allow for on-site disposal of fracking waste. Allowing areas zoned for

agriculture or residences to be used as toxic landfill sites is simply without any rational justification. (118)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department. The Department believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

1494. Comment: 78a63(a). DEP should prohibit the land application of residual waste at both conventional and unconventional well sites. Drill cuttings contain hazardous materials and should not be allowed to enter the environment. We oppose the land application of drill cuttings on well sites under any circumstances due to the potential pathways of pollution that are made available for the pollutants in the cuttings. All drill cuttings should be required by DEP to be disposed of in facilities designed to fully and safely treat the waste. There are no standards provided for this disposal method and no permitting proposed, which does provide the protections required under the law and regulations. See comments above at 78a.55(a) and 78a.58(a). (182)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department. The Department believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

1495. Comment: There is no “beneficial use” for radioactive waste from the oil & gas industry, such as surface spreading. (147)

Response: The Department disagrees that waste from the oil and gas industry has no beneficial use.

1496. Comment: 78.63 – Disposal of residual waste – land application - This should be called “production waste” as it is mostly likely been in contact with the product or comes from the well itself. It and is more likely contaminated. (161)

Response: The final rulemaking provides provisions that protect health and safety as well as the environment and encourages the beneficial use of certain drilling wastes. Sections 78a.62(a) and 78a.63(a) prohibits the disposal of residual wastes generated by hydraulic fracturing of unconventional wells and residual waste generated by processing residual waste from hydraulic fracturing of unconventional operations. Land application or burial on the well site is not allowed unless established contaminant parameters are met.

1497. Comment: 78.63(a)(3) Bonding requirements should be re-examined and increased given potential degradation. (161)

Response: The Department acknowledges the comment.

1498. Comment: Commentator supports the Department’s proposed revision to § 78.63(a)(5) that would require the well operator to provide notice of the land application of residual waste to the land owner within ten business days of the completion of disposal. (231a)

Response: The Department acknowledges the comment.

1499. Comment: 78.63(a)(5) The owner or operator should notify the surface landowner of all the conditions provided by these regulations in addition to the dates so that on-going monitoring may occur by the landowner as well as the DEP. (161)

Response: The Department believes that transparency and notice are important concerns and has added language to section 78.63(a)(5) requiring operators to provide notice to surface landowners of the location of land application and an electronic notification to the Department at least 3 days before it occurs.

1500. Comment: 78.63(a)(6)(7) and (8) All distances in these sections should be increased to a minimum of 500 feet with consideration for slope doubled to 2,000 feet. The residual wastes should be tested and include tracers in the event of a contamination incident so that liability issues may be addressed. (161)

Response: The setbacks in subsections 78.63(a)(6) and (8) are consistent with the setbacks in the 2012 Oil and Gas Act. The setback requirements in subsection 78.63(a)(7) in conjunction with the disposal requirement in 78.63 is appropriate to ensure protection of waters of the Commonwealth.

1501. Comment: 78.63(a)(19) The owner or operator must be required to conduct soil surveys, monitoring and chemical analysis and submit for verification to the DEP. (161)

Response: Under 78.63(a) the Department may require the owner or operator to conduct soil surveys, monitoring and chemical analysis to ensure compliance with Section 78.63.

1502. Comment: §78a.63 We recommend the following language change.
The owner or operator of an unconventional well may not dispose of residual waste, including contaminated drill cuttings, at the well site by land application of the waste. (170)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department.

1503. Comment: §78.63 and §78a.63. Disposal of residual waste—land application.

We object to the allowance of residual waste disposal at the well site through land application. This section includes contaminated drill cuttings in the definition of residual waste that could be disposed of onsite. The environmental and health risks posed by drill cuttings (discussed above regard to §78.61 and §78a.61) are even more significant if the waste is known to contain drilling fluids, oil, brines, and other contaminants. In light of the potential environmental risks of disposing of waste onsite and DEP's lack of ability to properly oversee and enforce the practice, §78.63 and §78a.63 should be amended to prohibit disposal of waste onsite through land application.

This section should be amended to require full chemical and radiological characterization of residual waste at the well site, its containment in closed--loop systems, and its removal from the well site for proper disposal at an approved facility capable of handling the quantity and type of waste generated.

While this section includes guidelines on land application, reviews of well files conducted by Earthworks and others have found no evidence that DEP inspectors ensure that they are followed, such as by being present during the process (e.g., waste isn't placed closer to streams or water wells than regulations allow).

Nor have we seen any evidence in DEP files and other documents that operators actually perform chemical analyses of waste prior to land application, despite regulatory limits on the chemical content of the leachate coming from the waste.

We appreciate the inclusion in the final draft regulations of landowner notification of onsite residual waste disposal and electronic filing with DEP. Should DEP continue to allow onsite disposal of residual waste, this step will enable, for the first time, documentation of the number and location of land application sites. 23 (188)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department. The Department believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. The Department believes that transparency and notice are important concerns and has added language to section 78.63 requiring operators to provide notice to surface landowners of the location of land application. Additionally, §§ 78.62 and 78.63 require operators to provide 3 days' notice to the Department prior to disposing of residual waste including contaminated drill cuttings on the well site.

1504. Comment: §§ 78.61—78.63 and 78a.61—78a.63. Disposal of drill cuttings and residual waste onsite (pits and land application)
Alternate waste disposal at drill sites should be banned and never considered as beneficial use.
(196)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department. The Department believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

1505. Comment: In 2013, the EQB proposed additional requirements at § 78.63 to clarify solid waste generated by hydraulic fracturing of unconventional wells or processing of fluids under § 78.58 may not be disposed of by land application at the well site, but that residual waste (including contaminated drill cuttings) may be disposed of at the well site by land application. In 2015 PADEP clarified a permit or other approval is required from PADEP to (§ 78a.63) to dispose of residual waste, including contaminated drill cuttings, by land application.

We do not support PADEP's proposal to allow the land application of residual waste (including contaminated drill cuttings) by land application. We oppose the long-term onsite burial of any contaminated waste.

We recommend the proposed regulation at § 78a.63 be deleted in its entirety and replaced with the following:

§ 78a.63. Disposal of residual waste—land application PROHIBITED.

(a) THE USE OF LAND APPLICATION FOR DISPOSAL OF RESIDUAL WASTE IS PROHIBITED. CLOSED-LOOP TANK SYSTEMS SHALL BE USED TO HANDLE AND STORE RESIDUAL WASTE. ALL RESIDUAL WASTE MUST BE DISPOSED OF AT AN OFFSITE APPROVED WASTE DISPOSAL FACILITY. (211)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department. The Department believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

1506. Comment: We are pleased to see that disposal of residual waste by land application is no longer allowed for unconventional wells in CH 78a without a permit or other Department approval. As with the section above, it would be helpful if the nature of that permit and the requirements for approval were specified here in the regulations.

We are very concerned to see that disposal of residual waste, including contaminated drill cuttings and the solid fraction of residual waste generated by the drilling of an oil or gas well is allowed to be disposed of by land application for conventional wells. Residual waste has now been defined using the definitions at 25 PA Code § 287.1. This definition includes, “Garbage, refuse, other discarded material or other waste, including solid, Liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous.” As in the above section on pits, we would like clarification as to what materials generated by the drilling of an oil or gas well would not be considered hazardous. We also would like clarification as to how contaminated drill cuttings would not be considered hazardous. We request clarification of this section so that we can understand what materials may be buried near National Park System lands. (200)

Response: The Department disagrees and believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

1507. Comment: § 78.63(a)(7) -We recommend that floodplains be added to this section. We also recommend “300 feet” replace “100 feet” in this subsection. This would serve to account for more recent periods of increased precipitation and flooding due to increasingly erratic weather events. (200)

Response: The setback requirements in subsection 78.63(a)(7) in conjunction with the disposal requirement in 78.63 is appropriate to ensure protection of waters of the Commonwealth.

1508. Comment: Section 78.63(a)(5): should be expanded to include notification to the “municipality in which the disposal occurred.” This would guarantee that the municipality has knowledge of what is being done. (253)

Response: The Department disagrees that it is necessary to provide notification to the municipality for land application of drill cuttings under 78.63. Municipalities are notified during the well permitting process at a minimum and may receive additional notifications, depending on the activities being conducted.

1509. Prohibit the land application of topsoil water, pit water, fill, or dredged material. These substances can contain chemicals and sediments bound with pollutants that pose risks to water, air and soil. (382)

Response: Land application may not take place at an unconventional well site unless the land application is authorized by a permit or other approval by the Department. The Department believes that disposal of residual wastes including contaminated drill cuttings at the well site that meet the requirements specified in §§ 78.62(b) and 78.63(b) do not present a health and safety or environmental concern. Chemical analysis must be conducted in order to demonstrate compliance with these requirements.

§§ 78.63a and 78a.63a Alternative waste management

1510. Comment: 78a.63a - A demonstration of an alternative waste management practice for its equivalent or superior protection needs to be clarified so that accountability and the burden of proof rests with the operator. What constitutes a “demonstration?” (161)

Response: The type and scope of the demonstration will vary depending on the proposed activity. Operators proposing alternative waste management practices will be responsible to obtain approval from the Department prior to commencing the alternative waste management practices.

1511. Comment: §78.63a and §78a.63a. Alternative waste management.

We object to the blanket allowance of alternative waste management practices. DEP continues to support these regulations in order to encourage technical innovations in waste management and to allow operators flexibility going forward. We acknowledge the need for such progress. We also acknowledge the positive step of an electronic filing requirement, which will improve documentation of alternative waste management practices.

However, as currently written, §78.63a and §78a.63a are too general and vague to be enforceable, let alone to provide any kind of environmental protection through regulation. DEP has not proposed any improvements to these sections, which have been in place for many years. At minimum, specific best waste management practices and technologies should be detailed in these sections (or elsewhere in Chapter 78 and Chapter 78a). These sections should also specify the documentation that operators must provide to DEP to demonstrate “equivalent or superior protection” to established regulations.

The commenter has reviewed more than 40 Alternative Waste Management approvals (known as OG71 waivers) contained in hard copy files at regional DEP offices; in nearly all of them, there was no evidence to support the assertion that the measures being proposed were environmentally protective, nor that they would provide “equivalent or superior protection” to established regulations. In response to a Right-to-Know Law request for any guidelines or policies to determine whether methods of drill cuttings disposal approved under the OG71 would be considered “equivalent or superior,” DEP wrote that, “the Department does not have the records that you request in its possession, custody, or control.”

In addition, our research found that waste management waivers may allow operators to directly avoid regulations. For example, the OG71 specifically contains an option for operators to construct waste pits so that they can be located even closer to groundwater than the 20 inches minimum required in the Pa. Code. In addition, in the past operators have used liners that are 20 mils thick for temporary waste pits that are buried on-site, rather than the more robust 30 mil liners required in various sections of Chapter 78 and Chapter 78a pertaining to pits. (188)

Response: The intent of §§ 78a.63a and 78.63a is to ensure that operators obtain approval prior to conducting alternate waste management practices. Allowing alternate waste management practices is appropriate when alternate waste management practices provide equivalent or superior protection. The Department evaluates alternate waste management practices on a case-by-case basis against the specific regulatory requirements to ensure that the alternate waste management practice will provide equivalent or superior protection.

1512. Comment: **78a63a** -DEP must not allow alternative waste management by an operator on a well site through a request to DEP. There is no requirement that the alternative is part of a formal permit. There are no standards set for the alternative methods and no analysis of the cumulative impacts. Additionally, a public review process provides transparency and public access to information and decision making and should be provided at all decision points but there is no public review of this action. DEP should delete this section. (182)

Response: The intent of §§ 78a.63a and 78.63a is to ensure that operators obtain approval prior to conducting alternative waste management practices. Allowing alternate waste management practices is appropriate when alternate provide equivalent or superior protection.

1513. Comment: Alternative systems should be certified by a licensed professional. Sections 78.63a and 78a.63a set forth the procedure by which an alternate waste management system may be approved. Commentator supports the requirement that the operator demonstrate that the alternate management practice provide equivalent or superior protection to the regulatory requirements. We suggest that the regulation be revised to further require that the determination of equivalence or superiority be certified by a licensed professional engineer. (231, 231a)

Response: The Department disagrees that it is necessary for a licensed professional engineer to determine the equivalence or superiority of all alternative waste management practice.

1514. Comment: §78a.63a.We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1515. Comment: §78a.63a The commentator supports the Department’s proposed Subsection 78a.63a, and suggests that the provision does not go far enough. The commenter recommends that this alternate practice option should be extended to other sections of Chapter 78a, including but not limited to § 78a.64a (“Containment systems and practices at well sites”), to allow operators to demonstrate that an alternate practice provides equivalent or superior protection.(210)

Response: The intent of §§ 78a.63a and 78.63a is to ensure that operators obtain approval prior to conducting alternative waste management practices. Allowing alternate waste management practices is appropriate when alternate provides equivalent or superior protection. The rulemaking allows operators to make a demonstration of an alternative for

many other provisions but allowance for an alternative demonstration for Section 78a.64a is not necessary.

1516. Comment: In 2015 PADEP proposed a new regulation (§ 78a.63a) to allow alternative waste management proposals to be submitted by the operator, and to be approved by PADEP, if the practice provides equivalent or superior protection to the requirements listed in (§ 78a.56 to § 78a.63).

We support technical innovation and improved waste management; however, as explained above we do not believe PADEP has proposed best technology or practices for waste management in its proposed regulations at §§ 78a.56–78a.63. (211)

Response: The Department acknowledges the comment.

§§ 78.64 and 78a.64 Secondary containment around oil and condensate tanks

1517. Comment: Secondary Containment impoundments: Blowouts may be rare, but predictable events. They may eject tens of thousands of gallons of fracking fluid onto the surface. Uncontained, these releases result in severe environmental damage. Well pads should be constructed with the same secondary containments requirements for aboveground petroleum storage tanks. With impervious bottoms and surrounded by a containment moat, these catastrophes could be mitigated. (17)

Response: The Department is confident that the language in Sections 78.64 and 78.64a provides sufficient protection to resources near well sites and that additional protections, such as impervious bottoms and moats should not be necessary. However, should an Operator suggest alternate methods of secondary containment that provides equal or greater protection than what is required, the Department will be willing to review any proposed alternate designs.

1518. Comment: See issue with “primary containment” and “secondary containment” definitions in the title of the section.

Commentator’s suggested amendatory language: § 78a.64. Secondary containment around oil and condensate tanks. (115)

Response: The Department agrees and has amended the section title.

1519. Comment: (b) The containment area provided by the dikes or other method of secondary containment shall have containment capacity sufficient to hold the volume of the largest single tank, plus a reasonable allowance for precipitation based on local weather conditions and facility operation.

See issue with “primary containment” and “secondary containment” definitions. Act 13 requires 110% sump capacity. The precipitation allowance is from Federal SPCC guidelines.

Commentator’s suggested amendatory language:

(b) Secondary containment provided by the dikes or other method of secondary containment shall have sump capacity sufficient to hold the volume of the largest single tank, plus 10%. (115)

Response: Section 3218.2 of the Oil and Gas Act of the 2012 pertains to containment requirements for unconventional wells during oil and gas well development phases. Title 25 Pa. Code § 78.64 pertains to tanks used to store oil and hydrocarbons produced from a well, which is subject to Federal Spill Prevention, Control and Countermeasure Plan (SPCC) requirements under 40 CFR 112. The language found in § 78.64 is reflective of the federal regulatory language found in 40 CFR § 112.

1520. Comment: Prior to drainage of accumulated precipitation from containment structures, the containment area shall be inspected and accumulations of oil picked up and returned to the tank or disposed of in accordance with approved methods.

(d) After complying with subsection (c), drainage of containment facilities is acceptable if:
(1) The accumulation in the containment facility consists of only precipitation directly to the containment facility and drainage will not cause a harmful discharge or result in a sheen.
(2) The containment drain valve is opened and resealed, or other drainage procedure, as applicable, is conducted under responsible supervision.

See issue with “primary containment” and “secondary containment” definitions.

Commentator’s suggested amendatory language:

(c) Prior to drainage of accumulated precipitation from secondary containment, the area shall be inspected, and accumulations of oil picked up and returned to the tank or disposed of in accordance with approved methods.

(d) After complying with subsection (c), drainage of secondary containment is acceptable if:
(1) The accumulation in the secondary containment consists of only precipitation directly to the secondary containment and drainage will not cause a harmful discharge or result in a sheen.
(2) The secondary containment drain valve is opened and resealed, or other drainage procedure, as applicable, is conducted under responsible supervision. (115)

Response: The Department agrees. The regulatory language has been changed.

1521. Comment: 78a64(a).DEP should regulate all tanks, even those under 1,320 gallons due to importance to prevent pollution pathways from this dangerous material, including condensate. (182)

Response: Sections 78.64(a) and 78a.64(a) requires tanks of 1,320 gallons or more to have secondary containment, which is consistent with the federal regulatory threshold for aggregate aboveground storage capacity at facilities storing oil found in the Federal Spill Prevention, Control and Countermeasure Plan regulations 40 CFR Part 112.

1522. Comment: 78a.64(a) The capacity of the tank should be reduced to 660 gallons given the nature of substances in a condensate tank. Small quantities can be quite toxic. (161)

Response: The Department has revised language from the original proposed rulemaking from 660 gallons to 1,320 gallons in order to be consistent with Federal Spill Prevention, Control and Countermeasure Plan regulations 40 CFR Part 112.

1523. Comment: 78a.64(d) Before drainage of containment facilities, testing of the contents should be required to determine if, in fact, a discharge would cause harm. A protocol for testing should be established that is inclusive of potential hazards. (161)

Response: Subsection (d) requires compliance with subsection (c) which requires before draining “the containment area shall be inspected and accumulations of oil picked up and returned to the tank or disposed of in accordance with approved methods.” This is consistent with Federal Spill Prevention, Control and Countermeasure Plan regulations 40 CFR Part 112.

1524. Comment: 78a64(e). DEP should require all existing and currently used tanks should be closed within 6 months, not two years. The standards to which current impoundments were built are less stringent and could provide pollution pathways and dangers to health and safety. (182)

Response: Section 78a.64(e) requires secondary containment for all existing tanks used for the storage of condensate at a producing well site within two years. The two years maximum amount of time to comply is allotted to allow industry a reasonable amount of time to meet this requirement.

1525. Comment: 78a.64(e). The capacity of the condensate tank should be reduced to 660 gallons as above. (161)

Response: The Department has revised language from the original proposed rulemaking from 660 gallons to 1,320 gallons in order to be consistent with Federal Spill Prevention, Control and Countermeasure Plan regulations 40 CFR Part 112.

1526. Comment: §78a.64 We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1527. Comment: Commentator supports the Department’s proposed addition of subsection (e). That new subsection makes clear that existing condensate tanks must receive the containment protections required under this section within two years. Containment is important to protecting our natural resources from pollution that may otherwise result from faulty or leaking tanks. There is no reason that this protection should be limited to newly constructed tanks. (231, 231a)

Response: The Department acknowledges the comment.

1528. Comment: In 2013, the EQB proposed to add condensate tanks to the existing requirement to install and maintain a containment system around oil tanks with a combined capacity of at least 1,320 gallons. In 2015, PADEP added a requirement for any existing condensate tanks (with a combined capacity of at least 1,320 gallons) to meet these requirements the next time the tank is replaced, refurbished, or repaired or within two years from the rule, whichever is sooner.

We support PADEP’s proposed changes to § 78a.64. (211)

Response: The Department acknowledges the comment.

1529. Comment: § 78.64 Containment around oil and condensate tanks - The proposed requirement for secondary containment capable of preventing tank contents from entering waters of the Commonwealth for all new, refurbished, or replaced aboveground tanks will be extremely costly. This one size fits all regulation is excessive when applied to many conventional wells. On one hand, the Department encourages the road spreading of conventional brine, but, on the other hand, the Department perceives that the environmental risk is great enough that secondary

containment is necessary in all cases of new, refurbished, or replaced tanks associated with conventional wells.

This rule should focus on the need for secondary containment on wells whose production includes a liquid hydrocarbon component and/or is located within a certain distance from surface water. Building off the language already contained in Chapter 78.64 that addresses containment around oil and condensate tanks, if an operator installs a new or replaces an existing tank capable of containing less than 1,320 gallons used for brine production, those tanks, like the ones that contain oil and condensate, should not need secondary containment. (213)

Response: § 78.64 pertains to oil and condensate tanks with a combined capacity of 1,320 gallons or greater and is in alignment with the Federal Spill Prevention, Control and Countermeasure Plan regulations 40 CFR Part 112. § 78.57 pertains to tanks used to store production fluids other than oil or condensate on a well site. The Department differentiates between the spreading of brine on designated roads in a prescribed manner while following an approved plan and the uncontrolled, unsupervised release of production fluids from a tank on a well site. Therefore the Department deems secondary containment around production tanks as a reasonable and prudent measure to protect waters of the Commonwealth. The requirement in § 78.57 for secondary containment capable of preventing tank contents from entering waters of the Commonwealth for all new, refurbished, or replaced aboveground tanks will allow for a more gradual timetable for implementing secondary containment around production fluid tanks on well sites.

1530. Comment: Also, at the federal level (SPCC 40 CFR 112), containment systems are called “secondary containment” since the primary containment is the container itself. Sections of Chapter 78 refer to “secondary containment” [§ 78.57(c), § 78.57(i)(10,11,16)], “containment” [§ 78.57(c)] and “emergency containment” [§ 78.57(i)(12,13,14,15) instead of “containment system”. The term should be standardized in the regulation. Also adding to the confusion is that aboveground storage, which is primary containment, is also referred to as “containment” [§ 78.78(i)(8,9)] and “containment structures” [§ 78.57(c)]. (213)

Response: The Department agrees. The regulatory language has been changed.

1531. Comment: § 78.64 and § 78a.64, § 78a.64a. Secondary containment around oil and condensate tanks.

Commentator’s suggested language:

(a) If an owner or operator uses tanks with a combined capacity of at least 1,320 gallons to contain oil or condensate produced from a well, the owner or operator shall construct and maintain a dike or other method of secondary containment which satisfies the requirements under 40 CFR 112 (relating to oil pollution prevention) around the tank or tanks which will prevent the tank contents from entering waters of this Commonwealth.

(b) The secondary containment provided by the dikes or other method of secondary containment shall have containment capacity sufficient to hold the volume of the largest single tank, plus a reasonable allowance for precipitation based on local weather conditions and facility operation.

(c) Prior to drainage of accumulated precipitation from secondary containment, the secondary containment area shall be inspected and accumulations of oil picked up and returned to the tank or disposed of in accordance with approved methods.

(d) After complying with subsection (c), drainage of secondary containment is acceptable if:

(1) The accumulation in the secondary containment consists of only precipitation directly to the secondary containment and drainage will not cause a harmful discharge or result in a petroleum sheen.

(2) The secondary containment drain valve is opened and resealed, or other drainage procedure, as applicable, is conducted under responsible supervision. (213)

Response: The Department agrees. The regulatory language has been changed.

§ 78a.64a Secondary containment

1532. Comment: 78a.64a(a), 78a.64a(b), 78a.64a(d)(1), 78a.64a(d)(3), 78a.64a(f)(4) 78a.64a(h) Pollutational substances should be substituted for regulated substances. (161)

Response: The term “regulated substances” is appropriate. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty, unlike the undefined term “pollutational substances”.

1533. Comment: [(1)] (k) Documentation of chemical compatibility of containment systems with material stored within the system shall be provided to the Department upon request.

Comment:

See issue with “primary containment” and “secondary containment” definitions.

Commentator’s suggested amendatory language:

[(1)] (k) Documentation of chemical compatibility of the secondary containment with material stored within the system shall be provided to the Department upon request. (115)

Response: The Department agrees. The regulatory language has been changed.

1534. Comment: It is suggested that the language be revised to state that records shall be maintained and available upon request. Storage of large amounts of paperwork on-site can be problematic. A few examples are as follows: documents can be stolen, become saturated by the elements, or end up in someone’s vehicle forgetting to put them back. (232)

Response: The requirement to maintain inspection reports and maintenance records at the well site for containment systems utilized at a well site during the well development stages specified in 78a.64a(d)(1) and to be available at the site for review is in order to aid the Department with determining that the containment systems are being routinely inspected and maintained during the inspection of the facility. This practice is not unique to the oil and gas industry, as it is required by other industries, such as timber harvesting and earthmoving for construction activities as well.

1535. Comment: § 78a.64a, § 78a.64a(d) (2) Containment systems and practices at well sites - In addition, DEP has not demonstrated the need, nor provided justification, for requiring a 1 x 10⁻¹⁰ cm/sec permeability standard, which is far more stringent than is required to prevent spill materials from leaving the well site. A “sufficiently impervious” standard is similar to and consistent with the containment standard for oil and condensate tanks at § 78a.64(a), which

simply requires that the containment “prevent the tank contents from entering waters of the Commonwealth.” (199, 210, 213)

Response: The Department believes that the standards are appropriate to ensure adequate protection from pollution.

1536. Comment: § 78a.64a Containment systems and practices at well sites - DEP has provided no justification or rationale for prohibiting subsurface secondary containment at this ANFR stage. As long as subsurface secondary containment meets the criteria that follow, it is more than adequate to prevent spills from leaving the well site or contacting the ground surface. This new ANFR prohibition should be deleted since DEP has not provided any explanation as to why such subsurface secondary containment is inadequate, (213)

Response: Subsurface systems cannot be easily inspected or repaired due to the nature of their design. The materials contained within the subsurface containment system would require remediation and disposal after a spill. Therefore, the Department considers subsurface containment systems as not being practical to be employed as a secondary containment system.

1537. Comment: § 78a.64a Containment systems and practices at well sites - The requirement to remove stormwater from containment areas “as soon as possible” is more stringent than is necessary. The wording “as soon as possible” should be deleted, which would still require the stormwater to be removed “prior to the capacity of secondary containment being reduced by 10% or more.” (213)

Response: “As soon as possible” is the accepted standard for BMP repairs. Stormwater management should be dealt with as soon as possible to avoid reducing secondary containment capacity and the chance for a spill or release to then escape secondary containment.

1538. Comment: In 2013, the EQB proposed new containment systems and practices at unconventional wells sites. In 2015, PADEP proposed one change to clarify subsurface secondary containment does not constitute secondary containment for the purposes of this regulation (§ 78a.64a).

We support PADEP’s proposal to improve containment systems and practices. Overall, this regulation provides a number of positive spill prevention requirements. However, the requirement should apply to all Oil and Gas Operations, not just the wellsite. The regulations should require the containment liner to be leak proof. The proposed regulation still allows some permeability through the containment liner, albeit a small coefficient of permeability is proposed. We request that no amount of leakage be allowed. Containment systems should be “leak proof.” We also recommend that, when a containment system is damaged, the operator be required to immediately remove regulated substances from that damaged containment system.

We recommend that § 78a.64a be revised as follows:

§ 78a.64a. Containment systems and practices at OIL AND GAS OPERATIONS
~~[unconventional] well sites.~~

(a) ~~This section applies to unconventional well sites.~~ THIS SECTION APPLIES TO ALL OIL AND GAS OPERATIONS. (b) ALL OIL AND GAS OPERATIONS and well sites shall be designed and constructed using containment systems and practices that prevent

spills of regulated substances to the ground surface and to prevent spills from leaving the OF THE OIL AND GAS OPERATION well-site.

~~[(e)]~~ (b) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within a containment system. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site.

~~[(d)]~~ (c) Pits and centralized impoundments that comply with this chapter are deemed to meet the requirements of this section.

~~[(e)]~~ (c) Containment systems must meet all of the following:

(1) A containment system must be used ~~on the well-site~~ AT THE OIL AND GAS OPERATION when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives, CHEMICALS, or flowback are brought onto or generated at the ~~well-site~~ OIL AND GAS OPERATION.

(2) A containment system must BE IMPERVIOUS AND IMPERMEABLE AND AT LEAST 30 MILS THICK. ~~have a coefficient of permeability no greater than 1×10^{-10} cm/sec~~

(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with regulated substances being stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747, Compatibility Test for Wastes and Membrane Liners, or other MORE STRINGENT STANDARDS as approved by the Department.

~~[(f)]~~ (d) An operator shall utilize secondary containment when storing additives, chemicals, oils or fuels, OR REGULATED SUBSTANCES. The secondary containment must have sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10 percent to allow for precipitation, unless the container is equipped with individual secondary containment such as a double walled tank. WHERE DOUBLE-WALLED TANKS ARE USED, A SECONDARY CONTAINMENT LINER MUST BE PLACED UNDER ALL VALVES, FLANGES, AND CONNECTION POINTS TO CAPTURE POTENTIAL LEAKS.

Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks. A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.

~~[(g)]~~ (e) Subsurface secondary containment systems may be employed at the ~~well-site~~ OIL AND GAS OPERATION. SUBSURFACE SECONDARY CONTAINMENT DOES NOT CONSTITUTE SECONDARY CONTAINMENT FOR THE PURPOSES OF THIS SUBSECTION. Subsurface secondary containment must meet the following requirements:

(1) Subsurface [secondary] containment systems must be IMPERVIOUS, IMPERMEABLE AND HAVE ~~have a coefficient of permeability of no greater than 1×10^{-10} cm/sec~~ with sufficient strength and thickness to maintain the integrity of the containment system. The thickness of a subsurface containment system must be at least 30 mils. Adjoining sections of the subsurface containment system must be sealed together, in accordance with the manufacturer's directions, to prevent leakage. All seams of the adjoining sections shall have their integrity tested prior to being covered.

[no revisions recommended for (2)–(5)]

~~[(h)]~~ (f) THE OPERATOR SHALL SUBMIT A REPORT TO THE DEPARTMENT DOCUMENTING COMPLIANCE WITH § 78a.64 WITHIN 30 DAYS OF INSTALLATION OF THE CONTAINMENT SYSTEM AND AT LEAST 14 DAYS PRIOR TO OPERATION. THE DEPARTMENT SHALL MAKE THE REPORT AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE WITHIN 7 DAYS. All surface containment systems shall be inspected weekly to ensure integrity. If the containment system is damaged or compromised, the well operator shall IMMEDIATELY repair the containment system. IF THE CONTAINMENT SYSTEM CANNOT BE IMMEDIATELY REPAIRED, ALL REGULATED SUBSTANCES MUST BE REMOVED FROM THE CONTAINMENT SYSTEM AND REMOVED FROM THE SITE, OR PLACED IN ANOTHER ON-SITE CONTAINMENT SYSTEM THAT HAS NOT BEEN DAMAGED. If ~~as soon as practicable~~. The well operator shall maintain records of any repairs until the well-site CONTAINMENT SYSTEM is restored. Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more.

~~[(i)]~~ (g) Regulated substances that escape from primary containment or are otherwise spilled onto a containment system shall be CLEANED UP AND removed ~~as soon as possible~~ WITHIN 24 HOURS. After removal of the regulated substances the operator shall inspect the containment system. A Department-approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells do not constitute a leak detection system for the purpose of this subsection. If the containment system did not completely contain the material, the operator shall notify the Department, ALL REGULATED SUBSTANCES SHALL BE REMOVED FROM THE CONTAINMENT SYSTEM AND REMOVED FROM THE SITE, OR PLACED IN ANOTHER ON-SITE CONTAINMENT SYSTEM THAT HAS NOT BEEN DAMAGED, AND THE OPERATOR SHALL IMMEDIATELY remediate the affected area in accordance with § 78.66 (relating to reporting and remediating releases).

~~[(j)]~~ (h) Stormwater that comes into contact with regulated substances stored within the secondary containment area shall be managed as residual waste.

~~[(k)]~~ (i) Inspection reports and maintenance records shall be available at the well site for review by the Department, SHALL BE SUBMITTED TO THE DEPARTMENT ANNUALLY, AND SHALL BE MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE WITHIN 7 DAYS OF SUBMISSION.

~~[(l)]~~ (j) Documentation of chemical compatibility of containment systems with material stored within the system shall be provided to the Department upon request. (211)

Response: These containment systems regulations only apply to unconventional well sites due to the scope of Section 3218.2 of the Oil and Gas Act of 2012. The Department believes the requirements for inspections; maintenance; repairs and record keeping are adequate and are consistent with similar requirements for other industries. The requirement for secondary containment to have a coefficient of permeability no greater than 1×10^{-10} cm/sec. is an acceptable standard to protect the environment from spills and releases which is also higher than federal standards. Material thickness is dependent upon the specific material used for secondary containment in order to meet the required permeability coefficient standard. Operators are required to respond to emergencies immediately to take steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution under Title 25 Pa. Code § 91.33.

1539. Comment: We are encouraged to see that condensate tanks are now included in these requirements for containment systems. We are also pleased to see the language stating that “(a) Well sites shall be designed and constructed using containment systems and practices that prevent spills of regulated substances to the ground surface and to prevent spills from leaving the well site.”, and “(b) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within a containment system. “These provisions will help to assure better protection of the lands and waters of the Commonwealth.

We are also encouraged to see the requirements prescribing the materials used in, and the characteristics of containment systems. This will help to ensure their effectiveness.

These sections require secondary containment having “sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10% to allow for precipitation ...” Considering the likelihood of extreme weather events coupled with the possibility of events resulting in the rupture of more than one tank in any given secondary containment area, the commentator suggests the Department adopt a standard of requiring a secondary containment “with the sufficient perimeter and height to hold 1.5 times the volume of the largest tank.” This enhanced requirement will better protect lands and waters of the Commonwealth and adjacent areas and has long been employed by the commentator for nonfederal oil and gas operations conducted under our 9B regulations.

We understand that existing condensate tanks of at least 1,320 gallons must meet new requirements for secondary containment within, at most, two years from the effective date of adoption of the proposed rulemaking. We request clarification on whether the new requirements for secondary containment apply to all other existing operations, or only new operations? We suggest this more protective standard be required of both existing and new drilling operations.
(200)

Response: The Department believes the required secondary containment volume of largest tank volume plus 10 percent in addition with routine inspections and proper maintenance of the secondary containment will protect the environment against practically all spills and releases, barring an Act of God. To have a 1.5 times the volume of the largest tank volume requirement would result in a larger footprint of the facility, creating a greater impact on the environment. These requirements immediately apply to all new operations moving forward and any preexisting operations must comply within 2 years of these regulations going into effect.

1540. Comment: § 78a.64a. Containment systems and practices at [unconventional] well sites.

- (a) [This section applies to unconventional well sites.]
- [(b)] Well sites shall be designed and constructed using containment systems and practices that prevent spills of regulated substances to the ground surface and to prevent spills from leaving the well site.
- [(c)] (b) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within a containment system. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site.

comment:

See issue with “primary containment” and “secondary containment” definitions.

Commentator’s suggested amendatory language:

§ 78a.64a. Secondary containment systems and practices at [unconventional] well sites.

(a) [This section applies to unconventional well sites.]

[(b)] Well sites shall be designed and constructed using secondary containment systems and practices that prevent spills of regulated substances to the ground surface and to prevent spills from leaving the well site.

[(c)] (b) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within secondary containment. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site. (115)

Response: The Department agrees. The regulatory language has been changed.

1541. Comment: 78a64a (d.2). DEP should require the containment system components to be impermeable and impervious. Given the nature of the material stored and the expense associated with clean up, a double liner system with leak detection between layers must be considered. The leak detection system is the critical part of the double liner system. (182)

Response: The requirement for secondary containment to have a coefficient of permeability no greater than 1×10^{-10} cm/sec. is an acceptable standard to protect the environment from spills and releases which is also higher than federal standards. A single layer of a material meeting this standard for secondary containment is more than adequate to protect the environment from a spill. A double lined system with a leak detection system is unnecessary because secondary containment is not used for storage of regulated substances.

1542. Comment: § 78a.64a (b) - It is unclear the requirement for “solid wastes and other regulated substances in equipment or vehicles” to be managed within a containment system. Once these substances are loaded within the vehicle or equipment, containment is neither customary nor necessary.

The control of materials, once loaded onto a vehicle, are outside the control of the operator and are governed separately by federal and PA DOT regulations. Further, fuel stored within vehicle fuel tanks is likewise governed by federal and PA DOT regulations and is outside the regulatory authority of PADEP. Containment requirements should be limited to the transfer activities of these substances only. (187, 209)

Response: Section 402(a) of the Clean Streams Law (35 P.S. §691.402(a)) states that whenever the Department finds that any activity creates a danger of pollution of the waters

of the Commonwealth or that regulation of the activity is necessary to avoid such pollution, the Department may, by rule or regulation, establish the conditions under which such activity shall be conducted.

1543. Comment: § 78a.64a(b) With respect to “regulated substances”, this requirement conflicts with 58 P.S. § 3218.2(a). This subsection of the Oil and Gas Act of 2012 specifies a list of six materials that must be in containment systems when stored on unconventional well sites. See 58 P.S. § 3218.2(c).

The commentator’s suggested amendatory language is subject to the commentator’s comment to §78a.1 regarding the definition of “containment system.”

The commentator’s suggested amendatory language:

(a) Well sites shall be designed and constructed using containment systems and practices that prevent spills to the ground surface and to prevent spills from leaving the well site during drilling and hydraulic fracturing operations.

(b) Containment systems shall be used when drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, or hydraulic fracturing flowback are stored on an unconventional well site. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site. (210)

Response: The Department acknowledges that §3218.2(c) does list 6 materials that require use of containment systems when stored on an unconventional well site but disagrees with the comment. Section 402(a) of the Clean Streams Law (35 P.S. §691.402(a)) states that whenever the Department finds that any activity creates a danger of pollution of the waters of the Commonwealth or that regulation of the activity is necessary to avoid such pollution, the Department may, by rule or regulation, establish the conditions under which such activity shall be conducted.

1544. Comment: Section 78a.64a(b) - Containment Systems and Practices at Well Sites

The definition of “containment system” refers exclusively to barriers, but the DEP historically has allowed the use of engineering controls as a containment system instead of relying exclusively on physical barriers. The current definition of “containment system” could require the use of pad liners as a containment strategy for vehicles transporting regulated substances on site. However, heavy truck traffic can take its toll on liners and they can become torn. Rather than require liners as a necessary element in all containment systems, DEP should continue allowing for engineering controls (e.g., the use of “check valves” or modified unloading procedures), which can sometimes be a more reliable containment strategy than liners and which may be better suited to preventing releases from vehicles in the first place or minimizing the potential that unintended spills might reach the ground.

By creating a requirement for all aboveground storage tanks to be managed in accordance with 25 Pa Code Sections 245.531 through 245.534, it is unclear whether operators may be required to conduct in-depth inspections of tank liners at 10- or 20- year minimum intervals. If these inspections would be required, commenter requests that the regulation be modified to allow for other methods of compliance demonstration, such as use of double-walled/bottomed aboveground storage tanks with interstitial monitoring to ensure that the primary container integrity is maintained. Temporary shutdown, evacuation, and cleaning of tanks required to conduct in-depth liner inspections requires well shut-in, produced water transfer/handling, and confined space

entry that does not appear to be warranted when other monitoring/inspection methods may be appropriate. (222)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system. The Department acknowledges that engineering controls such as use of check valves or modified unloading procedures may reduce the potential for spills and releases, ultimately a competent secondary containment system provides the necessary protection against spills and releases from creating a pollution event.

Regarding corrosion control requirements, the rulemaking requires all, new, refurbished or replaced tanks to comply with corrosion requirements in §§245.531-245.534 other than the requirement to use Department certified inspectors to inspect tank linings or coatings. Oil and gas operators utilizing permanent tanks with an interior lining or coating must conduct an inspection of the liner or coating in accordance with § 245.534 but are not required to use a Department certified inspector. The Department does not believe that the alternatives proposed by the commentator provide an adequate demonstration that interior liners or coatings are intact to prevent corrosion. Section 3218.4(b) of the 2012 Oil and Gas Act requires all aboveground and underground tanks to comply with the applicable corrosion in the Department's storage tank regulations. This section is intended to implement that statutory requirement. The Department believes that this is a reasonable approach to obtain compliance with appropriate economic considerations.

1545. Comment: 78a.64a(c) Pits that are open should not be compliant. (161)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. 78a.64a(c) applies to pits that will be used for disposal of drill cuttings from above the surface casing seat regulated under Section 78.a.61.

1546. Comment: § 78a.64a (d)(1)

The timing is unclear for when containment needs to be placed. For the drilling of the conductor hole, which is typically done with an auger or air rotary rig, no regulated substances are introduced and containment is not necessary. It is recommended that the language be amended to state that containment provisions only apply in those instances where regulated substances are brought onto or are generated at the well site. (187, 209)

Response: Section 3218.2(a)(1) of the Oil and Gas Act of 2012 requires that containment practices be instituted on the well site during both drilling and hydraulic fracturing operations. The Department interprets the statute to mean all phases of well development, which is reflected in the regulatory language.

1547. Comment: § 78a.64a (d)(2) - The containment system coefficient of permeability listed represents the best possibly achievable under ideal circumstances and is consistent with that associated with primary containment. For secondary containment, by definition, it is not designed to afford the same level of protection as the primary containment but rather to protect the environment in the interim period the primary containment can be repaired. If a regulated

substance is release outside primary containment, remedial efforts will be initiated immediately and constructing secondary containment, that for well site activities is temporary in nature, to meet primary containment requirements is not necessary and overly burdensome. Further, for well sites where containment is continually exposed to ongoing activities, maintaining this level of containment is technically infeasible. (187, 209)

Response: The standards regarding the coefficient for permeability are appropriate to provide adequate protection from pollution as a result of a spill or release. With the right design and best management practices, this is technically feasible and is currently a standard practice among the majority of unconventional well drillers.

1548. Comment: § 78a.64a(d) The requirements of subsection 78a.64a(d) are too prescriptive, and would not allow the Department to approve alternate methods where appropriate.

The commentator's suggested amendatory language is subject to our comment to §78a.1 regarding the definition of "containment system."

The commentator's suggested amendatory language

(d) Unless otherwise approved by the Department, containment systems must meet all of the following: (199, 210)

Response: The Department disagrees and considers the language in Sections 78a.64a(d) is adequate to ensure containment systems consistently meet the level of protection intended in Section 3218.2(a)(1) of the Oil and Gas Act of 2012.

1549. Comment: § 78a.64a(d) (1) This proposed subsection is overly broad (e.g., it would apply to cement in cement trucks) and conflicts with 52 P.S. § 3218.2, which provides a specified list of materials that require storage in containment systems. The subsection is unnecessary because it is redundant with revised subsection (b) and (c) above.

The commentators' suggested amendatory language:

Delete subsection (d)(1). (210)

Response: Section 78a.64a.(d)(1) of the final rulemaking is necessary because it states when containment systems are to be used which is, "when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well sight and when regulated substances ... are brought onto or generated on site." This is to ensure that containment systems are in place during the staging of equipment for well development and the interim periods in between stages when equipment and regulated substances are present and not just during actual drilling and hydraulic fracturing of the well. Section 78a.64a.(b) determines which vehicles and equipment must be managed within a containment system, based upon their contents being a regulated substance.

1550. Comment: § 78a.64a(d) (3) ASTM D5747 is a test for landfill liners and pits where the liner is submerged in diluted chemicals for extended periods of time. It is extremely expensive (approximately \$5,000) to run on each chemical type found at a site. We propose ASTM D543 as alternate test for surface liners. It contains a wet patch method that simulates a concentrated surface spill, which ASTM D5747 does not. We recommend testing for 72 hours at 140°F to account for response time and summer surface temperatures.

The commentator's suggested amendatory language is subject to our comment to §78a.1 regarding the definition of "containment system."

The commentator's suggested amendatory language:

(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with the listed materials being stored, must be compatible with the materials and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners, ASTM D543 wet patch at 140°F for 72 hours, or other standards as approved by the Department. (210)

Response: The Department has modified § 78a.64a(d)(3) to accommodate other tests methods to demonstrate liner compatibility.

1551. Comment: § 78a.64a(d) (3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with regulated substances being stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747, Compatibility Test for Wastes and Membrane Liners, or other standards as approved by the Department.

ASTM D5747 is a test for landfill liners and pits where the liner is submerged in diluted chemicals for extended periods of time. It is extremely expensive (approximately \$5,000) to run on each chemical type found at a site. As such, we support the proposal of ASTM D543 as alternate test for surface liners. It contains a wet patch method that simulates a concentrated surface spill, which ASTM D5747 does not. We recommend testing for 72 hours at 140°F to account for response time and summer surface temperatures. We supports suggested amendatory language as subject to comment to §78a.1 regarding the definition of "containment system.": "(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with the listed materials being stored, must be compatible with the materials and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners, ASTM D543 wet patch at 140°F for 72 hours, or other standards as approved by the Department." (199)

Response: The Department has modified § 78a.64a(d)(3) to accommodate other tests methods to demonstrate liner compatibility.

1552. Comment: § 78a.64a(d) (1) A containment system must be used on the well site when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback are brought onto or generated at the well site. The commentator is concerned that this proposed subsection is overly broad, would apply to cement in cement trucks, and conflicts with 52 P.S. § 3218.2, which provides a specified list of materials that require storage in containment systems which are addressed in a previous subsection. The subsection is unnecessary because it is redundant with revised subsection (b) and (c) above. As such, the commentator suggests deleting subsection (d)(1). (199)

Response: Section 78a.64a.(d)(1) of the final rulemaking is necessary because it states when containment systems are to be used which is, “when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well sight and when regulated substances ... are brought onto or generated on site.” This is to ensure that containment systems are in place during the staging of equipment for well development and the interim periods in between stages when equipment and regulated substances are present and not just during actual drilling and hydraulic fracturing of the well. Section 78a.64a.(b) determines which vehicles and equipment must be managed within a containment system, based upon their contents being a regulated substance.

1553. Comment: Section 78a.64a(d)(1)- Containment Systems and Practices at Well Sites
Please clarify what is meant by a “containment system.” Is a “duck pond” or temporary, portable containment sufficient? (222)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system. The commenter has not provided sufficient detail for the Department to provide a specific response.

1554. Comment: [(e)] (d) Containment systems must meet all of the following:

- (1) A containment system must be used on the well site when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback are brought onto or generated at the well site.
- (2) A containment system must have a coefficient of permeability no greater than 1×10^{-10} cm/sec.
- (3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with regulated substances being stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747, Compatibility Test for Wastes and Membrane Liners, or other standards as approved by the Department.

comment: See issue with “primary containment” and “secondary containment” definitions. § 78a.57. Control, storage and disposal of production fluids require static head and 72 hour of chemical compatibility. Same standard should apply here. ASTM Method D5747, Compatibility Test for Wastes and Membrane Liners is a test for “primary containment”, not “secondary containment.”

Commentator’s suggested amendatory language:

[(e)] (d) Secondary containment systems must meet all of the following:

- (1) Secondary containment must be used on the well site when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback are brought onto or generated at the well site.

(2) The secondary containment system must have a coefficient of permeability no greater than 1×10^{-10} cm/sec AT ANTICIPATED HYDROSTATIC HEAD AND BE OF SUFFICIENT THICKNESS TO PREVENT THE RELEASED WASTE FROM PENETRATING THE CONTAINMENT STRUCTURE FOR A MINIMUM OF 72 HOURS AND UNTIL THE RELEASE CAN BE DETECTED AND RECOVERED.

(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the secondary containment system, that could potentially come into direct contact with regulated substances being stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use FOR A MINIMUM OF 72 HOURS AND UNTIL THE RELEASE CAN BE DETECTED AND RECOVERED. (115)

Response: The Department disagrees with the proposed language but does allow for other methods by recognized testing institutions that are approved by the Department to be used to demonstrate compliance with the permeability and compatibility requirements.

1555. Comment: § 78a.64a (e) - It is unclear what is meant by the sentence “A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.” Please clarify.(187, 209)

Response: The Departments agrees with the comment. The language has been stricken.

1556. Comment: Section 78a.64a(e) - Containment Systems and Practices at Well Sites
Terminology in this section leads to confusion. The term “secondary containment” should be defined if it has a meaning that is different than “containment system.” The definition should indicate that the purpose of a secondary containment is to contain spills and releases to the area immediately surrounding the source, such that the spilled material cannot contact the environment or present a safety risk. Further, it is unclear what is meant by the statement: “A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.” Does this mean that operators need secondary containment on top of a well site liner? As written, the sentence appears to be saying that a well site liner alone will not be considered secondary containment. Please clarify this section. (222)

Response: The Department agrees. The regulatory language has been changed including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system. Also, the Department has removed the language “A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.”

1557. Comment: 78a.64a(f)(1) Integrity testing of subsurface containment systems should be certified by a professional engineer prior to being covered as well as meeting other requirements. (161)

Response: Since subsurface containment systems are not to be considered as viable secondary containment, the Department feels that certification by a professional engineer is not necessary.

1558. Comment: § 78a.64a (f) - The definition of subsurface containment is not well defined. Typically, the impermeable membrane used for secondary containment is placed above ground surface and covered with a protective fabric (geotextile) and/or protective matting. In these cases, inspection of the liner itself is not possible and could be construed as a subsurface application under this section. The definition of subsurface should be clearly defined in this section to

preclude standard installation practices above ground surface where the liner is covered for protective purposes. (187, 209)

Response: Language referring to subsurface containment has been stricken from the rulemaking language.

1559. Comment: § 78a.64a (f)(4) - It is unclear why a subsurface containment system cannot be used to store regulated substances if containment practices specified within the regulations are followed and containment can be demonstrated to be intact. (187)

Response: Subsurface containment systems are not to be considered as viable secondary containment. Only primary containment is allowed to store regulated substances.

1560. Comment: 78a64a (f and f.1)._DEP should not allow subsurface containment systems at wells site due to the lack of ability to inspect and monitor the tanks efficiently and because of the highly hazardous substances contained in the tanks, including condensate. (182)

Response: Section 78a64a pertains to secondary containment at unconventional well sites during well development. Subsurface containment systems cannot be used for secondary containment.

1561. Comment: [(f)] (e) An operator shall utilize secondary containment when storing additives, chemicals, oils or fuels. The secondary containment must have sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10% to allow for precipitation, unless the container is equipped with individual secondary containment such as a double walled tank. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.

comment:

Please provide clarity on “in conjunction”, which meanings bearing to reduce confusion.

Commentator’s suggested amendatory language:

[(f)] (e) An operator shall utilize secondary containment when storing additives, chemicals, oils or fuels. The secondary containment must have sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10% to allow for precipitation, unless the container is equipped with individual secondary containment such as a double walled tank. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

A well site liner without a berm or sidewall does not constitute secondary containment for the purpose of this subsection. (115)

Response: The Department has removed the language “A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.”

1562. Comment: § 78a.64a(f) This language is too prescriptive and does not provide flexibility in the

field or to the Department to approve alternate methods. PADEP has provided no justification or rationale for distinguishing subsurface secondary containment from secondary containment. As long as subsurface secondary containment meets the criteria that follow, it is more than adequate to prevent spills from leaving the well site or contacting the ground surface. This sentence should be deleted.

The commentator's suggested amendatory language

(f) Subsurface secondary containment systems may be employed at the well site. Unless otherwise approved by the Department, subsurface secondary containment shall meet the following requirements: (210)

Response: The Department disagrees and deems subsurface containment systems as too impractical to be employed as a secondary containment system.

1563. Comment: § 78a.64a[(g)] (f) Subsurface [secondary] containment systems may be employed at the well site. SUBSURFACE SECONDARY CONTAINMENT DOES NOT CONSTITUTE SECONDARY CONTAINMENT FOR THE PURPOSES OF THIS SUBSECTION. Subsurface secondary containment must meet the following requirements: As previously referenced in our general comments about the drawbacks of overly prescriptive language, the commentator suggests that this language be modified to allow for greater flexibility in meeting the Department's objectives. As such, the commentator supports the suggested language which reads, "(f) Subsurface secondary containment systems may be employed at the well site. Unless otherwise approved by the Department, subsurface secondary containment shall meet the following requirements:" (199)

Response: Subsurface systems by their very nature cannot be easily inspected or repaired. Also, the materials contained within the subsurface containment system would require remediation and disposal after a spill. Therefore, the Department deems subsurface containment systems as not being practical to be employed as a secondary containment system.

1564. Comment: § 78a.64a(f)(4) The use of the term "regulated substance" and the reference to "storage" make this subsection unclear and unnecessary. Subsurface secondary containment is not used to "store" anything.

The commentator's suggested amendatory language:

Delete subsection (f)(4) (210)

Response: The Department agrees that subsurface containment is not intended for storage of regulated substance. All language referring to subsurface containment has been stricken from the rulemaking language.

1565. Comment: 78a.64a(g) If the containment system is damaged or compromised, it should be reported immediately on inspection to DEP. A record of repairs must be sent to DEP along with plans to implement a replacement or recertification of the containment system. (161).

Response: The Department disagrees and has determined that an operator can make repairs to secondary containment as soon as practicable upon discovery without the need to

notify the Department. Unconventional operators are required to employ secondary containment for regulated substances during well development.

1566. Comment: § 78a.64a(g) To avoid unnecessary compliance stringency, the requirement for removing stormwater should be changed from “as soon as possible” to “as soon as practicable,” which in combination with the additional requirement to ensure it is removed prior to the secondary containment capacity being reduced by 10% will meet the intended goal.

Also see the commentator’s comment to §78a.1 regarding the definition of “containment system.”

The commentator’s suggested amendatory language for the last sentence of (h):

(g) Stormwater shall be removed as soon as practicable and prior to the capacity of secondary containment being reduced by 10% or more. (210)

Response: “As soon as possible” is the accepted standard for BMP repairs. Additionally, stormwater management should be dealt with as soon as possible to avoid reducing secondary containment capacity and the chance for a spill or release to then escape secondary containment.

1567. Comment: § 78a.64a[(h)] (g) All surface containment systems shall be inspected weekly to ensure integrity. If the containment system is damaged or compromised, the well operator shall repair the containment system as soon as practicable. The well operator shall maintain records of any repairs until the well site is restored. Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more. To avoid unnecessary compliance stringency, the requirement for removing stormwater should be changed from “as soon as possible” to “as soon as practicable.” In combination with the additional requirement to ensure stormwater is removed prior to the secondary containment capacity being reduced by 10%, this revised language will meet the Department’s intended goal. As such, the commentator supports the suggested amendatory language for the last sentence of (g) which reads, “(g) Stormwater shall be removed as soon as practicable and prior to the capacity of secondary containment being reduced by 10% or more.” (199)

Response: “As soon as possible” is the accepted standard for BMP repairs. Additionally, stormwater management should be dealt with as soon as possible to avoid reducing secondary containment capacity and the chance for a spill or release to then escape secondary containment.

1568. Comment: [(h)] (g) All surface containment systems shall be inspected weekly to ensure integrity. If the containment system is damaged or compromised, the well operator shall repair the containment system as soon as practicable. The well operator shall maintain records of any repairs until the well site is restored. Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more.

[(i)] (h) Regulated substances that escape from primary containment or are otherwise spilled onto a containment system shall be removed as soon as possible. After removal of the regulated substances the operator shall inspect the containment system. A Department approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells do not constitute a leak detection system for the purpose of this subsection. If the containment system did not

completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with § 78a.66 (relating to reporting and remediating releases).

[(j)] (i) Stormwater that comes into contact with regulated substances stored within the secondary containment area shall be managed as residual waste.

[(k)] (j) Inspection reports and maintenance records shall be available at the well site for review by the Department.

[(l)] (k) Documentation of chemical compatibility of containment systems with material stored within the system shall be provided to the Department upon request.

comment:

See issue with “primary containment” and “secondary containment” definitions. Subsurface is not an allowed secondary containment according to (f) of this section .

Commentator’s suggested amendatory language:

[(h)] (g) Secondary containment systems shall be inspected weekly to ensure integrity. If the secondary containment is damaged or compromised, the well operator shall repair as soon as practicable. The well operator shall maintain records of any repairs until the well site is restored. Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more.

[(i)] (h) Regulated substances that escape from primary containment or are otherwise spilled into secondary containment shall be removed as soon as possible. After removal of the regulated substances the operator shall inspect the secondary containment.

If secondary containment did not completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with § 78a.66 (relating to reporting and remediating releases). (115)

Response: The Department agrees with the need for more clarity between primary and secondary containment. The regulatory language has been changed including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system. Subsurface systems by their very nature cannot be easily inspected or repaired and therefore are not to be considered as viable secondary containment by the Department.

1569. Comment: § 78a.64a (h) - Define “Department approved leak detection system”. (187, 209)

Response: The Department has revised § 78a.64a(f) to remove the references to the Department approved leak detection system.

1570. Comment: § 78a.64a(h) The reference to “regulated substance” is unnecessary and unclear in this subsection. Operators will clean up spills to containment. If spills escape containment, the provisions of Sections 91.33 and 78a.66 will apply.

The commenter’s suggested amendatory language:

(h) Substances that escape from primary containment or are otherwise spilled onto a containment system shall be removed as soon as possible. After removal of the substances, the operator shall inspect the containment system. A Department approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells shall not constitute a leak detection system for the purpose of this subsection. If more than five gallons of a substance escapes the containment system, the operator shall notify the Department in accordance with § 78a.66 as applicable. (210)

Response: Use of the term “regulated Substances” is to ensure that, at a minimum, the Operator will clean up the substances identified in this definition. The Department will support any Operator’s efforts to clean up any substances that may leak from containment above and beyond those included in the definition of “regulated substances”.

The Department does not believe that the additional language will cover any additional substances not already covered by the expansive definition of “regulated substance” in Act 2.

If any volume of regulated substance is determined to have escaped from secondary containment, it needs to be reported to the Department because the secondary containment failed either due to loss of integrity or freeboard. The 5 gallon reporting threshold established in § 78a.66 does not apply as a result.

1571. Comment: 78a.64a(i) Stormwater that comes into contact with “pollutional” (not regulated) substances should be managed as pollutional and/or hazardous rather than residual waste. (161)

Response: The term “pollutional substances” has been removed from the rulemaking due to it being an undefined term. Regulated substances is defined in § 287.1 (relating to definitions). Wastes generated on a well pad are classified as residual waste under the Pennsylvania Solid Waste Management Act.

1572. Comment: § 78a.64a(i) Stormwater that has not been discharged or discarded is not residual waste. This subsection is unnecessary. See commentator’s additional comments to proposed ANFR Section 78a.60 pertaining to discharge of stormwater collected.

The commentator’s suggested amendatory language:

Delete the subsection (i). (210)

Response: Stormwater in secondary containment with no regulated substances present is not considered residual waste. However, stormwater in secondary containment that also contains regulated substances, as defined in § 287.1 (relating to definitions), is considered to be residual waste, regardless of whether or not the stormwater has been discharged or discarded.

1573. Comment: § 78a.64a[i] (h) Regulated substances that escape from primary containment or are otherwise spilled onto a containment system shall be removed as soon as possible. After removal of the regulated substances the operator shall inspect the containment system. A Department approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells shall not constitute a leak detection system for the purpose of this subsection. If the containment system did not completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with §78a.66.

The reference to “regulated substance” is unnecessary and unclear in this subsection, and as such the commentator suggests striking the term “regulated.” Additionally, operators clean up spills to containment as a standard. If a spill escapes containment, the provisions of Sections 91.33 and 78a.66 will apply. (199)

Response: The Department has revised § 78a.64a(f) to remove the references to the Department approved leak detection system. The term “regulated substances” is appropriate. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty. Depending on the scope of the spill, Sections 91.33 and 78a.66 will also apply in addition to Section 78a.64.(h).

1574. Comment: **78a.64a(j)** – Section 78a.64aU) requires that “Inspection reports and maintenance records shall be available **at the well site** for review by the Department.” (emphasis added) It is unreasonable and impractical to require operators to maintain inspection and maintenance documentation at the well site. There is no office, no maintenance building, and no file cabinets at a well site. DEP has conveniently failed to explain how an operator is supposed to maintain copies of 40 years' worth of documentation in the field at a well site. DEP has also failed to provide any justification or rationale as to why it believes it is critical that this documentation be physically available at the well site.

Such business records are better kept and maintained at the operator's office and can easily be made available to DEP upon request. The IRRC agreed with this position in its comments. *IRRC Comments* at pg. 16. As a result, this subparagraph should be modified to require that the documentation be maintained by operators and shall be made available to DEP upon request. (190)

Response: The requirement to maintain records of inspection reports and maintenance records at the well site pertains to secondary containment systems utilized at a well site only during the well development stages specified in 78a.64a(d)(1). The requirement to have these inspection reports and maintenance records available at the site for review is in order to aid the Department with determining that the secondary containment systems are being routinely inspected and maintained during the inspection of the facility. This practice is not unique to the oil and gas industry, as it is required by other industries, such as timber harvesting and earthmoving for construction activities as well.

1575. Comment: § 78a.64a (j) - For all phases of operation, it is not technically feasible to ensure that all inspection reports and maintenance records be available at the well site. This should be amended to state that all inspection reports and maintenance records shall be available upon request by the Department. (187, 209)

Response: The requirement to maintain records of inspection reports and maintenance records at the well site pertains to secondary containment systems utilized at a well site only during the well development stages specified in 78a.64a(d)(1). The requirement to have these inspection reports and maintenance records available at the site for review is in order to aid the Department with determining that the secondary containment systems are being routinely inspected and maintained during the inspection of the facility. This practice is not unique to the oil and gas industry, as it is required by other industries, such as timber harvesting and earthmoving for construction activities as well.

1576. Comment: § 78a.64a(j) For many operators, it is not practical to store hard copies of inspection reports and maintenance records at the well site. Often these records are maintained and made available electronically by operators to various parties working on the well site.

The commentator’s suggested amendatory language:

(j) Inspection reports and maintenance records shall be available for review upon request by the Department. (210)

Response: See response to comment 1575.

1577. Comment: 78a.64a(k) Documentation of chemical compatibility of containment systems with material stored within the system is required to be submitted to the Department. (161)

Response: The Department will only require the documentation of chemical compatibility of containment systems with material stored within the system upon request. It will not be necessary to submit this information in every instance, only when the chemical compatibility is in question.

1578. Comment: § 78.64a(k) (i) Inspection reports and maintenance records shall be available at the well site for review by the Department. While this provision seems like a simple request, for many operators, it is not practical to store hard copies of inspection reports and maintenance records at the well site. Due to the significant reporting requirements under Chapter 78a and other Department regulations, the number of records required to be kept onsite can amount to thousands and thousands of sheets of paper. Office trailers and personnel are generally present on well sites only during the intense phases of drilling and completion. Once a well is on production, as it is for most of the life of the well, the site is generally unmanned. Storing this amount of paper at an unmanned facility is logistically impractical. Often these records are maintained and made available electronically by operators to various parties working on the well site. The commentator suggests that the language be revised to require that inspection reports and maintenance records be available for review upon request. (199)

Response: See response to comment 1575.

§§ 78.65 and 78a.65 Site restoration

1579. Comment: Commentator supports the Department's reorganization of this section to clarify the requirements for post-drilling and post-plugging activities. The Department's reorganization helps to make the regulation easier to follow and implement. (231, 231a)

Response: The Department acknowledges the comment.

1580. Comment: § 78.65 and § 78a.65 Site Restoration - The Draft Final Rule has completely revised the 2013 Proposal for Site Restoration. Commenter appreciates that the Department now recognizes that there are two restoration periods (one that is post-drilling and one that is post-plugging) and that site restoration is entirely guided by an approved site restoration plan contained within E&S plans required under Chapter 102, which are necessarily site specific rather than defined regulation (213).

Response: The Department acknowledges the comment.

1581. Comment: In 2013, the EQB proposed new site restoration requirements to clarify when restoration must occur and what constitutes restoration. In 2015, PADEP completely revised the site restoration requirements in § 78a.65.

We support site restoration requirements that clarify when restoration must occur and what constitutes restoration. The 2014 Comments recommended a number of improvements to the

proposed rules. Some of our recommendations were included, such as full compliance with Chapter 102 (governing erosion and sediment control, stormwater management, and riparian buffers), prompt reclamation of disturbed areas, and permanent plugging and abandonment of dry holes before the drilling equipment is moved from the well site.

As in the 2014 Comments, we oppose extensions of restoration deadlines. We recommend removing the proposed language related to removal and restoration of pits, because we oppose their continued construction, use, and on-site burial and we oppose the land application of Oil and Gas Operation waste.

We do not agree that written consent of the landowner should be the determining factor as to whether the operator has met the restoration requirements of § 78a.65. PADEP should solicit input from the landowner, neighboring property owners, and residents on those properties, as to whether they are satisfied with the restoration. In addition to addressing any concerns raised by the landowner, neighboring property owners, or residents, PADEP should determine whether the regulatory requirement has been met through a record audit and on-site inspection. It is not satisfactory for the landowner to be the arbiter of the final restoration requirements, since a private contractual arrangement between the landowner and the Oil and Gas Operator may allow for restoration that is less robust than the proposed § 78a.65 requirement, with adverse impacts on neighboring properties and residents. Landowners are not necessarily qualified to determine if restoration is sufficient to meet the requirements of Chapter 102, the provisions of the Clean Streams Law, or the guarantees of the Pennsylvania Constitution.

We recommend that § 78a.65 be revised as follows:

§ 78a.65. Site restoration.

**** PADEP proposed deleting existing regulation sections (a) – (g) and replacing it with the new regulatory language below****

(a) RESTORATION. THE OWNER OR OPERATOR SHALL RESTORE LAND SURFACE AREAS DISTURBED TO CONSTRUCT THE WELL SITE AS FOLLOWS:

(1) POST-DRILLING – WITHIN 9 MONTHS AFTER COMPLETION OF DRILLING A WELL, THE OWNER OR OPERATOR SHALL UNDERTAKE POST-DRILLING RESTORATION OF THE WELL SITE IN ACCORDANCE WITH A RESTORATION PLAN DEVELOPED IN ACCORDANCE WITH SUBSECTION (b) AND REMOVE ALL DRILLING SUPPLIES, EQUIPMENT AND CONTAINMENT SYSTEMS NOT NECESSARY FOR PRODUCTION OR NEEDED TO SAFELY OPERATE THE WELL. NOTWITHSTANDING THE PROVISIONS OF § 102.8(N), FULL COMPLIANCE WITH § 102.8(A)-(M) SHALL BE MAINTAINED AT THE WELL SITE UNTIL RESTORATION FOLLOWING THE PLUGGING OF ALL WELLS IS COMPLETE AND STABLE.

(i) WHEN MULTIPLE WELLS ARE DRILLED ON A SINGLE WELL SITE, POSTDRILLING RESTORATION IS REQUIRED WITHIN 9 MONTHS AFTER COMPLETION OF DRILLING ALL PERMITTED WELLS ON THE WELL SITE OR 30 CALENDAR DAYS AFTER THE EXPIRATION OF ALL EXISTING WELL PERMITS ON THE WELL SITE, WHICHEVER OCCURS LATER.

(ii) A DRILL HOLE OR BORE HOLE USED TO FACILITATE THE DRILLING OF A WELL SHALL BE FILLED WITH CEMENT, ~~SOIL, UNCONTAMINATED DRILL~~

~~CUTTINGS OR OTHER EARTHEN MATERIAL~~ AND ALL DRY HOLES OR WELLS THAT ARE DETERMINED TO BE UNECONOMIC SHALL BE PLUGGED AND ABANDONED ACCORDING TO THE REQUIREMENTS OF §§ 78.91 THROUGH 78.98 (PERMANENT WELL PLUGGING REQUIREMENTS) BEFORE MOVING THE DRILLING EQUIPMENT FROM THE WELL SITE.

(iii) DRILLING SUPPLIES AND EQUIPMENT NOT NEEDED FOR PRODUCTION MAY ONLY BE STORED ON THE WELL SITE IF EXPRESS WRITTEN CONSENT OF THE SURFACE LANDOWNER IS OBTAINED AND THE SUPPLIES OR EQUIPMENT ARE MAINTAINED IN ACCORDANCE WITH § 78a.64a (RELATING TO CONTAINMENT SYSTEMS AND PRACTICES AT ~~UNCONVENTIONAL WELL SITES~~ OIL AND GAS OPERATIONS).

(iv) THE AREAS NECESSARY TO SAFELY OPERATE THE WELL INCLUDE THE FOLLOWING:

(A) AREAS USED FOR SERVICE VEHICLE, WELL WORKOVER AND WELL MONITORING EQUIPMENT, AND RIG ACCESS.

(B) AREAS USED FOR STORAGE TANKS AND SECONDARY CONTAINMENT FACILITIES.

(C) AREAS USED FOR WELLHEADS AND APPURTENANT OIL AND GAS PROCESSING FACILITIES.

(D) AREAS USED FOR ANY NECESSARY SAFETY BUFFER LIMITED TO THE AREA SURROUNDING EQUIPMENT THAT IS PHYSICALLY CORDONED OFF TO PROTECT THE FACILITIES.

(E) AREAS USED TO STORE ANY SUPPLIES OR EQUIPMENT CONSENTED TO BY THE SURFACE LANDOWNER REQUIRED FOR PRODUCTION OPERATIONS.

(F) AREAS USED FOR OPERATION AND MAINTENANCE OF LONG-TERM PCSM BEST MANAGEMENT PRACTICES.

(2) *POST PLUGGING* – WITHIN 9 MONTHS AFTER PLUGGING THE FINAL WELL ON THE WELL SITE, THE OWNER OR OPERATOR SHALL REMOVE ALL PRODUCTION OR STORAGE FACILITIES, SUPPLIES AND EQUIPMENT AND RESTORE THE WELL SITE TO APPROXIMATE ORIGINAL CONDITIONS INCLUDING PRECONSTRUCTION CONTOURS, DRAINAGE PATTERNS, TYPE AND DENSITY OF NATIVE PLANT COMMUNITY, SOIL CHARACTERISTICS, AND PRE-DEVELOPMENT HABITAT FEATURES AND CONDITIONS. THE OWNER OR OPERATOR MUST ALSO AND RESTORE STORMWATER RUNOFF RATE, VOLUME AND QUALITY TO PRECONSTRUCTION CONDITION IN ACCORDANCE WITH § 102.8(g). RESTORATION MUST SUPPORT THE LAND USES THAT EXISTED PRIOR TO OIL AND GAS ACTIVITIES. THE OWNER OR OPERATOR MUST MEET THE FOLLOWING STANDARDS:

(i) RESTORATION OF PRE-CONSTRUCTION CONTOURS REQUIRES RESTORATION OF INDIVIDUAL TOPOGRAPHIC CONTOUR LINES TO WITHIN 1 FOOT OF THE ORIGINAL CONTOUR, BASED ON ORIGINAL TOPOGRAPHIC

CONDITIONS FOR AREAS TO BE DISTURBED. EXISTING TOPOGRAPHIC CONDITIONS MUST BE DOCUMENTED AT CONTOURS NOT LESS THAN 2 FEET IN INTERVAL.

(ii) RESTORATION OF DRAINAGE PATTERNS REQUIRES THAT THERE BE NO CHANGE IN DRAINAGE AREA TO A POINT OF DISCHARGE TO A STREAM (AS DEFINED AT § 78.1), WATERBODY, WETLAND, OR SPRING.

(iii) RESTORATION OF THE NATIVE PLANT COMMUNITY REQUIRES RESTORATION OF THE TYPE AND DENSITY OF NATIVE VEGETATION THAT EXISTED AT THE SITE PRIOR DISTURBANCE BY OIL AND GAS OPERATIONS. RESTORATION OF NON-NATIVE PLANT SPECIES SHALL NOT INCLUDE PLANTS CLASSIFIED AS INVASIVE OR NOXIOUS VEGETATION. RESTORED VEGETATION MUST BE MAINTAINED AND MONITORED FOR A PERIOD OF TWO YEARS IN ORDER TO ASSURE PLANT ESTABLISHMENT. PLANTS CLASSIFIED AS INVASIVE AND/OR NOXIOUS VEGETATION SHALL NOT EXCEED 5% OF THE SITE COVER AT THE END OF EACH GROWING SEASON DURING THE TWO-YEAR MAINTENANCE PERIOD.

(iv) RESTORATION OF SOIL CHARACTERISTICS REQUIRES RESTORATION OF THE DEPTH OF TOPSOIL, ORGANIC CONTENT, BULK DENSITY, PH, AND SOIL PARTICLE GRADATION THAT EXISTED PRIOR TO SITE DISTURBANCE. THE SURFACE AND SUBGRADE SOIL CONDITIONS MUST NOT BE COMPACTED TO GREATER THAN 85% DENSITY.

(v) RESTORATION OF HABITAT REQUIRES THE RESTORATION OF CONDITIONS NECESSARY TO SUPPORT THE NUMBER AND TYPE OF PLANT AND ANIMAL ORGANISMS THAT EXISTED PRIOR TO DISTURBANCE BY OIL AND GAS OPERATIONS.

(3) FAILURE TO DRILL – IF A WELL SITE IS CONSTRUCTED AND THE WELL IS NOT DRILLED, THE WELL SITE SHALL BE RESTORED WITHIN 30 CALENDAR DAYS AFTER THE EXPIRATION OF THE WELL PERMIT, OR THE OPERATOR’S DECISION NOT TO DRILL THE WELL, WHICHEVER IS SOONER, UNLESS THE DEPARTMENT APPROVES AN EXTENSION FOR REASONS OF ADVERSE WEATHER OR LACK OF ESSENTIAL FUEL, EQUIPMENT OR LABOR.

(a) RESTORATION PLAN. A RESTORATION PLAN MUST CONTAIN DRAWINGS AND NARRATIVE THAT DESCRIBE:

[no revisions recommended for (1)–(6)]

(7) THE PERMANENT STABILIZATION OF THE RESTORED AREAS AS FOLLOWS:

(i) IN ACCORDANCE WITH § 102.22, OR

(ii) THROUGH IMPLEMENTATION OF PCSM BMPS AS REQUIRED BY § 102.8, INCLUDING § 102.8(a) – (m);

~~(c) EXTENSION OF DRILLING OR PRODUCTION PERIOD. THE RESTORATION PERIOD IN THIS SUBSECTION MAY BE EXTENDED THROUGH APPROVAL BY~~

~~THE DEPARTMENT FOR AN ADDITIONAL PERIOD OF TIME, NOT TO EXCEED 2 YEARS.~~

~~(1) A REQUEST TO EXTEND THE RESTORATION PERIOD MUST BE SUBMITTED ELECTRONICALLY ON FORMS PROVIDED BY THE DEPARTMENT THROUGH THE _____ DEPARTMENT'S WEB SITE NOT MORE THAN 6 MONTHS AFTER THE COMPLETION OF DRILLING.~~

~~(2) THE REQUEST SHALL SPECIFY THE REASONS FOR THE REQUEST TO EXTEND THE RESTORATION PERIOD NOT TO EXCEED 24 MONTHS. THE REQUEST SHALL INCLUDE A JUSTIFICATION FOR THE LENGTH OF EXTENSION AND DEMONSTRATE THAT:~~

~~(i) THE EXTENSION WILL RESULT IN LESS EARTH DISTURBANCE, INCREASED WATER REUSE OR MORE EFFICIENT DEVELOPMENT OF THE RESOURCES; OR~~

~~(ii) RESTORATION CANNOT BE ACHIEVED DUE TO ADVERSE WEATHER CONDITIONS OR A LACK OF ESSENTIAL FUEL, EQUIPMENT OR LABOR.~~

~~(3) A DEMONSTRATION THAT THE EXTENSION WILL RESULT IN LESS EARTH DISTURBANCE, INCREASED WATER REUSE OR MORE EFFICIENT DEVELOPMENT OF THE RESOURCES SHALL INCLUDE THE FOLLOWING:~~

~~(i) A DEMONSTRATION THAT THE SITE IS STABILIZED AND THE BMPS UTILIZED ON THE WELL SITE WILL ADDRESS POST CONSTRUCTION STORMWATER MANAGEMENT.~~

~~(ii) A DEMONSTRATION THAT THE PORTIONS OF THE WELL SITE NOT OCCUPIED BY PRODUCTION FACILITIES OR EQUIPMENT WILL BE RETURNED TO APPROXIMATE ORIGINAL CONDITIONS.~~

~~(d) AREAS NOT RESTORED. DISTURBED AREAS ASSOCIATED WITH WELL SITES THAT ARE NOT INCLUDED IN A RESTORATION PLAN, AND OTHER REMAINING IMPERVIOUS SURFACES, MUST COMPLY WITH ALL REQUIREMENTS IN CHAPTER 102. THE PCSM PLAN PROVISIONS IN § 102.8(n) APPLY ONLY TO THE PORTIONS OF THE RESTORATION PLAN THAT PROVIDE FOR RESTORATION OF DISTURBED AREAS TO MEADOW IN GOOD CONDITION OR BETTER OR OTHERWISE INCORPORATE ABACT OR NONDISCHARGE PCSM BMPS.~~

~~(e) POST DRILLING RESTORATION REPORTS. WITHIN 60 CALENDAR DAYS AFTER POSTDRILLING RESTORATION UNDER PARAGRAPH (a)(1), THE OPERATOR SHALL SUBMIT A RESTORATION REPORT TO THE DEPARTMENT. THE WELL OPERATOR SHALL FORWARD A COPY OF ALL RESTORATION REPORTS TO THE SURFACE LANDOWNER. THE REPORT SHALL BE MADE ELECTRONICALLY ON FORMS PROVIDED BY THE DEPARTMENT THROUGH THE DEPARTMENT'S WEBSITE AND SHALL IDENTIFY THE FOLLOWING:~~

~~(1) THE DATE OF LAND APPLICATION OF THE TOPHOLE WATER.~~

~~(2) THE RESULTS OF pH AND SPECIFIC CONDUCTANCE TESTS AND AN ESTIMATED VOLUME OF DISCHARGE.~~

~~(3) THE METHOD USED FOR PROPER DISPOSAL OF ALL WASTE OR REUSE OF THE FREE LIQUID FRACTION OF THE WASTE, AND THE NAME OF THE HAULER AND DISPOSAL FACILITY, IF ANY.~~

~~(4) THE LOCATION, INCLUDING GPS COORDINATES, OF THE PIT IN RELATION TO THE WELL, THE DEPTH OF THE PIT, THE TYPE AND THICKNESS OF THE MATERIAL USED FOR THE PIT SUBBASE, THE TYPE AND THICKNESS OF THE PIT LINER, THE TYPE AND NATURE OF THE WASTE, THE TYPE OF ANY APPROVED SOLIDIFIER, A DESCRIPTION OF THE PIT CLOSURE PROCEDURES USED AND THE PIT DIMENSIONS.~~

~~(5) THE LOCATION OF THE AREA USED FOR LAND APPLICATION OF THE WASTE, AND THE RESULTS OF A CHEMICAL ANALYSIS OF THE WASTE SOIL MIXTURE IF REQUESTED BY THE DEPARTMENT.~~

~~(6) THE TYPES AND VOLUMES OF WASTE PRODUCED AND THE NAME AND ADDRESS OF THE WASTE DISPOSAL FACILITY AND WASTE HAULER USED TO DISPOSE OF THE WASTE.~~

~~(7) THE NAME, QUALIFICATIONS AND BASIS FOR DETERMINATION THAT THE BOTTOM OF A PIT USED FOR ENCAPSULATION IS AT LEAST 20 INCHES ABOVE THE SEASONAL HIGH GROUNDWATER TABLE.~~

(f) POST PLUGGING RESTORATION REPORTS. WITHIN 60 CALENDAR DAYS AFTER POST-PLUGGING RESTORATION UNDER PARAGRAPH (a)(2), THE OPERATOR SHALL SUBMIT A RESTORATION REPORT TO THE DEPARTMENT. THE WELL OPERATOR SHALL FORWARD A COPY OF ALL RESTORATION REPORTS TO THE SURFACE LANDOWNER. THE REPORT SHALL BE MADE ELECTRONICALLY ON FORMS PROVIDED BY THE DEPARTMENT THROUGH THE DEPARTMENT'S WEBSITE AND SHALL INCLUDE THE FOLLOWING:

(1) A DESCRIPTION OF THE TYPES AND VOLUMES OF WASTE PRODUCED AND THE NAME AND ADDRESS OF THE WASTE DISPOSAL FACILITY AND WASTE HAULER USED TO DISPOSE OF THE WASTE.

(2) CONFIRMATION THAT EARTH DISTURBANCE ACTIVITIES, SITE RESTORATION INCLUDING AN INSTALLATION OF ANY PCSM BMPS AND PERMANENT STABILIZATION IN ACCORDANCE WITH §102.22 HAVE BEEN COMPLETED.

(3) CONFIRMATION THAT ALL RESTORATION REQUIREMENTS OF THIS SECTION HAVE BEEN COMPLETED.

(g) WRITTEN CONSENT OF THE LANDOWNER ON FORMS PROVIDED BY THE DEPARTMENT SATISFIES THE LANDOWNER BELIEVES THE RESTORATION REQUIREMENTS OF THIS SECTION HAVE BEEN MET. PROVIDED THE OPERATOR MUST ALSO DEVELOPS AND IMPLEMENTS A SITE RESTORATION

PLAN THAT COMPLIES WITH PARAGRAPHS (a) and (b)(2)-(7) AND ALL PCSM REQUIREMENTS IN CHAPTER 102.

(h) THE DEPARTMENT SHALL VERIFY THAT FINAL RESTORATION REQUIREMENTS ARE MET BY CONDUCTING A SITE INSPECTION, COMPLETING A RECORD AUDIT, AND BY ENSURING CONCERNS OF THE LANDOWNER, NEARBY PROPERTY OWNERS, AND RESIDENTS ON THOSE PROPERTIES ARE ADDRESSED. THE DEPARTMENT SHALL ISSUE A SUMMARY REPORT WITH ITS FINDINGS WITHIN 30 DAYS OF RECEIVING NOTICE FROM THE OPERATOR THAT THE SITE HAS BEEN RESTORED. THE DEPARTMENT'S FINDING REPORT SHALL BE MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE. (211)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements. Projects meeting the requirements will not pose a threat of significant environmental harm. Projects that trigger the Chapter 102 requirements for an erosion and sediment control permit must submit a Site Restoration/Post Construction Stormwater Management Plan to the Department for review and approval prior to construction of the site. Additionally, this section requires operators to submit a well site restoration report to the Department 60 days after restoration. When this report is submitted, the Department conducts an inspection to ensure that the restoration requirements have been met.

Chapter 78 requires compliance with Chapter 102. To the extent this comment seeks to amend § 102.8(n), this comment is outside the scope of this rulemaking. To clarify the requirements in § 102.8, the Department has added a provision to the section that explains that the exception in § 102.8(n) applies only to the portions of the project that are restored to meadow in good condition or better.

Regarding restoration extensions, this section mirrors Section 3216(g) of the 2012 Oil and Gas Act that allows the well owner or operator to request an extension from the restoration period. The Department does not have the authority to amend this statutory requirement by regulation.

Regarding the amendments requiring the operator to plug dry holes prior to removal of drilling equipment, economic recovery potential for a well is not established at the completion of drilling. Abandoned wells must be plugged in accordance with the Department's plugging regulations in 25 Pa. Code Chapter 78, Subchapter D.

Regarding landowner consent, the requirements allow a landowner to maintain facilities on their property that could be otherwise constructed under and in accordance with Department regulations. Decisions regarding compliance with Chapter 102 relating to site stabilization and restoration are made by the Department or delegated county conservation district. The "due regard process" does not apply to these provisions. The Department has constitutional, statutory and existing regulatory obligations to confirm compliance with the stormwater management and restoration requirements that are separate and unrelated to the property issues between surface and subsurface owners.

The erosion and sediment control permit requirements are established by Chapter 102, and § 102.5(c) of those regulations does not require a permit to be obtained for earth disturbances of less than five acres over the life of the project. Amending Chapter 102 is beyond the scope of this rulemaking. However, whether or not a Chapter 102 permit is required, each operator is required to submit a restoration form (OOGM-75) within 60 days of completion of well site restoration, and Department staff inspect the site after the form is received. This inspection is conducted pursuant to Chapter 78 whether or not an erosion and sediment control permit is required and is reflected as an inspection related to the underlying well permit.

Regarding the stabilization and restoration of pits, please see response to comment 1466. Pits remain in the final regulatory language as an option to be utilized by conventional operators, however they have been removed as an option for unconventional operators. When pits are utilized by conventional operators, they will be subject to the stabilization and restoration requirements included in §§ 78.65 and 78a.65.

1582. Comment: We are concerned that Section 78a.65 has been almost entirely rewritten in the ANFR. Accordingly, the Department should not proceed to finalize this section, but should withdraw it and proceed with a separate proposed rulemaking in order to fully and properly comply with the Regulatory Review Act. The Department did not include any estimate for the costs associated with the new pad restoration requirements in the Regulatory Analysis Form (RAF). Rather, the Department claims the industry will realize a cost savings because an operator may be able to obtain a 2 year extension to postpone the restoration. However, a mere postponement of a cost is not an avoidance of the cost. The alleged estimated savings of \$21.7 million (estimated by the Department as \$50,000 per site at 434 sites per year) is actually a cost that will ultimately be incurred, not a savings. Moreover, we estimate that the cost of pad restoration, as proposed in the regulations will be in the area of \$200,000 to \$300,000 per pad; not \$50,000 as the Department estimates. Therefore rather than a \$21.7 million savings, the restoration requirements as proposed would add a cost of \$130 million. The Legislature has addressed the issue of site restoration. Section 3216(a) of the Oil and Gas Act of 2012 requires restoration of the land surface within the area disturbed in siting, drilling, completing and producing the well. Section 3216(c) imposes interim restoration requirements within nine months after completion of drilling a well and Section 3216(d) requires removal of all facilities, supplies and equipment and restoration of the well site within nine months after plugging a well. The Department's current and proposed regulations still require site restoration within 9 months after completion of drilling. Unconventional well development, which consists of multiple wells on a well pad, is a lengthier process than conventional well development, which was the basis for the 9 month time frame. The section should be revised to either increase the amount of time allotted for restoration for the unconventional industry due to the unique requirements for unconventional well development, or to start the clock after completion of the well, with completion referring to development of a well to a state capable of production. 25 Pa. Code § 102.8(n) states that an oil and gas restoration plan that identifies Post Construction Stormwater Management (PCSM) Best Management Practices (BMPs) to manage stormwater from oil and gas activities meets the requirements of Section 102.8 if the restoration plan meets 102.8(b), (c), (e), (f), (h), (i), (l) and (m), if applicable. Unconventional operators with a restoration plan that identifies PCSM BMPs in such a manner are not required to conduct a PCSM plan stormwater analysis under § 102.8(g). Therefore, any reference to Section 102.8(g) should be deleted from the ANFR. In addition, there is no requirement in Act 13 Sections 3215(c) or 3315(d), or in Chapter 102, that imposes an obligation to restore well sites to approximate original contours or conditions. Act 13 mentions approximate original contours (not conditions) in Section 3215(g) related to extension of

restoration requests. It would defeat legislative intent to impose this obligation generally when the General Assembly clearly chose not to alter the obligations under Sections 3215(c) or (d). Such an obligation would also create unreasonable requirements in many locations across the Commonwealth where there is significant topographical variation. When a restoration plan proposes restoration to approximate original contours, it would be a part of expected restoration obligations. The restoration plan is the governing document that addresses restoration obligations. (199)

Response: The Department has considered this comment but declines to make the changes recommended by the commentator. The restoration requirements in this section do not impose a new cost on the regulated community. This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department’s interpretation of these requirements as outlined in the “Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities”, Document No. 800-2100-008, which was finalized on December 29, 2012.

Further, the Department does believe the extension requirement is merely a postponement of the cost. This section mirrors the requirements in Section 3216(g) of the 2012 Oil and Gas Act that allow operators to request to extend the restoration period for up to two years so that an operator does not have to restore the site and then disturb it again if it plans to drill additional wells on the same well pad. The cost savings associated with the restoration extension are derived from avoiding the cost of restoring the site within 9 months of completion of drilling and later having to reconstruct the site and restore it again. Moreover, the cost estimate reflected is based on information obtained from the industry.

In addition, the restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

The revisions to section 78.65 and 78a.65 in the ANFR address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify the response to this question and in particular distinguish between areas not restored and other areas. “Areas not restored” do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

It is unreasonable to interpret the restoration requirements in the 2012 Oil and Gas Act to require restoration of the well site to a different standard depending upon whether or not a restoration extension has been granted. The Department believes that the restoration requirements are appropriate. The Department included the phrase “to the extent practicable” in the definition of “approximate original conditions” in recognition of the fact that restoration to approximate original contours may not always be feasible.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and do not impose any significant new costs on operators.

1583. Comment: §78a.65. Site Restoration. We recommend a notification to adjacent landowners that the site is restored. Pre-development plans have not always indicated existing diversion ditches that guided storm water run-off on prior to the siting of the well pad. Adjacent landowners, especially those with homes on the downside may have benefited from these diversion ditches. The Department needs to ensure that adequate measures are in place with site restoration to avoid storm water run-off that may create problems in nearby homes.

With this addition, we support the changes to this section, especially the surface landowner post drilling and post plugging restoration reports. We recommend the provisions be adopted. (170)

Response: The Department acknowledges that stormwater diversion may create problems for adjacent and nearby landowners but notes that these problems may arise both prior to and after restoration activities take place. The Department does not believe that the revisions suggested by the commenter are necessary.

1584. Comment: § 78.65 Site Restoration - The 2015 version of the Site Restoration requirements include two major changes: the obligation to return well sites to original contours, and the obligation to comply with 25 Pa. Code section 102.8(g) (relating to stormwater analysis and construction).

Under the 2015 Proposal, the obligation to return to “original” contours pertains to sites of plugged wells and the portions of new well sites not occupied by production facilities. This is a marked departure from the 2013 version, which called for the operator to simply “restore the well site” The addition of the word “original” is, obviously, purposeful; the consequences of that change are many.

The return to “original” contour presupposes that one has recorded the original contour. Thus, for new well construction, the 2015 version would impose the burden of detailed mapping and contour recording. For older wells that are being plugged, the 2015 version asks the impossible-or at least sets the stage for dispute. Many operating conventional wells in Pennsylvania are over 100 years of age. Contour records have not been previously kept-this is, after all, a new requirement in Pennsylvania oil and gas development-and who is remaining to describe the “original” contour of a well site that has outlived several working generations? When the DEP inspector says to change a slope from this to that, what records will be available to support or contest that position?

The return to “original” contour also collides with the natural conditions found in the field. Pennsylvania is hilly. The contour of a hill is changed precisely to gain flat ground upon which to operate, and when drilling is completed on a well site in hilly Pennsylvania, there is flat ground and there is modified ground all around same-meaning uphill and downhill slope, that is more exaggerated than the original contour. But the 2015 regulation would require the “portions of the well site not occupied by production facilities” to be “returned to approximate original conditions.” This would mean undoing the exaggerated uphill and downhill slopes- which would result in the destruction of the well site. The concept is, to put it bluntly, impractical.

Beyond impracticality, the addition of the “original” contour obligation suffers from several familiar regulatory problems:

- 1) Failure to State Purpose or Need: The DEP has failed to state a need for the new standard of “original” contours. The legislature's wisdom in requiring a statement of need is

particularly apt in this situation. Literally hundreds of thousands of conventional wells have been developed in Pennsylvania, and many of those are now plugged. The wells have been operated and plugged without the standard of returning to “original” contour. What is the purpose for changing that standard?

With that long history and the lack of any identified purpose, the 2015 requirement of “original” contour comes as a complete surprise to industry. There has been no discussion by the DEP with industry as to the source of this new requirement, and the 2015 changes were issued without the benefit of any statement of need.

Moreover, the new requirement begs the question: what condition is not being satisfactorily addressed by other regulatory provisions already in place? Well sites are developed and reclaimed in accordance with erosion and sedimentation control plans and other protective measures. What resource within the jurisdiction of the DEP is not being adequately protected such that an additional burden of “original” contours must be imposed?

2) Failure to State Authority: The underlying statute provides as follows: “Each oil or gas well owner or operator shall restore the land surface within the area disturbed in siting, drilling, completing and producing the well.” Absent is the obligation to return to “original” contour.

In addition to exceeding the authority of the statute, the requirement is in conflict with common law. It is settled law in Pennsylvania that the owner of the subsurface rights enjoys the right to utilize and change the shape of the surface. *Chartiers Block Coal Co. v. Mellon*, 152 Pa. 286, 295, 25 A. 597, 598 (1893). See also, *Babcock Lumber Co. v. Faust*, 156 Pa. Super. 19, 28, 39 A.2d 298, 303 (1944). In *Chartiers*, the Pennsylvania Supreme Court stated:

As against the owner of the surface, [the mineral purchaser has] the right, without any express words of grant for that purpose, to go upon the surface to open a way by shaft, or drift, or well, to his underlying estate, and to occupy so much of the surface beyond the limits of his shaft, drift, or well, as might be necessary to operate his estate, and to remove the product thereof. *Chartiers*, 25 A. at 598. See also, *Belden & Blake Corp. v. Commonwealth, Department of Conservation and Natural Resources*, 969 A.2d 528, 532 (Pa. 2009) (citing *Chartiers* and characterizing the same at n. 6 as “seminal”); and *Dewey v. Great Lakes Coal Company*, 236 Pa. 498, 84 A. 913 (1912) (citing *Chartiers*). The OGM interest is the dominant estate. *Babcock*, 39 A.2d at 303.

In hundreds of cases, the various courts of this Commonwealth have recognized the right of the subsurface owner to permanently reshape the surface not only for well sites but for mine shafts, tailings piles, removal of the right of support, ponds, and countless other uses. The ability to make such changes is part of the bundle of property rights enjoyed by the subsurface owner, and the manifestation of that right is observed in literally tens of thousands of well sites, both active and plugged, across Pennsylvania.

The 2015 regulation would be a remarkable usurpation of that property right, and it would be a usurpation certainly beyond that which was contemplated in the express language of the statute.

The second new obligation in the 2015 version of the Site Restoration regulation is the duty to comply with 25 Pa. Code section 102.8(g) (relating to stormwater analysis and construction). Among other things, section 102.8 requires analysis by a certified professional as well as the installation of post-construction stormwater structures. Historically, oil and gas activities have been exempt from this complicated stormwater requirement. Section 102.8(n) creates an

alternative approach for small earth disturbance activities such as conventional oil and gas operations.

The 2015 version elevates the burden for both plugging activities and for the development of all new conventional well sites. The post-plugging requirement is found at section 78.65(a)(2). The requirement as to new conventional well sites is found in the new requirements regarding the restoration plan. While that planning component is currently carried out in the context of the E&S plan, the new 2015 version requires a much more complex plan that demonstrates a return to preconstruction runoff rate, volume and quantity in accordance with section 102.8(g). Moreover, areas not restored, presumably such as roads and well site operation areas, are separately addressed and are required to comply with all provisions of chapter 102- which provisions, of course, include section 102.8(g). In fact, the 2015 version specifically renders the exception under section 102.8(n) inapplicable. The burden under this new regulatory provision is severe. In the limited time available to it, we obtained an estimate from a professional firm providing the services necessary to comply with section 102.8(g). The estimate of the cost to comply ranges from \$22,000 to \$84,000 per new conventional well. Our 2014 economic study found that the cost of a new conventional well ranges from \$110,000 to \$275,000. For the wells at the low end of that range, the imposition of the stormwater cost of \$22,000 to \$84,000 per well represents new costs of 20% to 80%! That same 2014 study contains tables showing average rates of return for new conventional wells. It is obvious that cost increases of even 10% to 15% result in new wells being financially infeasible.

In addition to financial infeasibility, the stormwater obligation suffers from the same familiar regulatory problems as noted above:

- 1) Failure to State Purpose or Need: The DEP has failed to state a purpose for the new stormwater requirement. Like the "original" contour requirement, the stormwater obligation comes as a complete surprise to industry. There has been no discussion by the DEP with industry as to the source of this new requirement. The 2015 changes were issued without the benefit of any statement of need.

The new requirement also begs the question: what aspect of the current practice was not working? The current practice recognizes the small footprint of activities like conventional oil and gas operations and takes into account the return to vegetative state routinely achieved in such operations. In fact, compliance with the 2015 version will require post-construction stormwater structures that will enlarge the overall footprint of conventional well pads, potentially create environmental destruction, create long-term operation and maintenance obligations for operators and landowners, require covenants to be placed on the surface property, and reduce land available for surface owner uses. These are demonstrably more intrusive measures than practices now in place and long established.

Entirely missing from, but necessary to comply with law, is the data underlying this draconian and expensive change. Among other things, the Regulatory Review Act requires the DEP to provide: "A description of any data upon which a regulation is based with a detailed explanation of how the data was obtained and why the data is acceptable data. An agency advocating that any data is acceptable data shall have the burden of proving that the data is acceptable."

Inasmuch as the new regulation involves data driven components, such as hydrologic computations, calculation of runoff changes, and the like, it is reasonable to expect that the DEP would provide data showing how stormwater is not satisfactorily addressed at conventional well sites that are in compliance with existing regulations. In other words, if existing regulations are not working (meaning that current well sites in compliance with those regulations are causing stormwater problems) the ability to quantify stormwater means that the DEP can provide data supporting its need for change. Indeed, under the Regulatory Review Act, the DEP carries the burden to prove its data is acceptable.

2) Failure to State Authority: The DEP has failed to cite any statutory authority for this significant change. Neither Clean Streams Law nor Act 13 requires PCSM BMPS for such small earth disturbances, and the excessive costs would be contrary to Act 13's express purpose to optimize the development of oil and gas resources.

Additional procedural failures plague both of the 2015 changes to the Site Restoration provision (return to "original" contours and stormwater analysis). These mutual problems include:

3) Failure to consider costs: The DEP has not provided any cost estimate for compliance with either of the new provisions. Because the DEP has been silent as to both purpose and costs for the implementation, it is impossible to meaningfully comment on the necessary cost benefit analysis.

4) Failure to Account for Small Business: The DEP has not conducted a regulatory flexibility analysis for either of the new provisions, and it is impossible for us to meaningfully comment about potential alternatives inasmuch as DEP has failed to state why there is a need to introduce new obligations in the 2015 Proposal. Since we do not have a statement as to what goal(s) the DEP is seeking to achieve via change, it is impossible to discuss alternatives which might achieve that goal or goals.

As with the DEP's other failures to engage in the requisite statement of need and alternatives analysis, the time for that discussion is now inescapably behind us. The Site Restoration provision has been distributed for "comment" without the benefit of the statement of the underlying rationale, financial analysis, or alternatives discussion - and, hence, groups like ours and its members can never properly comment on the very items the RRA is designed to seek input on. (212)

Response: This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department's interpretation of these requirements as outlined in the "Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities", Document No. 800-2100-008, which was finalized on December 29, 2012. It is unreasonable to interpret the restoration requirements in the 2012 Oil and Gas Act to require restoration of the well site to a different standard depending upon whether or not a restoration extension has been granted. The Department believes that the restoration requirements are appropriate. The restoration requirements in §78.65 allow for landowner input when conducting restoration. The Department included phrase "to the extent practicable" in the definition of "approximate original conditions" in recognition of the fact that restoration to approximate original contours may not always be feasible.

The revisions to sections 78.65 and 78a.65 in the ANFR address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. “Areas not restored” do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and the Department disagrees that these provisions impose any significant new costs on operators.

Regarding the comments on Section 78.65(a)(2) the Department agrees that the specific requirement to comply with section 102.8(g) is inappropriate and has modified the language to generally require compliance with section 102.8. Under 102.8, when a site is fully restored or reclaimed, or the permitted activity involves earth disturbance of less than 1 acre, the obligation of long-term PCSM operation and management may not be necessary. The obligation for long-term operation and maintenance has been met if the site is restored and there are no permanent structures or impervious surfaces.

1585. Comment: Another completely new section that is another photocopy of the unconventional regulations and it is the “soon to be updated” Stormwater Manual and Riparian Forest Buffer Guidance documents. DEP is poised to improperly impose the excessive burden of compliance to these complex and highly scientific manuals to the “postage stamp” locations used in the conventional industry. The onerous addition of “Stormwater Management Plans” to the conventional industry will increase the cost of each well by a minimum of \$10,000 each. This is due to the hiring of unneeded experts to do unneeded soil sampling for the production of unusable reports. These invaluable reports will now aid conventional operators in the safe construction of their well sites which are the equivalent of a log landing. This new section also imposes the excessive and unneeded burden of the Riparian Forest Buffer Guidance. Why is this section even relevant when the average size of a conventional well is 50' by 80'? The Chapter 102 Erosion and Sedimentation regulations were just redone by DEP a few years ago. And at that time the Department decided that disturbances under 5 acres were to be exempted from both of these manuals and the standards represented therein. Now to the question, what has changed in the conventional industry as to warrant taking away an exemption that was founded in science and common sense? The answer is simple, it has nothing to do science, it has to do with the fundamental proposition that has changed within DEP. A proposition that once lurked within the halls of the Department has now taken shape through these regulations. The industry that they have regulated for more than 31 years is now an unwanted guest at their table. We have become an industry targeted for extinction and they now have been given the “green” light to start that process thru these proposed regulations. (281)

Response: The revisions to §§ 78.65 and 78a.65 in the ANFR were also intended to address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. “Areas not restored” do not fall within the provisions in § 102.8(n) and therefore must meet the

requirements, inter alia, of § 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

The revisions to §§ 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and do not impose any significant new costs on operators.

1586. Comment: REGARDING 78a.65: SITE RESTORATION - Commenter appreciates and supports DEP's efforts to strengthen requirements for post-drilling restoration plans. Commenter is NOT in agreement with the omission of regulations regarding site restoration for post well plugging. DEP has not developed adequate standards or criterion to ensure that restoration of well sites will restore what is referred to as "ecological services". By omitting this crucial aspect of restoration, DEP remains focused primarily on storm water requirements. The inclusion of ecological services could and should require DEP to adopt technical guidance for post-plugging restoration plans. Currently, DCNR and Penn State University are working in the Tiadaghton State Forest studying best management practices for restoration of ecological services. Commenter requests that ecological services be included in this section of the proposed rulemaking. (176)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements. Projects meeting the requirements will not pose a threat of significant environmental harm.

1587. Comment: 76a.65 Site restoration - Throughout this section, "approximate original condition" should be replaced by the words original condition as provided by the best management practices available or ABACT. (161)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements. Projects meeting the requirements will not pose a threat of significant environmental harm.

1588. Comment: **78a.65** - DEP should require a comprehensive restoration plan that follows these standards: Prior to site disturbance, identification of soil types and locations, soil layer depths, and at least 98% of existing plant species (identify genus and species) including herbaceous plants, shrubs and trees, and a calculation of the prevalence of those species, should be required to inform site restoration. Utilization of qualified soil scientists for the soil investigation, and qualified botanists for the plant species identification and quantification should be required. The plant survey should be performed in season(s) appropriate for identifying the herbaceous species. For sites larger than 1 acre, provide mapping of the locations of soils and species groups is necessary and should be required.

Soil during use of the site should not be compacted and if compacted should be renovated. Soil analysis should include a compaction analysis (such as a soil permeability test and/or soil pore analysis) and compacted soil should be renovated to natural soil conditions. There should be a minimum requirement for the top 6" minimum of the soil to be "conducive for plant growth

typical in the area”. This prevents backfill of the upper portions with material detrimental for plant growth. This needs to be increased in areas where the pre-disturbance survey reveals additional topsoil depth.

The vegetation that is planted should establish a diverse, effective, permanent, vegetative cover which is capable of self-generation and plant succession. Vegetation should be native species unless pre-condition is lawn or crops. Original conditions that must be restored include pre-construction soils types and layers, herbaceous plants, shrubs, and trees. An exception to the requirement to return to pre-conditions is that non- native invasive plant species should not be installed even if they were pre-existing. This is to prevent the addition of invasive species, which harm ecosystems and habitats.

DEP should require that the site support the land uses that existed prior to the gas and oil operations, including ecosystem functions such as plant communities and habitats that support wildlife species. “To the extent practicable” needs to be carefully applied in regards to restoration because in order to restore to original conditions fence enclosure to prevent deer and other animal predation, soil renovation, leaf compost layers, and monitoring and maintenance until plants are established add costs but are essential in order to meet a standard that does avoid degradation of the natural environment. (182)

Response: Restoration to approximate original conditions, capable of supporting original uses to the extent practicable is the best practice to achieve site restoration within reasonable operational parameters. It is not necessary to include technical performance standards including requirements for type and density of perennial vegetation, soil characteristics and drainage patterns in this section because those issues are already appropriately addressed by the requirements. Projects meeting the requirements will not pose a threat of significant environmental harm.

1589. Comment: 78.65 - It contains many new provisions. Among other things the site restoration provision would now require compliance with the Post Construction Stormwater Management provisions found at section 102.8 (g). The stormwater analysis and construction that would be required are expensive and complex. These requirements are traditionally associated with large construction such as a Wal-Mart parking lot. In the past, the timber industry and the conventional oil and gas industry have not been included in this requirement because of their small footprint.

I can understand why the proposed regulations would call upon Pennsylvania's new unconventional industry to comply with this stormwater analysis obligation. A typical Marcellus pad and access facilities are more than 5 acres in size and are usually constructed of impervious materials. However, conventional oil and gas sites are much different. They are only about 2% to 3% the size of a Marcellus facility. And nearly all of the conventional area achieves a vegetative state, thus making it quite different than the impervious area at a Marcellus facility.

I was at last Thursday's hearing in Warren and I was shocked to hear some of the numbers from the cost estimate to comply with the stormwater requirement. I obtained a copy of that cost estimate. I want to quote some numbers from it:

- a) Engineering services to prepare PCSM Plan alone ranges between \$10,000 - \$15,000
- b) Engineering services to prepare NPDES permit application: \$2,000-\$5,000
- c) Construction cost for stormwater BMP's: \$10,000 - \$50,000

The total cost for a new conventional well ranges between \$20,000 and \$70,000.

To put this in perspective, the current total cost for a new conventional well is a little over \$100,000. The new stormwater cost, ranging between \$20,000 and \$70,000, would be an increase of 20% to 70% for a new conventional well. A 20% to 70% cost increase would be a staggering number to any industry's bottom line. But the conventional industry is already struggling under the cost of added regulations and lower commodity prices. New conventional wells in Pennsylvania have been dropping for several years, from 5000 new wells a year in 2008 to less than 1000 wells last year.

The new cost of \$20,000 to \$70,000 for stormwater analysis and construction is especially troubling since there is no justification for the increased stormwater regulations on the conventional industry. In fact, I want to testify about the Allegheny National Forest. There are about 12,000 conventional wells in production on the Allegheny, and the national forest makes an excellent laboratory to study the impact of conventional oil and gas operations on stormwater. In 2007 the Forest Service characterized the water quality on the ANF as "among the highest in the state." In November, 2014 the Forest Service released its five-year Monitoring and Evaluation Report for the period from 2008 through 2013. It focuses on oil and gas development and concludes that "the Majority of streams on the ANF are meeting state water quality standards." Of the 2,126 miles of mapped streams within the ANF, 72% are rated high quality or exceptional value streams for water quality. The report concluded that these macro invertebrate studies "...did not detect a negative impact to water quality from this development".

In contrast the DEP has not stated any need for imposing the stormwater and construction requirements. Where is the DEP's study? How does the DEP answer the findings of excellent water quality contained in the Allegheny National Forest study?

I decided to make the 3 hour drive to Williamsport because the financial information about the new stormwater requirement is so compelling. Right now, with the current price of oil and gas, there is virtually no conventional drilling going on in Pennsylvania. And if prices return to a higher level there will still be no new conventional drilling if the new conventional regulations are adopted. The stormwater analysis and construction provision alone will prevent new conventional drilling. (302)

Response: The revisions to sections 78.65 and 78a.65 in the ANFR were also intended to address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. "Areas not restored" do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and do not impose any significant new costs on operators.

1590. Comment: An example of "unrealistic" and "impractical" requirements found in the 2015 version is the site restoration and returning a drill site to original contours. Conventional drill sites are in hilly Pennsylvanian country side where the contour is changed to gain flat ground required to operate. This broad sweeping 2015 standard will be impossible in many cases and extremely expensive in all cases to implement. I ask this question in regards to this original

contour requirement, where is the statutory authority for such a requirement to be imposed? Again this is just one small tip of this proverbial “regulatory iceberg”. (302a)

Response: This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department’s interpretation of these requirements as outlined in the “Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities”, Document No. 800-2100-008, which was finalized on December 29, 2012. It is unreasonable to interpret the restoration requirements in the 2012 Oil and Gas Act to require restoration of the well site to a different standard depending upon whether or not a restoration extension has been granted. The Department believes that the restoration requirements are appropriate. The Department included phrase “to the extent practicable” in the definition of “approximate original conditions” in recognition of the fact that restoration to approximate original contours may not always be feasible.

1591. Comment: Commentator also supports the Department’s proposed requirement that any areas not restored must comply with all requirements in Chapter 102. Subsection (d). It is important that the exception provided in § 102.8(n) not be applied to the unrestored areas of the well site. Among other things, unrestored areas of the well site need to undergo the PCSM stormwater analysis required under § 102.8(g) – a provision that is not incorporated into the § 102.8(n) requirements for restored areas. Although a PCSM analysis may not be necessary for areas restored to meadow in good condition, it is vitally important for disturbed areas that are not restored. (231, 231a)

Response: The Department acknowledges the comment.

1592. Comment: Site restoration fund: The only financial security now required for the costs of closing and capping a well is a fee. With well pads, access roads, pipelines, quarries and support facilities added, as many as 30 acres may be disturbed for each well. Each drill pad requires that all trees and topsoil be removed, and four to twelve feet of crushed rock trucked in. The compacted crushed stone base will prevent the reemergence of standing forests. The ground should eventually be restored to its original topography and vegetation, but when that time arrives, the original company may be long since bankrupt. The cost of what it would take in today’s dollars for complete restoration should be fronted by the drilling company and sequestered in fund in the same manner as cemetery association fees. (17)

Response: The Department collects a bond consistent with requirements in the 2012 Oil and Gas Act for each well. This bond may be used to conduct restoration activities.

1593. Comment: (1) POST-DRILLING – WITHIN 9 MONTHS AFTER COMPLETION OF DRILLING A WELL, THE OWNER OR OPERATOR SHALL UNDERTAKE POST-DRILLING RESTORATION OF THE WELL SITE IN ACCORDANCE WITH A RESTORATION PLAN DEVELOPED IN ACCORDANCE WITH SUBSECTION (b) AND REMOVE ALL DRILLING SUPPLIES, EQUIPMENT AND CONTAINMENT SYSTEMS NOT NECESSARY FOR PRODUCTION OR NEEDED TO SAFELY OPERATE THE WELL.

NEW PIG ENERGY comment:

See issue with “primary containment” and “secondary containment” definitions.

Commentator's suggested amendatory language:

(1) POST-DRILLING – WITHIN 9 MONTHS AFTER COMPLETION OF DRILLING A WELL, THE OWNER OR OPERATOR SHALL UNDERTAKE POST-DRILLING RESTORATION OF THE WELL SITE IN ACCORDANCE WITH A RESTORATION PLAN DEVELOPED IN ACCORDANCE WITH SUBSECTION (b) AND REMOVE ALL DRILLING SUPPLIES, EQUIPMENT AND SECONDARY CONTAINMENT NOT NECESSARY FOR PRODUCTION OR NEEDED TO SAFELY OPERATE THE WELL.
(115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

1594. Comment: (iii) DRILLING SUPPLIES AND EQUIPMENT NOT NEEDED FOR PRODUCTION MAY ONLY BE STORED ON THE WELL SITE IF EXPRESS WRITTEN CONSENT OF THE SURFACE LANDOWNER IS OBTAINED AND THE SUPPLIES OR EQUIPMENT ARE MAINTAINED IN ACCORDANCE WITH § 78a.64a (RELATING TO CONTAINMENT SYSTEMS AND PRACTICES AT UNCONVENTIONAL WELL SITES).

See issue with “primary containment” and “secondary containment” definitions.

Commentator's suggested amendatory language:

(iii) DRILLING SUPPLIES AND EQUIPMENT NOT NEEDED FOR PRODUCTION MAY ONLY BE STORED ON THE WELL SITE IF EXPRESS WRITTEN CONSENT OF THE SURFACE LANDOWNER IS OBTAINED AND THE SUPPLIES OR EQUIPMENT ARE MAINTAINED IN ACCORDANCE WITH § 78a.64a (RELATING TO SECONDARY CONTAINMENT SYSTEMS AND PRACTICES AT UNCONVENTIONAL WELL SITES).
(115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

1595. Comment: THE REMOVAL OF ALL DRILLING SUPPLIES AND EQUIPMENT NOT NEEDED FOR PRODUCTION, INCLUDING CONTAINMENT SYSTEMS.

See issue with “primary containment” and “secondary containment” definitions.

Commentator's suggested amendatory language:

(4) THE REMOVAL OF ALL DRILLING SUPPLIES AND EQUIPMENT NOT NEEDED FOR PRODUCTION, INCLUDING SECONDARY CONTAINMENT. (115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

1596. Comment: PA DEP should not dictate or change the agreements between the Operator and Landowner as a result of previous negotiations in regard to storing of equipment on Landowner's surface. Restoration should be confined to areas inside the limit of disturbance. E&S Plans cover many of the concerns in this section so we are not sure why these are being proposed in this section. In addition, E&S Plans are posted at the well locations. (367)

Response: This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department's interpretation of these requirements as outlined in the "Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities", Document No. 800-2100-008, which was finalized on December 29, 2012.

1597. Comment: § 78a.65 Site Restoration - As an initial comment, post-drilling restoration should occur within 9 months of completion of a well, not within 9 months of drilling a well, because there is an interval between the two activities that requires accommodation, and well sites cannot be restored until wells are both drilled and completed. (213)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1598. Comment: § 78a.65 (b)(3) - This section addresses "minimizing" remaining impervious areas and restoring lands to "approximate original conditions." We suggest that the Department either more strictly define these two terms, or refer operators to other regulations, perhaps those found at 25 PA. Code, Chapter 102, Section 102 that may provide more detailed guidance in surface restoration and vegetative species requirements. (200)

Response: The term "approximate original conditions" is defined in Chapter 78a and the term "minimize remaining impervious areas" is self-explanatory.

1599. Comment: Section 78.65 (a)(1)(iv) and Section 78a.65 (a)(1)(iv) of the Draft Final Rule far exceeds the scope of authority under Act 13 or Clean Streams Law because it intrudes upon decisions that are necessarily those of the operators and owners of the sites, decisions driven by operational needs, contractual agreements with land owners, and Pennsylvania property law. The Department has neither the authority nor the knowledge necessary to tell operators what "areas are necessary to safely operate a well." The Department does not presume to impose such restrictions on other commercial or industrial activities and it is entirely unjustified for it to do so for well sites. The listing of such areas may or may not be helpful to industry or DEP staff, but it is inappropriate to require restoration of any area that the Department has simply predetermined to be unnecessary. (213)

Response: These sections largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporate the Department's interpretation of these requirements. Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act.

1600. Comment: The Department has no authority or technical expertise to dictate operational or

safety requirements to the unconventional oil and gas industry, making subsection (a)(1)(iv) unnecessary and inappropriate. (199)

Response: These sections largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporate the Department’s interpretation of these requirements. Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act.

1601. Comment: Sections 78.65 (a)(2) (Post Plugging), 78.65(b) (Restoration Plan), or any other section that expressly or impliedly creates an obligation to comply with Chapter 102.8(g), would impose excessive and improper obligations on conventional operators with small well pads, and even smaller restoration footprints, to design and install post construction stormwater BMPs. Such a requirement will impose design and construction costs well beyond any environmental benefit and would intrude upon landowner rights to utilize the post drilling and post plugging areas to their fullest potential. Current estimates for the design and installation of PCSM BMPs for a conventional well site range from \$22,000 to \$84,000 per well pad, which may be from 20-80% of the entire cost of drilling a conventional well. (213)

Response: Regarding the comment on 78a.65(a)(2) and 78.65(a)(2), the Department agrees that the specific requirement to comply with section 102.8(g) is inappropriate and has modified the language to generally require compliance with section 102.8. Under 102.8, when a site is fully restored, or the permitted activity involves earth disturbance of less than 1 acre, the obligation of long-term PCSM operation and management may not be necessary. The obligation for long-term operation and maintenance has been met if the site is restored and there are no permanent structures or impervious surfaces.

Regarding the comment on 78a.65(b) and 78.65(b), the Department agrees that operators do not need to develop written restoration plans for all well sites and has modified the language to require development of written restoration plans only for well sites which require permit coverage under Chapter 102.

The revisions to sections 78.65 and 78a.65 in the ANFR were also intended to address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. “Areas not restored” do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and the Department does not agree that these provisions impose any significant new costs on operators.

1602. Comment: Landowner Rights and Contractual Obligations: Chapter 78a fails to consider the ongoing relationship between the operator and landowner and the contractual agreements to perform or not perform certain activities on a landowner's property. The relationships between operators and private landowners are governed by the terms of lease, easement, and right-of-way agreements that are negotiated between the private parties. Some of the proposed requirements do not appear to accommodate such contractual constraints. For example, a landowner may not want

an operator to restore his or her land to approximate original conditions or apply 70% perennial vegetative cover when final restoration is occurring after decades of production and the private landowner's needs may change - often there will be a different landowner entirely. However, the proposed §78a.65 does not appear to provide a flexible path forward for the landowner on how he or she wishes to use the private property. (191)

Response: The Department disagrees, the restoration requirements in §78.65 allow for landowner input when conducting restoration.

1603. Comment: Site Restoration: The totally rewritten §78a.65 has many defects as specifically noted in the comments submitted by others. However, we wish to call specific attention to §78a.65(a)(1)(iv)(D) regarding safety buffers. Safety buffers should not be limited to the area surrounding the equipment that is physically cordoned off. In order to safely operate a well, there needs to be sufficient area to 1) safely maneuver long trucks that access the site to remove fluids and for maintenance 2) maintain safe distances between various pieces of equipment on the site (described in API report 500 and the National Electric Code) 3) allow space for equipment that may be needed in the future 4) allow space for wells that may be drilled in the future. As drafted this subsection reflects a lack of understanding of safety procedures at a well site. DEP should not attempt to dictate what safety buffers are necessary. This subsection should be amended to read: “(D) Areas needed to safely conduct operations on the pad, consistent with normal industry practices and applicable safety codes.”(191)

Response: These sections largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporate the Department’s interpretation of these requirements. Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act. Examples 1-3 mentioned by the commenter are all accommodated by the rulemaking. The Department does not agree that it is necessary or appropriate for post drilling restoration to accommodate wells that may be drilled in the future.

1604. Comment: Section 78a.65 - Site Restoration

The site restoration timeline should begin to run from the date that completions activities have ended, rather than from the “completion of drilling.” Operators require the same well site dimensions for both drilling and completions activities, and it would not be practical to restore the site prior to this point. The commentator recommends amending the rule to read: “Within 9 months after completions activities have ceased, the owner or operator shall undertake post-drilling restoration of the well site...” (222)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1605. Comment: Section 78a.65(a)(1)(ii) - Site Restoration Subsection (a)(1)(ii) should be amended to delete the word “before” and replace it with “within 7 days of moving drilling equipment from the well site. As written, the proposed rule does not take into account, for example, the fact that a mousehole cannot be filled until after the drilling equipment is removed from the well site. The commentator proposes the following changes: “A drill hole or bore used to facilitate the drilling

of a well shall be filled with cement, soil, uncontaminated drill cuttings or other earthen material **within seven (7) days of** moving the drilling equipment from the well site.” (222)

Response: The Department disagrees with the comment. Mouseholes can still be plugged after the drilling equipment has been moved off of the hole.

1606. Comment: In the event it is determined that the location will not be developed and the permit will be allowed to expire 30 calendar days will not be enough time to perform the earth work let alone meet restoration requirements for an unconventional well site. It is strongly recommended that the restoration timeframe be changed to 9 months after expiration of the well permit, consistent with (a)(1) and (a)(2). (232)

Response: Operators may request an extension of the restoration timeframe if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1607. Comment: § 78a.65(a) As previously noted, even under an efficient multi-well pad operation, it often takes more than 9 months after the first well has “completed drilling” before the last well is completed and on production. Requiring restoration without reference to well completion (i.e. hydraulic fracturing) may increase land disturbance, reduce water reuse, and result in less efficient resource development. To avoid these problems, commenter suggests that the section read “Restoration after completion” and refer to restoration after completion of a well rather than restoration after “drilling” or “completion of drilling.” Commenter contends that 9 months is an aggressive target, particularly given our geographical climate and four seasons of weather and the current low price commodity price environment which is forcing operators to slow the pace of completions. Commenter therefore requests the Department to allow 2 years for restoration after completion. Additionally, the requirement to restore a site within 30 days after expiration of all existing well permits is not an adequate timeframe, and accordingly the commentator suggests this requirement be increased to 90 days. (199)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor. In addition, when a well is not drilled, operators may request an extension of the restoration timeframe if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1608. Comment: § 78a.65 (a)(1)(i) The Department continues to insist on restoration within 9 months after completion of drilling. Unconventional well development, which consists of multiple wells on a well pad, is a lengthier process than conventional well development, which was the basis for the 9 month time frame. These subsections (1) and (1)(i) should be revised to either increase the amount of time allotted for restoration for the unconventional industry due to the unique requirements for unconventional well development, or to start the clock after completion of the well, with completion referring to development of a well to a state capable of production. (210)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient

development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1609. Comment: § 78a.65 (a)(1)(iii) Subsection (a)(iii) would require express written consent from the surface landowner prior to storing drilling supplies and equipment on the well site. In many circumstances, the agreement between unconventional operators and surface landowners will be an executed lease. If that lease includes provisions allowing for equipment storage, the Department should accept the lease as express written consent of the surface landowner. Any restrictions set by the Department on what constitutes express written consent would have no measurable environmental benefit. (210)

Response: Section 3216(c) of the 2012 Oil and Gas Act indicates that drilling supplies and equipment not needed for production may be stored on the well site if express written consent of the surface landowner is obtained. To the extent that the operator obtains express written consent to store equipment not needed for production on the well site, this provision will be honored. The Department disagrees with the commenter's statement that any restrictions set by the Department on what constitutes express written consent would have no measurable environmental benefit. This provision impacts the extent to which a site is restored which unquestionably has an environmental impact. The commenter appears to be asserting that there should be no minimum standard to determining whether or not an operator is in compliance with this requirement. To assert that there should be no standard by which to determine whether or not an operator is in compliance with a requirement is to assert that either the Department should not enforce the requirement or that there should not be a requirement at all. The requirement in question is a longstanding requirement which has been implemented by the Department since Act 223 of 1984 (the original Oil and Gas Act) was passed and was included, verbatim, in the 2012 Oil and Gas Act. To the extent that the commenter is asserting that the Department should not enforce this requirement, the Department believes that enforcing this requirement will result in environmental benefit and meet the legislative intent. To the extent that the commenter is suggesting that this requirement should be removed, that would require an act of the legislature and is beyond the scope of this rulemaking.

1610. Comment: § 78a.65 (a)(1)(iv) The Department has no authority or technical expertise to dictate operational or safety requirements to the unconventional oil and gas industry, making subsection (a)(1)(iv) unnecessary and inappropriate. (210)

Response: These sections largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporate the Department's interpretation of these requirements. Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act.

1611. Comment: § 78a.65 (a)(1)(iv) (D) The "necessary safety buffer" should not be limited to an area that is physically cordoned off. Such a limit is not safe and does not account for isolation of ignition sources or for safe movement of vehicles. (210)

Response: These sections largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporate the Department's interpretation of these requirements. The requirements in subsections 78.65(a)(1)(iv) accommodate vehicle and rig access. Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure

wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act.

1612. Comment: § 78a.65 (a)(3) The commentator recommends that the restoration timeframe be lengthened. If an operator determines that a location will not be developed and the permit should be allowed to expire, 30 calendar days is not sufficient time to perform the restoration requirements for an unconventional well site. A contractor must be selected, and the contractor must perform earthwork, seed, and mulch the disturbed area of the well site, which is often greater than 5 acres. Additional time is required to attain the necessary vegetation growth, particular during winter months, and remove erosion and sedimentation controls. (210)

Response: Operators may request an extension of the restoration timeframe if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1613. Comment: Site Restoration (§ 78.65 and § 78a.65) The commentator supports the option to request a restoration period extension from the Department for up to 2 years.

Response: The Department acknowledges the comment.

1614. Comment: The provisions of the proposed final rule regarding the preparation of a Post Construction Stormwater Management (PCSM) Plan that meets the requirements of 25 Pa.C.S. § 102.8(g) (PCSM Plan Analysis) as a component of a conventional well operator's site restoration plan is not in the public interest and should be withdrawn.

There are important differences between the environmental hazards presented by large-scale, unconventional well operations conducted by billion-dollar corporations and small, conventional well operations conducted by small businesses who have been drilling in Pennsylvania's oil patch since 1859. The Department readily acknowledges this fact in its regulatory analysis form: “[T]he area of earth disturbance at an unconventional site during the drilling and hydraulic fracturing stages is at least 10 times the size of earth impacted at an unconventional site.”

The new proposed standards requiring a PCSM Plan that is § 102.8(g) compliant will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. Section 102.8(g) specifies the stormwater analysis and design criteria required by the Department. These design criteria, as well as additional information regarding PCSM requirements and best management practices (BSM's) can be found in the Pennsylvania Stormwater Best Management Practices Manual. Under this section, BMP's must be used to manage the net change in stormwater volume and water quality between predevelopment and post-development conditions for storms up to and including 2-year/24-hour storm event. BMP's must also be used to ensure that the post-development runoff rates do not exceed that of predevelopment conditions for the 2, 10, 50, and 100-year/24 hour storm events or will meet the rate criteria specified in the applicable Department approved Act 167 plan, whichever is more restrictive. The Department does not identify any reason whatsoever why a PCSM Plan must satisfy these strict requirements of § 102.8(g). (201)

Response: The revisions to section 78.65 and 78a.65 in the ANFR were also intended to address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. “Areas

not restored” do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

1615. Comment: The direct and indirect costs of the new proposed standards requiring PCSM Plans that comply with § 102.8(g) are so enormous that they will put small, independent conventional well operators out of business. The total cost of this new requirement is estimated to be \$22,000 - \$84,000.

- Engineering services to prepare PCSM Plan satisfying §102.8(g): \$10,000 - \$15,000.
- Engineering services to prepare NPDES Permit application: \$2,000 - \$5,000.
- Construction cost for storm water best management practices only: \$10,000 - \$50,000.
- Detailed topographical survey: \$2,000 - \$4,000 (if not provided)
- Wetland determination, ecological screening, and environmental permitting: \$2,000 - \$10,000 depending on location, amount of disturbance, and type of permit needed.

The new proposed standards requiring the preparation of PCSM Plans that are § 102.8(g) compliant will have a severe adverse effect on the productivity of small, independent conventional well operators. As explained above, the new costs alone will drive these small operators out of business. (201)

Response: See Response to comment 1614. The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and do not impose any significant new costs on operators.

1616. Comment: There are provisions in this section that will be impossible for conventional operators to comply with, irrespective of cost. For example, this section requires that the operator must restore the well site to its approximate original contours/conditions. This may be impossible depending on the circumstances. If well construction required an operator to cut into the side of a hill, any effort to build the hill back up to its original contours may prove pointless due to the effects of erosion, regardless of how hard the ground is tamped down. In addition, the presence of trees and other impediments at the site may prevent operators from returning the land to its approximate original conditions. (201)

Response: The Department believes that the restoration requirements are appropriate. The Department included phrase “to the extent practicable” in the definition of “approximate original conditions” in recognition of the fact that restoration to approximate original contours may not always be feasible.

1617. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule requiring PCSM Plans that are § 102.8(g) complaint. (201)

Response: See response to comment 1614.

In response to comments on 78a.65(b) and 78.65(b), the Department agrees that operators do not need to develop written restoration plans for all well sites and has modified the language to require development of written restoration plans only for well sites which require permit coverage under Chapter 102.

1618. Comment: The Department's regulatory analysis form does not demonstrate a need for PCSM Plans that are § 102.8(g) complaint. (201)

Response: See response to comment 1614.

In response to comments on 78a.65(b) and 78.65(b), the Department agrees that operators do not need to develop written restoration plans for all well sites and has modified the language to require development of written restoration plans only for well sites which require permit coverage under Chapter 102.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements.

1619. Comment: The Department's regulatory analysis form does not reflect the direct and indirect costs of the proposed standards requiring PCSM Plans that are § 102.8(g) complaint. As noted above, the estimated cost of compliance is \$22,000-\$84,000. This cost was not considered by the Department. (201)

Response: See Response to comment 1614.

In response to comments on 78a.65(b) and 78.65(b), the Department agrees that operators do not need to develop written restoration plans for all well sites and has modified the language to require development of written restoration plans only for well sites which require permit coverage under Chapter 102.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and do not impose any significant new costs on operators.

1620. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to achieving the goal of reducing the adverse effects of stormwater runoff. (201)

Response: The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and are necessary to meet the statutory requirements in the 2012 Oil and Gas Act and the Pennsylvania Clean Streams Law.

1621. Comment: Finally, the new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should the standards in the proposed final rule become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10-15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: See response to comment 993. The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and are necessary to meet

the statutory requirements in the 2012 Oil and Gas Act and the Pennsylvania Clean Streams Law. The Department does not agree that the changes proposed in these sections will have the impact to businesses described by the commenter. These sections do not modify the requirements of Chapter 102 which provide that a permit under that Chapter is not triggered until there is five acres or more of earth disturbance activity. For smaller conventional operators, it is the Department's expectation that in many instances this Chapter 102 permit requirement will not be triggered.

1622. Comment: § 78a.65 Section 78a.65 has been almost entirely rewritten in the ANFR.

Accordingly, the Department should not proceed to finalize this section, but should withdraw it and proceed with a separate proposed rulemaking in order to fully and properly comply with the Regulatory Review Act.

PADEP failed to include any estimate for the costs associated with the new pad restoration requirements in the RAF. Rather, PADEP claims the industry will realize a cost savings because an operator may be able to obtain a 2 year extension to postpone the restoration. However, a mere postponement of a cost is not an avoidance of the cost. PADEP's estimated savings of \$21.7 million (estimated by DEP as \$50,000 per site times 434 sites per year) is actually a cost that will ultimately be incurred, not a savings. Moreover, the commentator estimates that the cost of pad restoration, as proposed in the regulations will be in the area of \$200,000 to \$300,000 per pad; not \$50,000 as DEP estimates. Therefore rather than a \$21.7 million savings, the restoration requirements as proposed would add a cost of \$130 million.

The Legislature has addressed the issue of site restoration. Section 3216(a) of the Oil and Gas Act of 2012 requires restoration of the land surface within the area disturbed in siting, drilling, completing and producing the well. Section 3216(c) imposes interim restoration requirements within nine months after completion of drilling a well and Section 3216(d) requires removal of all facilities, supplies and equipment and restoration of the well site within nine months after plugging a well.

The Department continues to insist on restoration within 9 months after completion of drilling. Unconventional well development, which consists of multiple wells on a well pad, is a lengthier process than conventional well development, which was the basis for the 9 month time frame. The section should be revised to either increase the amount of time allotted for restoration for the unconventional industry due to the unique requirements for unconventional well development, or to start the clock after completion of the well, with completion referring to development of a well to a state capable of production.

25 Pa. Code § 102.8(n) states that an oil and gas restoration plan that identifies PCSM BMPs to manage stormwater from oil and gas activities meets the requirements of Section 102.8 if the restoration plan meets 102.8(b), (c), (e), (f), (h), (i), (l) and (m), if applicable. Unconventional operators with a restoration plan that identifies PCSM BMPs in such a manner are not required to conduct a PCSM plan stormwater analysis under § 102.8(g). Therefore, any reference to § 102.8(g) should be deleted from the ANFR.

In addition, there is no requirement in Act 13 Sections 3215(c) or 3315(d), or in Chapter 102, that imposes an obligation to restore well sites to approximate original contours or conditions. Act 13 mentions approximate original contours (not conditions) in Section 3215(g) related to extension of restoration requests. It would defeat legislative intent to impose this obligation generally when the General Assembly clearly chose not to alter the obligations under Sections 3215(c) or (d). Such an obligation would also create unreasonable requirements in many locations across the

Commonwealth where there is significant topographical variation. When a restoration plan proposes restoration to approximate original contours, it would be a part of expected restoration obligations. The restoration plan is the governing document that addresses restoration obligations. In addition, the Department has no authority or technical expertise to dictate operational or safety requirements to the unconventional oil and gas industry, making subsection (a)(1)(iv) unnecessary and inappropriate.

Requests for extension that include the information described in the Oil and Gas Act of 2012 should be approved, denied, or deemed to be approved within 90 days of submission to the Department. The regulation should be structured to allow for renewable two year extensions of the restoration deadline provided the site restoration plan and appropriate PCSM measures are fully implemented. This extension process is critical to avoid unnecessary earth moving activities for reconstruction of a well pad should an operator plan to drill and produce additional wells on the same pad location at some later time in the future. The risk of accelerated erosion and resulting sedimentation is much greater during earth moving activities that would take place if a pad would be made smaller or expanded, possibly multiple times in the future. (210)

Response: This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department’s interpretation of these requirements as outlined in the “Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities”, Document No. 800-2100-008, which was finalized on December 29, 2012.

It is unreasonable to interpret the restoration requirements in the 2012 Oil and Gas Act to require restoration of the well site to a different standard depending upon whether or not a restoration extension has been granted. The Department believes that the restoration requirements are appropriate. The restoration requirements in §78.65 allow for landowner input when conducting restoration. The Department believes that the restoration requirements are appropriate. The Department included phrase “to the extent practicable” in the definition of “approximate original conditions” in recognition of the fact that restoration to approximate original contours may not always be feasible.

The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor. The Department does not agree that extension should be deemed approved under any circumstances.

The revisions to sections 78.65 and 78a.65 in the ANFR were also intended to address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. “Areas not restored” do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements and do not impose any significant new costs on operators.

In response to comments on Section 78.65(a)(2), the Department agrees that the specific requirement to comply with section 102.8(g) is inappropriate and has modified the language to generally require compliance with section 102.8. Under 102.8, when a site is fully restored or reclaimed, or the permitted activity involves earth disturbance of less than 1 acre, the obligation of long-term PCSM operation and management may not be necessary. The obligation for long-term operation and maintenance has been met if the site is restored and there are no permanent structures or impervious surfaces.

In response to comments on 78a.65(b) and 78.65(b), the Department agrees that operators do not need to develop written restoration plans for all well sites and has modified the language to require development of written restoration plans only for well sites which require permit coverage under Chapter 102.

Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act.

- 1623.** Comment: Site Restoration (§ 78.65 and § 78a.65) The Department should specify that a well site be restored 9 months after the well is “turn-inline (TIL) ready”, not after “drilling” of the last well. Changing this language would make this section more consistent with industry practices taking into consideration the time required to complete all phases of well construction and development (also see previous section § 78a.57a comments). (205)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

- 1624.** Comment: **78a.65(a)(1)(iv)** - This section attempts to define the area necessary to safely operate a well. Commentator submits that such matters should not be decided upon and regulated based upon DEP's discretion. Rather, such matters are specific to oil and gas operations and must be left to each operator's discretion based on its operations and safety protocols. Any dispute that may arise over the use of surface space is a legal matter to be resolved between the surface owner and the lessee or mineral rights owner and is not a matter that DEP is qualified to or statutorily authorized to adjudicate. (190)

Response: These sections largely restate the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporate the Department's interpretation of these requirements to provide clarity and predictability to the public and the regulated community. Subsections 78.65(a)(1) and 78a.65(a)(1) allow operators broad discretion to ensure wells and well sites can be operated safely while also complying with the site restoration requirements in the 2012 Oil and Gas Act.

- 1625.** Comment: **78a.65(a)(3)** – Even more unreasonable than the DEP's 9-month restoration standard, is the 30-day restoration standard set forth in this proposed rule. Although a well site the operator may not have to decommission facilities and structures at a well site that was never drilled, 30 days is an incredibly short time frame to expect an operator to restore a site that could be in

excess of 5 acres. Commentator recommends an 18-month time frame for completing site restoration if the permitted well is not drilled. (190)

Response: Operators may request an extension of the restoration timeframe if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1626. Comment: **78a.65(a)(1)** - A recurring theme throughout these proposed regulations is the strict 9-month time period for closure/restoration. Our comments regarding DEP's strict 9-month time frame provided above are equally applicable to this rule regarding site restoration. Nine months is simply too short a period of time for site restoration given unconventional well development activities.

Although the strict time frame for completing restoration is certainly of concern, the commenter submits that as a general matter, this proposed rule simply doesn't work for modern unconventional well development. Development of a field or even a single well site does not always start and continue with minimal interruption until all wells at a site are drilled and completed. For example, it is not unusual to construct a well site, drill one or more appraisal wells, and then return to the site a few years later to drill additional wells. This rule would require operators to commence site restoration long before development is actually completed. It is not efficient or logical to require operators to partially reclaim a well site, only to require them to re-excavate the same area a few years later to continue development. This regulation will result in an inefficient use of resources that results in significant unnecessary expenses to operators and therefore it should be appropriately modified or deleted from the final rule. (190)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1627. Comment: § 78a.65. Site Restoration -In subsection (a)(3), the requirement that a well site on which a well is not drilled be restored within "30 calendar days" after the expiration of the well permit should be changed to within "9 months" after expiration of the well permit, consistent with the reclamation time frames in (a)(1) and (a)(2). Once a well site is constructed, restoration of that site will require essentially the same amount of time regardless of whether a well had been drilled on the site or not. (193)

Response: Operators may request an extension of the restoration timeframe if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1628. Comment: 78.65(a) Commenter feels the Department's comments relating to site restoration and reclamation should be stricken for unconventional wells as they pertain more closely to conventional wells. Commenter believes their locations are constructed to a reasonable size to ensure safe operations for our producing wells for their life span. Commenter believes as long as post construction stormwater controls are adequate to manage rates and volumes, and the site is permanently stabilized, minimizing the site is not warranted for these unconventional well locations and a potential safety concern. (189)

Response: This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department’s interpretation of these requirements as outlined in the “Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities”, Document No. 800-2100-008, which was finalized on December 29, 2012. The Department believes that the restoration requirements are appropriate.

1629. Comment: Significant time is required for completion of the wells and installation of facilities prior to restoration activities. It is recommended that the restoration deadline be 9 months from the completion of the last well on the pad or TIL of the last well on the pad. Temporary stabilization will be performed as per PA Code Ch. 102.8. This approach will drastically reduce the number of restoration extensions that may need to be applied for, reducing the administrative burden on both the Department and Oil and Gas Operators. (232)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

1630. Comment: § 78.65 Site Restoration - In addition, commenter objects to any requirement to return land to “approximate original conditions” unless such a commitment has been made in the approved site restoration plans or private agreements with landowners. No such obligation is created under any relevant statute and is without environmental justification. The return to “original” contour also presupposes that one has recorded the original contour. Thus for new well construction the 2015 version would impose the burden of detailed mapping and contour recording. For older wells that are being plugged, the Draft Final Rule asks the impossible—or at least sets the stage for dispute. Many operating conventional wells in Pennsylvania are over 100 years of age. Contour records have not been previously kept—this is after all, a new requirement in Pennsylvania oil and gas development—and who is able to describe the “original” contour of a well site that has outlived several working generations? (213)

Response: The Department believes that the restoration requirements are appropriate. The Department included phrase “to the extent practicable” in the definition of “approximate original conditions” in recognition of the fact that restoration to approximate original contours may not always be feasible.

1631. Comment: § 78a.65 (b) -We are pleased to see that the definition has been expanded to make clear the need to fill all holes, as we previously recommended. (200)

Response: The Department acknowledges the comment.

1632. Comment: § 78a.65 Site Restoration - In addition, commenter objects to any requirement to return land to “approximate original conditions” unless such a commitment has been made in the approved site restoration plans or private agreements with landowners. No such obligation is created under any relevant statute and is without environmental justification. (213)

Response: The Department believes that the restoration requirements are appropriate. The Department included phrase “to the extent practicable” in the definition of “approximate

original conditions” in recognition of the fact that restoration to approximate original contours may not always be feasible.

1633. Comment: § 78a.65 Site Restoration - Clean Streams Law and Chapter 102 clearly provide an exemption for small earth disturbances, such as oil and gas operations, that would be eliminated under the Draft Final Rule with no justification. Any obligation to comply with 102.8(g) for operations should be deleted from the final rule. Constructing long term PCSM BMPS on such sites would cause far more environmental harm than the current practice and law. (213)

Response: The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements.

In response to comments on 78a.65(b) and 78.65(b), the Department agrees that operators do not need to develop written restoration plans for all well sites and has modified the language to require development of written restoration plans only for well sites which require permit coverage under Chapter 102.

1634. Comment: As this section is written, it is unclear whether the Department intends such plans to include drawings and configurations of equipment and equipment locations, which an operator may not know at the time the plans are due. Commenter requests that the Department clarify that the requirement that an operator provide post-drilling restoration drawings and configurations is limited to the general surface topography and does not include equipment configurations. (199)

Response: The operator’s site restoration plan must demonstrate compliance with the requirements in subsections 78a.65 (a, b, d and when applicable, g). Drawings and configurations of equipment and equipment locations are not explicitly required but may be used as part of the demonstration.

1635. Comment: § 78a.65(b)(5) THE MANNER IN WHICH THE RESTORATION OF THE DISTURBED AREAS WILL ACHIEVE MEADOW IN GOOD CONDITION OR BETTER OR OTHERWISE INCORPORATE ABACT OR NONDISCHARGE ALTERNATIVE PCSM BMPS. As written, this section is ambiguous and confusing. The phrase “meadow in good condition” is not defined, and standards are not set forth for making this determination. Nor is meadow in good condition a commonly recognized ecological term. The commentator suggests instead that the Department utilize the more commonly recognized phrase of “site stabilization” expressed as 70 percent vegetative growth. The commentator suggests the following language below: “(5) THE MANNER IN WHICH THE RESTORATION OF THE DISTURBED AREAS WILL ACHIEVE SITE STABILIZATION OF 70 PERCENT VEGETATIVE COVER OR BETTER OR OTHERWISE INCORPORATE ABACT OR NONDISCHARGE ALTERNATIVE PCSM BMPS” (199)

Response: The Department disagrees that the phrase “meadow in good condition” is not a commonly recognized term. Site stabilization is not the same as meadow in good condition from a stormwater managing perspective as those terms are used in the Chapter 102 regulations. Site stabilization as described in 102.22 identifies characteristics to assure that the site is resistant to sliding, accelerated erosion or other issues whereas meadow in good condition is a term used to evaluate the characteristics of the site to ensure that stormwater is managed effectively. There are a number of methodologies that can be used to demonstrate compliance with the term for which there are existing tools and guidance available to the regulated community. The term “meadow in good condition” is consistent with requirements in Chapter 102.8. Furthermore that department disagrees with the

commenters recommended language in that ABACT and non-discharge alternative performance standards are provided in Chapter 102 and go beyond site stabilization.

1636. Comment: Section 78.65(b)(6): should include a provision that would require the owner/operator provide a “bond or other financial security” to the department to assure compliance with the storm water requirements should the owner/operator cease to exist. (253)

Response: The Department collects a bond consistent with requirements in the 2012 Oil and Gas Act for each well. This bond may be used to conduct restoration activities or ensure compliance with PCSM requirements.

1637. Comment: Section 78a.65.(b) requires site restoration, but in subsection (5) is a sentence requiring a restoration plan to include “the manner in which the disturbed areas will achieve “meadow” in good condition...” and this makes no sense. Clarification is needed. (295)

Response: “Meadow in good condition” is a commonly recognized term used in the Chapter 102 regulations. Meadow in good condition is a term used to evaluate the characteristics of the site to ensure that stormwater is managed at a minimum standard and is an appropriate standard for restoration.

1638. Comment: § 78a.65 (a) - There are two sections labeled 78a.65 (a) – the numbering should be corrected. (187, 209)

Response: The Department has made the change.

1639. Comment: Section 78.65(b)(2) Site restoration activities should not be allowed to be extended for up to two years. Restoration activities should be required to be conducted and completed within 30 days after site is completed as with other chapters of the PA Code. (9)

Response: Section 3216 of the 2012 Oil and Gas Act allows the site restoration timeframe to be extended by up to 2 years.

1640. Comment: Commentator supports the requirement that, to be considered “restored,” and therefore eligible for the exemption under § 102.8(n), disturbed areas must either be returned to meadow in good condition, or incorporate antidegradation best available combination of technologies (“ABACT”) or non-discharge alternative post-construction stormwater management BMPs. Subsections (b)(5) and (d). For the restored areas of the well site, these requirements will help ensure that stormwater is managed properly long after oil and gas operations are finished. (231, 231a)

Response: The Department acknowledges the comment.

1641. Comment: Additionally, §78a.65(b)(5) requires site restoration to meet “meadow in good condition”. Restoration to “meadow in good condition” will often be a better condition than what was on the site prior to pad construction and may not be possible. In addition, once a site is permanently restored, the landowner may wish to utilize the property in various ways, none of which equal “meadow in good condition”. This section should be deleted. (191)

Response: The Department disagrees that the section should be deleted. The subsection also allows for the operator to incorporate ABACT or nondischarge alternative BMPS instead of conducting restoration to meadow in good condition or better. To the extent that

preconstruction conditions at a site are different than meadow in good condition, the operator may take that into account when designing restoration BMPs. Subsection 78a.65(g) allows for the land surface not to be restored to approximate original conditions if consent is obtained from the landowner. It is the responsibility of the landowner to secure any necessary permit(s) for earthmoving activities left by the Operator on their property such as acquiring an NPDES Permit for Discharge of Stormwater from Construction Activities.

1642. Comment: § 78a.65 (a)(5) Requiring that restoration of disturbed areas to achieve “meadow in good condition or better” is unrealistic, potentially unobtainable, and may require operators to restore the site to better than original conditions. It appears the Department intended to offer an alternative with the mention of ABACT or non-discharge alternative PCSM BMPs, but such an offer seems to be inconsistent with the rest of the provision. This section is extremely broad, and will likely leave a lot open to interpretation when ESCGP Notices of Termination are filed, at which time Department representatives are focusing on 70% or more uniform vegetative cover. (210)

Response: See response to comment 1641. There are a number of methodologies that can be used to demonstrate compliance with the term for which there are existing tools and guidance available to the regulated community. The term “meadow in good condition” is consistent with requirements in Chapter 102.8. Furthermore that Department disagrees with the commenter’s recommended language in that ABACT and non-discharge alternative performance standards are provided in Chapter 102 and go beyond site stabilization.

1643. Comment: § 78a.65(c) EXTENSION OF DRILLING OR PRODUCTION PERIOD. THE RESTORATION PERIOD IN THIS SUBSECTION MAY BE EXTENDED THROUGH APPROVAL BY THE DEPARTMENT FOR AN ADDITIONAL PERIOD OF TIME, NOT TO EXCEED 2 YEARS. While the commenter appreciates the option to extend drilling or production periods, the commenter is concerned that a single 2 year extension may not be sufficient, especially in the current low commodity price environment. Additionally, the rule does not take into account the challenge operators are experiencing from permit processing delays for things like major modification out of the southwest regional office (SWRO). These types of permit approvals are supposed to be covered under the Permit Decision Guarantee policy, but most permits are voided out of this policy by SWRO. The commenter has experienced significant delays with the technical review requiring up to six months. Furthermore, the last analysis compiled for SWRO in February 2015 from various operators showed an average permitting timeline of 132 days, but with numerous permits taking over 200 day to issue. For these reasons, the commenter believes this regulation should be structured to allow for renewable two year extensions of the restoration deadline provided the site restoration plan and appropriate PCSM measures are fully implemented. This extension process is critical to avoid unnecessary earth moving activities for reconstruction of a well pad should an operator plan to drill and produce additional wells on the same pad location at a later time. The risk of accelerated erosion and resulting sedimentation is much greater during the earth moving activities that would take place if a pad must be made smaller or expanded on multiple subsequent occasions.

Requests for extension that include the information described in the Oil and Gas Act of 2012 should be approved, denied, or deemed to be approved within 90 days of submission to the Department. The regulation should be structured to allow for renewable two year extensions of the restoration deadline provided the site restoration plan and appropriate PCSM measures are fully implemented. This extension process is critical to avoid unnecessary earth moving activities

for reconstruction of a well pad should an operator plan to drill and produce additional wells on the same pad location at some later time in the future. The risk of accelerated erosion and resulting sedimentation is much greater during earth moving activities that would take place if a pad would be made smaller or expanded, possibly multiple times in the future. (199)

Response: The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor. The Department disagrees that it is appropriate to allow operators to defer restoration in perpetuity. The Department disagrees that approval of an extension request should be deemed approved for any reason.

1644. Comment: § 78a.65(c)(3) A DEMONSTRATION THAT THE EXTENSION WILL RESULT IN LESS EARTH DISTURBANCE, INCREASED WATER REUSE OR MORE EFFICIENT DEVELOPMENT OF THE RESOURCES SHALL INCLUDE THE FOLLOWING: Commenter appreciates the Department’s intent to verify that an extension would decrease disturbance or increase water reuse or efficiency, however, this provision fails to recognize the challenge operators have been facing with the evolution to the ESCGP-2 permit which requires that companies implement PCSM controls. In practice, the implementation of these controls is leading to more earth disturbance than would occur if the stringent PCSM controls were not required. Additionally, many of our sites were originally designed and permitted under the ESCGP-1 permit program, and site restoration requirements have required us to complete ESCGP-2 major modifications. To meet these obligations, sites again have to deploy more stringent PCSM controls to meet the flow requirements of an ESCGP-2 permit, which likewise results in more earth disturbance. Commenter requests that the Department modify the language as follows to better provide for these circumstances and avoid conflicting requirements: “(3) A DEMONSTRATION THAT THE EXTENSION WILL RESULT IN ONE OF THE FOLLOWING: LESS EARTH DISTURBANCE, INCREASED PCSM CONTROLS, INCREASED WATER RESUSE, OR MORE EFFICIENT DEVELOPMENT OF THE RESOURCES.” (199)

Response: The Department disagrees with the commenter’s assertion that not implementing PCSM controls provides better environmental protection than implementing PCSM controls. Furthermore, the amendatory language proposed by the commenter is inconsistent with the restoration requirements in the 2012 Oil and Gas Act.

The revisions to sections 78.65 and 78a.65 in the ANFR were also intended to address comments on this section that indicated continuing confusion regarding what constitutes restoration as the term is used both in Chapter 78 as well as in Chapter 102, and what the associated requirements are. The changes to this section in the ANFR clarify this question and in particular distinguish between areas not restored and other areas. “Areas not restored” do not fall within the provisions in section 102.8(n) and therefore must meet the requirements, inter alia, of section 102.8(g). Areas not restored include areas where there are permanent structures or impervious surfaces.

The revisions to sections 78.65 and 78a.65 largely restate or clarify existing statutory and regulatory requirements.

1645. Comment: § 78a.65 (c) Requests for extension that include the information described in the Oil and Gas Act of 2012 should be approved, denied, or deemed to be approved within 90 days of

submission to the Department. The regulation should be structured to allow for renewable two year extensions of the restoration deadline provided the site restoration plan and appropriate PCSM measures are fully implemented. This extension process is critical to avoid unnecessary earth moving activities for reconstruction of a well pad should an operator plan to drill and produce additional wells on the same pad location at some later time in the future. The risk of accelerated erosion and resulting sedimentation is much greater during earth moving activities that would take place if a pad would be made smaller or expanded, possibly multiple times in the future. (210)

Response: The Department disagrees that approval of an extension request should be deemed approved for any reason. The restoration timeframe is consistent with requirements in the 2012 Oil and Gas Act. Operators may request an extension of the restoration timeframe because the extension will result in less earth disturbance, increased water reuse or more efficient development of the resources or if restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor. The Department disagrees that it is appropriate to allow operators to defer restoration in perpetuity.

1646. Comment: § 78a.65 (c)(3)(i) The statement requiring that the BMPs utilized on the well site will address post construction stormwater management is problematic. The conversion of BMPs such as traps or basins from the erosion and sediment control phase to the PCSM phase is commonly the last step of the process. Requiring the conversion of BMPs to their final configuration prior to restoration earthmoving provides no measurable environmental benefit. (210)

Response: Stormwater runoff must be managed during the extended restoration period.

1647. Comment: § 78a.65 (c)(3)(ii) - It is unclear what is meant by this section. If a request has been made for an extension of well site restoration, a demonstration that all of the portions of the well site not occupied by production facilities be returned to approximate original conditions is counter to the request. This language should be removed. (187, 209)

Response: The requirements in section 78a.65(c)(3)(ii) mirror the requirements in section 3216(g)(2)(ii).

1648. Comment: 76a.65(c) What constitutes a demonstration in the listed areas involving an extension? (161)

Response: The demonstrations required under section 78a.65(c) are adequately described in the regulation. Additional guidance on the extension is included in section 3216(g).

1649. Comment: **78a.65(d)** – This proposed rule should be modified to accommodate requests by the surface owner to not restore an area(s) and it should allow flexibility where there is a change in use of the property by the surface owner since the time the well site was originally constructed and the wells drilled. (190)

Response: The restoration requirements in §78a.65 allow for landowner input when conducting restoration.

1650. Comment: § 78a.65(e) POST DRILLING RESTORATION REPORTS. WITHIN 60 CALENDAR DAYS AFTER POST-DRILLING RESTORATION UNDER PARAGRAPH (a)(1), THE OPERATOR SHALL SUBMIT A RESTORATION REPORT TO THE

DEPARTMENT. THE WELL OPERATOR SHALL FORWARD A COPY OF ALL RESTORATION REPORTS TO THE SURFACE LANDOWNER. THE REPORT SHALL BE MADE ELECTRONICALLY ON FORMS PROVIDED BY THE DEPARTMENT THROUGH THE DEPARTMENT'S WEB SITE AND SHALL IDENTIFY THE FOLLOWING:

Commenter questions the need for this additional reporting as it adds burden and cost on the operator but provides no environmental or public benefit. We submit a restoration plan as part of the ESCGP-2 or Chapter 105 General permit applications, and we are already required to notify the Department when we have completed restoration through the submittal of our Notice of Termination (NOT) to close out the permits. Therefore, this requirement to submit an additional restoration report is superfluous. As previously stated in our general comments, unnecessary submittals generate additional costs, and distract the Department and operators from equally or more important issues. To better align with the Department's Policy for Development, Approval and Distribution of Regulations, which directs that regulations should be drafted "to reduce paperwork, minimize administrative burdens, and save time for both the regulated community and agency staff," Commenter requests the Department remove this requirement. (199)

Response: This provision applies to all well sites, including sites that are not required to obtain an erosion and sediment control permit. In addition, the information provided in the Erosion and Sediment Control Permit Notice of Intent and Notice of Termination does not satisfy the items listed under 78a.65(e).

1651. Comment: 76a.65(e)(2) and 78a.65(e)(5) Post-drilling restoration reports should include more extensive testing for all substances known to be related to natural gas development from unconventional wells such as radiation levels, endocrine disruptors, petroleum distillates, heavy metals, and so on. (161)

Response: Waste disposal requirements are addressed 78a.60-78a.63, which require an authorization from the Department to dispose of drill cuttings from below the casing seat or contaminated drill cuttings on the well site. Chemical analysis of the wastes will be addressed through that authorization. Extensive testing is not needed for disposal of top hole water.

1652. Comment: 76a.65(e)(5) The location of the area used for land application and the results of the chemical analysis of the waste soil mixture must be required as part of the clean-up not on request. (161)

Response: The comment contemplates that disposal of drill cuttings via land application would be considered a spill or release by the Department and require remediation under section 78a.66. The Department does not agree with this assertion.

1653. Comment: § 78a.65 (3)(i)(E) -The commenter suggests that this section be revised to reflect language contained in 25 PA Code, Chapter 102, Section 102.4, Erosion and Sediment Control, recommending the use of native trees and shrubs. (200)

Response: The Department encourages the use of native plants when conducting restoration.

1654. Comment: **78a.65(e)(6)** – Commenter suggests that the requirement to provide disposal information in the report be deleted. Because the handling/disposal of waste requires manifests, DEP already has a means for auditing: the volumes of waste, method of transport, and the location of disposal on a case-by-case basis. In light of existing manifest requirements and DEP's

existing ability to audit such records, this new requirement only serves to increase expense and reporting burdens on operations without creating any new additional benefits to DEP's records review capabilities. (190)

Response: The Department acknowledges that the current waste reporting requirements may capture some of the same information required on the restoration report but disagrees that waste disposal information should not be included in the site restoration report. Details regarding the type of waste, as well as volume, leachate analysis and physical location are not captured in the waste reporting requirements. This information is also critical to allow the landowner to be aware of where the waste is located so that this material can be avoided in the event of earth moving activities on the property.

1655. Comment: § 78a.65 (e)(6) As used in (6), the meaning of “waste” is unclear, and is likely to cause confusion among operators. (210)

Response: The term is meant to include any wastes produced at the well site by the drilling, construction or stimulation of the well.

1656. Comment: 76a.65(f) Post-plugging restoration reports should include a description, including chemical composition, of the types and volumes of waste produced. (161)

Response: Subsection 78a.65(f)(1) requires a description of the types and volumes of wastes produced as well as the waste disposal facility and waste hauler used to dispose of the waste.

1657. Comment: § 78a.65(f) POST PLUGGING RESTORATION REPORTS. WITHIN 60 CALENDAR DAYS AFTER POST-PLUGGING RESTORATION UNDER PARAGRAPH (a)(2), THE OPERATOR SHALL SUBMIT A RESTORATION REPORT TO THE DEPARTMENT. THE WELL OPERATOR SHALL FORWARD A COPY OF ALL RESTORATION REPORTS TO THE SURFACE LANDOWNER. THE REPORT SHALL BE MADE ELECTRONICALLY ON FORMS PROVIDED BY THE DEPARTMENT THROUGH THE DEPARTMENT'S WEB SITE AND SHALL INCLUDE THE FOLLOWING: (1) A DESCRIPTION OF THE TYPES AND VOLUMES OF WASTE PRODUCED AND THE NAME AND ADDRESS OF THE WASTE DISPOSAL FACILITY AND WASTE HAULER USED TO DISPOSE OF THE WASTE. As noted in the previous comment, this additional reporting requirement adds burden and cost on the operator but provides no environmental or public benefit. An operator is already required to obtain a permit to plug a well and to send a certificate of well plugging upon plugging completion. Additionally, operators are already required to conduct residual waste reporting. Thus, the reporting requirement under this provision is duplicative. To better align with the Department's Policy for Development, Approval and Distribution of Regulations, which directs that regulations should be drafted “to reduce paperwork, minimize administrative burdens, and save time for both the regulated community and agency staff,” Commenter suggests the Department remove these requirements. (199)

Response: The existing requirements described by the commenter do not address the post plugging well site restoration requirements described in section 78a.65 and are, therefore, not duplicative. The subsection has been retained.

1658. Comment: Section 78.65(g) This section doesn't appear to require that the well operator to inform the landowner PRIOR to disposing of drill cuttings or residual waste at the well site prior to these activities being conducted. It only states that the well operator will forward a copy of the site restoration plan after disposal. The landowner should be made aware and have the option to

provide his or her opinion of where and if they will accept the drill cuttings or residual wastes on their property for eternity. (9)

Response: The Department disagrees that landowner permission or consent should be required for on-site disposal as a regulatory matter (landowners are free to negotiate lease terms more protective than the regulatory floor, of course). The Department believes that the provisions of §§ 78.61 and 78a.61 are sufficiently protective that an operator meeting those requirements should not be required to obtain prior consent. The Department does believe that transparency and notice are important concerns, however, and has added language to sections 78.61 and 78a.61 requiring operators to provide notice to surface landowners of the location of cuttings disposal or land application.

1659. Comment: **78a.65(g)** – Commenter also disagrees with the proposed requirement under § 78.65(g) to acquire the written consent of the landowner regarding site restoration. This section does not clearly identify who is supposed to acquire this consent, but in the commenter’s opinion, whether it is the operator or DEP, that documentation may be difficult to obtain as surface use can be a very sensitive issue between landowners and operators, sometimes even being addressed via litigation before drilling even occurs. Also, the rule doesn’t address what happens if the surface owner refuses to grant their consent. Commenter is not aware of any statutory authority under the *Oil & Gas Act* for DEP to require landowner consent to restoration. This consent requirement is an unnecessary intrusion on the landowner-operator relationship as the operator’s use of the surface is a contractual and legal matter that is governed by the parties’ agreements (*e.g.*, deed or lease) and well-established legal precedent. Matters of surface use, including the extent of surface use, should be left to the parties themselves to resolve and is not something that DEP should be unilaterally and arbitrarily attempting to dictate, control and manage through regulation. (190)

Response: This section largely restates the restoration requirements in Section 3216 of the 2012 Oil and Gas Act and incorporates the Department’s interpretation of these requirements as outlined in the “Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities”, Document No. 800-2100-008, which was finalized on December 29, 2012. It is unreasonable to interpret the restoration requirements in the 2012 Oil and Gas Act to require restoration of the well site to a different standard depending upon whether or not a restoration extension has been granted. The Department believes that the restoration requirements are appropriate. Subsection 78a.65(g) allows for the land surface not to be restored to approximate original conditions if consent is obtained from the landowner. It is the responsibility of the landowner to secure any necessary permit(s) for earthmoving activities left by the Operator on their property that do not meet the minimum requirements of meadow in good condition, such as acquiring an NPDES Permit for Discharge of Stormwater from Construction Activities.

1660. Comment: **76a.65(g)** Written consent of the landowner should not provide grounds for the operator to not comply with restoration plans. Incentives provided to the landowner may put other neighboring properties and resources at risk. (161)

Response: Subsection 78a.65(g) allows for the land surface not to be restored to approximate original conditions if consent is obtained from the landowner. The operator must still comply with the other portions of the restoration requirements. The Department believes that it is appropriate to include this provision to allow landowner to have input into

what is done with their property while still maintaining appropriate environmental controls.

1661. Comment: § 78a.65 (g) The commentator's suggested amendatory language:

a. Site Restoration Plan

Site restoration plan – meets the requirements of 25 Pa. Code Chapter 102 sections 102.8(b), (c), (e), (f), (h), (i), (l) and (m), if applicable, and Section 3216 of Act 13. The plan addresses interim site restoration required after completion of drilling and final restoration of the well site after all wells have been plugged.

Each restoration phase of the plan shall provide for:

- i. The timely removal or fill of all pits used to contain produced fluids or residual wastes;
- ii. The removal of all drilling supplies and equipment not needed for production, including containment systems; and
- iii. Site appropriate BMPs including a BMP which minimizes accelerated erosion and sedimentation, and other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law.

b. General

(1) The owner or operator shall restore the land surface within the area disturbed during siting, drilling, completing and producing a well.

(2) A drill hole or bore hole used to facilitate the drilling of a well shall be filled with cement, soil, uncontaminated drill cuttings or other earthen material before moving the drilling equipment from the well site.

(3) If a well site is constructed and a well is not drilled, the well site shall be restored within 30 calendar days after the expiration of the well permit unless the Department approves an extension in accordance with Section 3216(g) of the Act.

c. Site Restoration Implementation

(1) An area is restored under this subsection if the following are met:

- i. All PCSM BMPs identified in the site restoration plan are installed and properly maintained.
- ii. Remaining impervious areas are minimized, including areas where soil amendments have been added to harden the soil or are underlain with an impermeable liner.
- iii. Earth disturbance associated with oil and gas activities that are not included in an approved site restoration plan, and other remaining impervious surfaces, shall comply with applicable post construction stormwater management requirements in 25 Pa. Code Chapter 102.
- iv. The site is permanently stabilized according to 25 Pa. Code § 102.22(a).

d. Interim restoration after drilling

(1) Within nine (9) months after completion of a well, the owner or operator shall restore the well site according to the approved restoration plan. When multiple wells are drilled on a single well site, post-drilling restoration is required within nine months after completion of drilling all permitted wells on the well site or 30 days after the expiration of all existing well permits on the well site, whichever occurs later in time. Drilling supplies and equipment not needed for production may be stored on the well site when express written consent of the surface landowner is obtained and the supplies or equipment are maintained in accordance with § 78a.64a, where applicable.

e. Extension of site restoration period after drilling

(1) The restoration period may be extended by the Department for additional periods of time, not to exceed two years each, upon demonstration by the well owner or operator that:

- i. The extension will result in less earth disturbance, increased water reuse or more efficient development of the resources; or
- ii. Site restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

- (2) The demonstration under 78a.65(e)(1) shall:
- i. Be submitted within six (6) months after the completion of drilling for approval by the Department.
 - ii. Include a site restoration plan that provides for:
 - (A) the timely removal or fill of all pits used to contain produced fluids or industrial wastes;
 - (B) the removal of all drilling supplies and equipment not needed for production;
 - (C) the stabilization of the well site that shall include interim postconstruction storm water management best management practices; or
 - (D) other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law.
 - iii. Provide for returning the portions of the site not occupied by production facilities or equipment to approximate original contours and making them capable of supporting the uses that existed prior to drilling the well upon restoration.
- (3) Requests for extension that include the information described in (e)(2) above will be approved, denied, or deemed to be approved within 90 days of submission to the Department.
- f. Restoration after plugging all wells on well site
1. Within nine (9) months after plugging a well, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site according to the approved site restoration plan.
 2. Within sixty (60) days after restoration of the well site, the operator shall submit a well site restoration report to the Department. The report shall be made on forms provided by the Department and shall identify the following:
 - i. The date of land application of any topsoil water, the results of pH and specific conductance tests and an estimated volume of discharge.
 - ii. A description of the method used for disposal or reuse of the free liquid fraction of the waste, and the name of the hauler and disposal facility, if any.
 - iii. The location, including GPS coordinates, of the pit in relation to the well, the depth of the pit, the type and thickness of the material used for the pit subbase, the type and thickness of the pit liner, the type and nature of the waste, the type of an approved solidifier, a description of the pit closure procedures used and the pit dimensions.
 - iv. The location of the area used for land application of the waste, and the results of a chemical analysis of the waste soil mixture if requested by the Department.
 - v. The types and volumes of waste produced and the name and address of the waste disposal facility and waste hauler used to dispose of the waste.
 - vi. The name, qualifications and basis for determination that the bottom of a pit used for encapsulation is at least 20 inches above the seasonal high groundwater table.
 3. The well operator shall forward a copy of the well site restoration report to the surface landowner if the well operator disposes of drill cuttings or residual waste at the well site. (210)

Response: The proposed language is not consistent with the Department's interpretation of section 3216 of the 2012 Oil and Gas Act. Additionally, the proposed language for deemed approvals is not appropriate for restoration extension requests. See responses to comments 1608, 1609, 1611, 1612, 1622, 1642, 1645, 1646, and 1655.

§§ 78.66 and 78a.66 Reporting and remediating spills and releases

1662. Comment: 78a.66 Reporting of Spills and Releases – Requires Act 2 cleanup process and standards. We find the modified provisions are more respectful of our watershed. We are concerned that not every spill is handled in the same manner. We find requiring Act 2 cleanup will create standards that will protect our watershed and future land use. (171)

Response: The Department acknowledges the comment.

1663. Comment: Regarding spills:

I ask that every landowner in the affected drilling “unit” be notified of any and all liquid spills or releases, as well as any accidental or intentional releases of dangerous emissions into the air.
(194)

Response: It is the Department’s intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department’s eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department’s goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1664. Comment: 78a.66(a) Scope - The substances (regulated) must be expanded to those polluting or threatening air, land and water and consistent with (v) in the preceding section that includes water, soil or groundwater(161)

Response: 78a.66(b)(1)(i) specifically calls out spills that cause or threaten pollution to the waters of the Commonwealth because the provisions in 25 Pa. Code § 91.33 require notice to the Department in those situations. Paragraph (b)(1)(ii) addresses all other releases “not completely contained by a containment system.

1665. Comment: It appears that the Department is requiring O&G operators to enter into the Act 2 Program. It appears that the Department is not satisfied with the Chapter 250 requirement alone and is trying to incorporate more stringent requirements upon O&G operators. Again, why is the O&G industry being held to a different Act 2 process than everyone else?

On the Departments *Land Recycling Program's Transmittal Sheet for Plan/Report Submission*. (Act 2 reports), there is no box to check for Site Characterization Reports, for Remedial Action Plans or for Remedial Action Progress Reports.

This clearly illustrates that the Department is singling out the oil and gas industry and requiring that they go above and beyond the normal requirements of the Act 2 program.

By doing so the Department adds additional requirements that no other industry that enters the Act 2 Program must follow and this causes a needless burden and adds unnecessary costs to the operator. (333)

Response: Act 2 provides a procedure to remediate and receive relief of environmental liability relating to a release of a regulated substance addressed under various environmental statutes, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

1666. Comment: Section 78.66 (a) This section does not include notification for areas that may be located outside of the ‘on or adjacent to the well site or access roads’. If a release occurs and remediation work is required for the release along the pipeline(s) right of way, in-route to or from the well site, on the road to or from the well site, etc. PROPER and PROMPT notification should include the local municipality, local 911 operations, and private and public water well owners within 1000 feet of the release to protect the environment, health and safety of the Commonwealth of PA. (9)

Response: It is the Department’s intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department’s eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department’s goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1667. Comment: §78a.66 Reporting and Remediation Spills and Releases

The Department has proposed to add the word “Spills” to the heading of the section for which there is no justifiable reason. The term ‘spill’ is undefined in any of Pennsylvania's environmental statutes and/or regulations including those enabling or administering the Site Remediation Program, the Underground Storage Tank Program or the Land Recycling Program. Pennsylvania defines and uses the term ‘release’ and in some instances ‘discharge’ but has not and does not use the term ‘spill.’

The term ‘release’ is well-defined within the regulations such that it covers all potential discharge scenarios in a manner which has been tested and applied successfully and without contestation for decades. The term ‘spill’ is neither defined, nor proposed for definition in the Draft CH 78 regulations. It is also wholly absent from the text of Section 78a.66, in which the defined term ‘release’ is used consistently.

In the absence of any legal use of the term ‘spill’ in any relevant statute or regulation, and in the uniform usage of the term ‘release’ in preference to the term ‘spill,’ even in the context of the proposed CH 78 draft regulations, there is no apparent reason for including the term in the section heading. This is especially the case because the proposed regulations are intended to be integrated with remediation requirements as established in the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) which uniformly applies the defined term ‘release’ to the exclusion of other synonymous terms.

The proposed insertion of the undefined term ‘spill’ should be deleted from the final regulations. (308)

Response: The Department disagrees and has retained the language in the final-form rulemaking. As an initial matter, the Department notes that the term “spill” is used five times in the existing Chapter 78:

(1) § 78.1.

Reportable release of brine—Spilling, leaking, emitting, discharging, escaping or disposing of one of the following:”

(2) and (3) § 78.55(f)(5)(C)(IV) and (E)

(5) *Emergency response planning.*

(i) The operator of an unconventional well shall develop and implement an emergency response plan that provides for equipment, procedures, training and documentation to properly respond to emergencies that threaten human health and safety for each well site. The plan shall incorporate National Incident Management System planning standards, including the use of the Incident Command System, Incident Action Planning and Common Communications Plans. The plan must include:

*** * * * ***

(C) A description of the well site personnel’s response to the following well site emergencies:

*** * * * ***

(IV) Spill.

*** * * * ***

(E) A list containing the location of any fire suppression and spill control equipment maintained by the well operator at the well site.

(4) § 78.56(a)(2)

(a) Except as provided in §§ 78.60(b) and 78.61(b) (relating to discharge requirements; and disposal of drill cuttings), the operator shall contain polluttional substances and wastes from the drilling, altering, completing, recompleting, servicing and plugging the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit, tank or series of pits and tanks. The operator shall install or construct and maintain the pit, tank or series of pits and tanks in accordance with the following requirements:

*** * * * ***

(2) A pit shall be designed, constructed and maintained so that at least 2 feet of freeboard remain at all times. If open tanks are used, the tanks shall be maintained so that at least 2 feet of freeboard remain at all times unless the tank is provided with an overflow system to a standby tank or pit with sufficient volume to contain all excess fluid or waste. If an open standby tank is used, it shall be maintained with 2 feet of freeboard. If this subsection is violated, the operator immediately shall take the necessary measures to ensure the structural stability of the pit or tank, prevent spills and restore the 2 feet of freeboard.

(5) § 78.66(d)

(d) If, because of an accident, an amount of brine less than the reportable amount as described in § 78.1 (relating to definitions), spills, leaks or escapes, that incident does not have to be reported.

Second, the Federal Oil Pollution Act standards referenced in sections 78.64 and 78a.64 require the development of a “Spill Prevention, Control, and Countermeasure Plan.” (40 CFR § 112.3).

Further, the Department notes that the “Underground Storage Tank Program” noted in the comment is authorized under the Storage Tank and Spill Prevention Act. Although undefined, the term “spill” is used more than 40 times throughout the implementing regulations in 25 Pa.Code Chapter 245, including the definitions of “aboveground storage tank,” “containment structure or facility,” “release,” “spill prevention response plan,” “storage tank system,” “underground storage tank” and “upgrade” in § 245.1. Other sections where the term appears in the tank regulations include § 245.411, Inspection frequency, § 245.421. Performance standards for underground storage tank systems, § 245.431, Spill and overflow control, § 245.432, Operation and maintenance including corrosion protection, § 245.435, Reporting and recordkeeping, § 245.436, Operator training, § 245.512, Facility operations and spill response plan, § 245.513, Preventive maintenance and housekeeping requirements, § 245.542, Containment requirements for above-ground storage tank systems, § 245.603, General storage tank facility requirements and § 245.612, Performance and design standards.

Other programs’ regulations also use the term in similar contexts. For example, the Land Recycling Program’s regulation in § 250.9(c) (interaction with other environmental statutes) states:

An unpermitted release or spill of a regulated substance at a permitted solid waste facility that is outside a disposal or processing unit, including surface impoundments, waste storage areas, associated piping and underlying containment systems, shall be remediated in accordance with this chapter and the act.

The Waste Management Program’s regulations use the term in the definition of “disposal” of hazardous waste (§ 260a.10), municipal waste (§ 271.1) and residual waste (§ 287.1):

Disposal—The incineration, deposition, injection, dumping, spilling, leaking or placing of solid waste into or on the land or water in a manner that the solid waste or a constituent of the solid waste enters the environment, is emitted into the air or is discharged to the waters of this Commonwealth.

The term is also used in several places in 25 Pa.Code Chapter 287. Section 287.51(c) (scope) states:

(c) Sections 287.52—287.54 (relating to biennial report; source reduction strategy; and chemical analysis of waste) do not apply to the following:

* * * * *

(2) Persons or municipalities that create waste from a spill, release, fire, accident or other unplanned event.

* * * * *

Section 287.101(d) (general requirements for permit) states:

(d) The Department will not require a permit under this article for cleanup or other remediation at the site of a spill, release, fire, accident or other unplanned event, unless the site is part of a permit area for an active facility or the proposed permit area in an application. In requiring cleanup or other remediation at the site, the Department may require compliance with only those provisions of this article that the Department determines necessary to protect human health, safety, welfare and the environment.

Section 287.103(a) (emergency disposal or processing) states:

(a) Notwithstanding any provision of this article or a term or condition of a permit for a solid waste processing or disposal facility, the Department may allow the prompt disposal or processing of waste at a permitted facility if the following are met:

(1) The waste was created, spilled or released during or as a result of an emergency. For purposes of this section, the term “emergency” means a fire, spill, accident or other sudden and unplanned event that harms or threatens public health and safety, public welfare, the environment or causes or threatens to cause personal injury. The term does not include increases in concentrations of contaminants in groundwater from background levels from a solid waste management facility, materials storage tank or similar source.

Finally, in the Department guidance titled “Guidelines for the Development and Implementation of Environmental Emergency Response Plans” No. 400-2200-001, the term “spill” is ubiquitous. Although not a comprehensive listing, several examples of the use of the term in the guidance are illustrative. For example, the guidance notes that the hazards to be addressed under a Preparedness, Prevention and Contingency Plan (PPC plan) include:

Container leaks, ruptures, spills, floods, power failures, mechanical failure, human error, strikes, vandalism

The PPC plan must also include:

“Study of past incidents, training, preventive maintenance, housekeeping, security, backup equipment, internal, external communicator, spill containment, drainage controls, inspections.”

The guidance further suggests that PPC plans should include a drawing showing features of the site including “High risk areas where spills and leaks most likely would occur” and “Drains, pipes, and channels which lead away from potential leak or spill areas.”

The PPC plan should also include a material and waste inventory that includes:

Detailed descriptions must be available for materials that have a high potential for spills, discharges, explosions, or fires (such as those stored in bulk storage). Materials that have a low potential for spills, discharges, explosions, or fires (such as those used and stored in small quantities in a laboratory) should be minimally detailed.

This information should be used to evaluate the prevention, containment, mitigation, cleanup, and disposal measures which would be used in the event of a spill, discharge, explosion, or fire. As new materials are added to the list, their pollution potential should be evaluated.

Another important element of a competent PPC plan is a pollution incident history, which includes:

List the previous pollution incidents, the date, the material or waste spilled, approximate amount spilled, environmental damage, and action taken to prevent a recurrence.

An important criteria in determining the effectiveness of the plan and its implementation is the history of incidents at the installation. A history of no incidents suggest that the practices and procedures at the site are effective. For a site with a history of incidents, it is important to investigate the reasons for the spills and the response of the company in minimizing the potential for their recurrence.

The organizational structure section of a valid PPC plan should include:

The main duties and responsibilities of the preparedness-response organizational structure should include identification of materials and wastes handled (materials inventory), identification of potential spill sources (risk assessment), establishment of spill-reporting procedures, visual inspection programs review of past incidents and spills, and countermeasures utilized. In addition, the preparedness-response organizational structure should be responsible for coordination needed to implement the goals of the plan, coordination of the activities for spill cleanup, notification of authorities and establishment of training and educational programs for installation personnel.

Under chain of command, the PPC plan should:

Provide an internal list, by position, of key employees that must be contacted in the event of an emergency or spill.

List the positions, office telephone extensions, and home phone numbers (if applicable) of key employees, in the order of responsibility that would be contacted in the event of an emergency or spill.

Operators are currently required to prepare PPC plans by both § 78.55(a) and § 91.34.

1668. Comment: Section 78.66 -Reporting and remediating spills and releases

This section requires that the operator that experiences a spill or release enter the Act 2 Land Recycling Program for remediation. The objection here is that the Department is taking a voluntary program created to encourage the reuse of blighted lands and making it mandatory for oil and gas operators. In addition, this section imposes time lines for specific actions that do not exist in the Act 2 program. This is a gross misuse of the program. (306, 335, 343)

Response: Act 2 has both voluntary and involuntary aspects. The Land Recycling Program relies, in large measure, on voluntary, remediator-initiated cleanups that have been and will continue to be encouraged by the Department.

Act 2 establishes “cleanup standards” for persons who remediate contaminated soil and groundwater caused by regulated substances released into the environment as defined under various environmental laws. These standards apply when persons either voluntarily perform or are required to perform remediation of soils and groundwater.

Section 106(a) of Act 2 states that, “The environmental remediation standards established under this act shall be used whenever site remediation is voluntarily conducted or is required under” the referenced environmental laws, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the

Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

Section 106(b) of Act 2 states; “Nothing in this act is intended to nor shall it be construed to amend, modify, repeal or otherwise alter any provision of any act cited in this section relating to civil and criminal penalties or enforcement actions and remedies available to the department or in any way to amend, modify, repeal or alter the authority of the department to take appropriate civil and criminal action under these statutes.” 35 P.S. § 6026.106(b). Thus, Act 2 contemplates that the Department may require (e.g., by issuance of a DEP Order) responsible persons to meet an Act 2 remediation standard. The Department has issued many such Orders since the adoption of Act 2.

As for the established time frames in sections 78.66 and 78a.66, it is both reasonable and appropriate to require operators to carry out remedial actions promptly and not let contamination linger in the environment. The timeframes established in the final rulemaking are modeled on the timeframes established for corrective actions for releases from storage tanks in 25 Pa.Code Chapter 245. The storage tank corrective action process was established in 1993 and has been used successfully for thousands of storage tank cleanups, both before and after the passage of Act 2 in 1995. The tank regulations were updated in 2001 to harmonize the regulations with Act 2 and the Act 2 implementing regulations in 25 Pa.Code Chapter 250. These timeframes are appropriate and have built-in flexibility to address the unique considerations posed by each remedial site. Finally, the Department notes that the timeframes establish requirements for the steps that will lead to completion of the corrective action but do not establish a timeframe by which demonstration of attainment of an Act 2 standard must be made. The Department recognizes that each site poses unique challenges and a one-size-fits-all completion date requirement is not appropriate.

1669. Comment: 78.66 - This section also establishes unrealistic reportable quantities for a brine release. Any release of 5 gallons or more must be reported to the Department. This volume is more stringent than most listed hazardous wastes. This certainly holds the industry to a higher standard than all other industries which utilize the Act 2 program. This will lead to excessive costs without a corresponding environmental benefit. A threshold value of 42 gallons is proposed to require entry into the “voluntary” Act 2 program. (306, 335, 343)

Response: The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

1670. Comment: Require industry to report all accidents, violations, and environmental damage to the proper state agencies and hold industry responsible for all damage to water supplies, property, air, and health. (13)

Response: The Department acknowledges the comment.

1671. Comment: 78a.66(b). DEP should require that the operator also notify water agencies and providers and water users downstream and in areas that could be affected by the pollution release.

DEP should require that the operator also alert the Fish and Boat Commission as well as the local municipality, in addition to the DEP. It is important that the Fish and Boat Commission be alerted as many wells are located in remote areas where trout waters may be the impacted or receiving water body or where wetlands with endangered species may be located. Class A or wild trout waters are prevalent in areas where drilling is occurring.

The local municipality should also be made aware as they may have local knowledge about the area or be able to deploy hazardous teams on site to watchdog any cleanup efforts by the company. Nearby property owners, downstream residents and the property owner where the well is drilled must also be made aware. This is critical to protecting public health.

Local volunteer monitors and watchdogs such as Trout Unlimited and other water monitoring programs such as Delaware Riverkeeper Network and ALARM, often are the first line of defense when it comes to pollution events. They know where to access nearby streams and can be a tremendous resource to DEP staff on the ground; this could be accomplished through an emergency system that alerts local volunteers through a cooperative warning system. Local fire companies and health officials should also be notified so that they have a record of incidents occurring in their local region that is readily available.

Having this tiered approach that puts the onus of alerting local, county, and state officials on the responsible party is critical. The company's emergency response plan or SICC plan should include all these contact names and numbers listed above and a notification system should be organized to assure all potentially affected and helpful parties are alerted in case of a spill, pollution incident, or catastrophic event. (182)

Response: It is the Department's intention to have an electronic spill and release reporting and tracking system available for the public and entities such as the Pennsylvania Fish and Boat Commission to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department's eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department's goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1672. Comment: 78a.66(b)(1) Reports should be sent regarding the release of any pollutional substance – not just a “regulated substance.” (161)

Response: This section of the final rulemaking only addresses hazards created through spills or releases of regulated substances. Other hazards are addressed through other sections of the regulations (for example, sections 78.55 and 78.73).

1673. Comment: 78a.66(b)(1)(ii) Sections 78a.66(b)(1) above and (2) below create a two-tiered release reporting system for the oil and gas industry that is unique to this industry. As stated above, the oil and gas industry is already subject to the requirements for reporting releases pursuant to 25 Pa. Code § 91.33 that apply to all other regulated entities in Pennsylvania, as well as the numerous federal reporting requirements under CERCLA (40 C.F.R. 302), CWA (40 C.F.R. 112), and EPCRA (40 C.F.R. 355) that provide specified reportable quantity thresholds.

In addition to the requirements of Section 91.33, Section 78a.66(b)(1) as currently proposed would impose an obligation to report any spill or release of 5 gallons or more of a regulated

substance over a 24-hour period that is not completely contained by a containment system. This reporting obligation applies regardless of whether there is any actual or threatened impact to waters of the Commonwealth or any other impact to the environment or to public health or safety. Assuming that PADEP has proposed this section to replace the current “reportable release of brine” provision, we recommend that this additional requirement be clarified and limited to reporting releases of 5 gallons or more of brine outside of containment.

The reporting framework that exists under Pennsylvania law for every other industry has worked well. There is nothing sufficiently unique in this regard about the oil and gas industry that warrants a separate and significantly more onerous approach to reporting for the oil and gas industry in comparison with all other elements of the regulated community.

Suggested amendatory language:

(b) Reporting releases -

(1) An operator or responsible party shall report the following spills and releases to the Department in accordance with paragraph (2):

- (i) A spill or release resulting in or causing a danger of pollution of the waters of this Commonwealth as required by § 91.33 (relating to incidents causing or threatening pollution); or
- (ii) A spill or release of 5 gallons or more of brine over a 24-hour period that is not completely contained by a containment system. (210)

Response: The Department disagrees with the suggested regulatory language. The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

1674. Comment: § 78a.66 (b)(1)(ii) - The language is ambiguous and should be amended to state that reporting should be made only if greater than 5 gallons was released outside containment. (187, 209)

Response: Section 78.66(b) only requires reporting of a spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system, or spills or releases causing or threatening pollution of the waters of the Commonwealth.

1675. Comment: 78.66(b)(1)(ii) A spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system.

See issue with “primary containment” and “secondary containment” definitions.

Commentator’s suggested amendatory language:

- (ii) A spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by secondary containment. (115)

Response: The Department has revised Chapters 78 and 78a to clarify and homogenize the meaning of the terms identified by the commenter including addition of definitions for primary and secondary containment and deletion of the definition previously proposed for containment system.

1676. Comment: 78a.66(b.1.ii). Because drilling companies have tremendous resources and multiple staff available to them, it seems that an immediate call to the DEP would be appropriate and possible, rather than allowing a two hour window of time. DEP should require a faster call up time than what is stated in the proposed regulations. DEP regional staff may be a few hours away and they should have as much lead time as possible to be able to deploy and investigate the site. DEP should require an immediate or close to immediate call to DEP staff.

Rather than a 5 gallon threshold for reporting a spill, any amount of a pollutant spilled should be reported. Many of the chemicals being handled at the well site are highly toxic in minute amounts. The spill of concentrated chemicals or concentrated solids could have much greater impacts than a diluted or less toxic substance. According to the EPA, one gallon of motor oil can contaminate one million gallons of water— that’s a years’ supply of freshwater for 50 people. So any substance of any size that is spilled should be accounted for, cleaned up and reported. A spill of any size, because of the nature of the chemicals used in gas drilling and the abundance of drilling that occurs, must be reported so that tracking and accounting can occur for the large spills as well as the small spills that cumulatively can make a large impact. This information must be put on record so that the community and the state can track and see where potential contamination has occurred and where industry practices may need more oversight. DEP should change this section to require the reporting of a spill of any size.

Testing upstream and downstream of the spill or in the soil layers should also be required to ensure adequate remediation. (182)

Response: The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

1677. Comment: 78a.66(b)(1)(ii) “Pollutional” should be substituted for regulated throughout this section. (161)

Response: The Department believes that the term “regulated substances” is broad enough to cover the commentator’s concerns. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty, unlike the undefined term “pollutional substances”.

1678. Comment: 78a.66(b)(1)(ii) The 5 gallon limit for a release may need to be modified depending on the nature of the substance released. In some cases, a few drops of certain chemicals can pollute a significant water source. (161)

Response: The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

1679. Comment: 78a.66(b)(2) The avenues for notifying the Department are inconsistent and unreliable, primarily for after-normal-business-hours incidents. The calls are answered, but the information is not always relayed in a dependable manner. It seems that an additional electronic avenue for reporting releases is warranted, especially given the fact that the Department seems to favor the electronic submission of all data. If operators or responsible parties were able to enter the information electronically, the data would be more accurate. The Department could still review the submissions in real time, forward the reports to the appropriate parties within the Department, or to the Emergency Response Team after-hours.

With respect to deletion of the telephone number, the commentator has concerns as to where its members should go to find the correct phone number for reporting. The phone number should be posted in a clear and easily accessible location by the Department. (211)

Response: It is the Department’s intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department’s eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department’s goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1680. Comment: § 78a.66(b)(2) and § 78.66(b)(2) -The commenter asks that the Department's statewide toll free answering center notify the NPS via our emergency contacts directly if lands or waters owned or managed by the NPS are potentially affected so that staff or visitors can be immediately notified of any hazards and federal cleanup actions could be initiated as soon as possible. (200)

Response: It is the Department’s intention to have an electronic spill and release reporting and tracking system available for the public and entities such as the National Park Service to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department’s eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department’s goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1681. Comment: 78a.66(b)(2)(vi) Replace the word regulated with polluttional. (161)

Response: The Department believes that the term “regulated substances” is broad enough to cover the commentator’s concerns. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty, unlike the undefined term “polluttional substances”.

1682. Comment: § 78a.66 (b)(2)(vii) - As this section is related to the reporting of environmental releases it is unclear the appropriateness of the provision to “report the nature of any injuries”. This language should be removed as injuries are regulated by other governing bodies. (187, 209, 306)

Response: The final rulemaking for subsection 78a.66(b)(2) is to serve as guidance for the responsible party to provide enough information, to the extent known, necessary for the Department to properly assess the reported spill incident, so the appropriate initial response can be employed by the Department.

1683. Comment: 78a.66(b)(2)(viii) The proposed reporting obligation requires a description of “contamination” and an estimated weight or volume of “each regulated substance” spilled or released, which create an ambiguous and often impractical requirement to estimate impacts and constituents of spilled substances.

The commentator’s suggested amendatory language:

(2) In addition to the notification requirements of 25 Pa. Code § 91.33, the operator or responsible party shall contact the appropriate regional Department office by telephone or call the Department’s statewide toll free number 1-800-541-2050 as soon as practicable, but no later than 2 hours after discovering the spill or release. In the alternative, notice can be provided to the Department through its website. To the extent known, the following information shall be provided:

- i. The name of the person reporting the incident and telephone number where that person can be reached.
- ii. The name, address and telephone number of the responsible party.
- iii. The date and time of the incident or when it was discovered.
- iv. The location of the incident, including directions to the site, GPS coordinates or the 911 address, if available.
- v.
- vi. A brief description of the nature of the incident and its cause, what potential impacts to public health and safety or the environment may exist, including any available information concerning impacts to surface water, groundwater or soil.
- vii. The estimated weight or volume of the substance spilled or released.
- viii. The nature of any injuries.
- ix. Remedial actions planned, initiated or completed. (210)

Response: The final rulemaking for subsection 78a.66(b)(2) is to serve as guidance for the responsible party to provide enough information, to the extent known, necessary for the Department to properly assess the reported spill incident, so the appropriate initial response can be employed by the Department.

1684. Comment: 78a.66(b)(2)(viii) This section requires necessary corrective actions that are to be taken following a spill or release. The provisions of this section are phrased as broad objectives to be achieved, and would potentially create liability where factors beyond the control of the operator prevent the attainment of the listed goals. In addition, the requirement to prevent damage to property is vague and unduly broad.

The commentator’s suggested amendatory language:

(3) Upon the occurrence of any spill or release, the operator or responsible party shall take appropriate action to:

- (i) Prevent the substance from reaching the waters of the Commonwealth.
- (ii) Prevent damage to property.
- (iii) Prevent impacts to downstream users of waters of the Commonwealth. (210)

Response: Prevention of pollution to waters of the Commonwealth; prevention of damage to property and prevention of impacts to downstream users of waters of the Commonwealth is the goal to be attained and operators may be held liable if said goal is not met.

1685. Comment: 78a.66(b)(3)(i) Replace the word regulated with polluttional. (161)

Response: The Department believes that the term “regulated substances” is broad enough to cover the commentator’s concerns. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty, unlike the undefined term “polluttional substances”.

1686. Comment: Commentator strongly supports the proposed addition of (b)(4), which mandates the testing of water supplies that are threatened by a spill or release of a regulated substance. This testing is important to ensure the welfare of individuals who rely on water supplies that may be adversely affected by drilling. (231, 231a)

Response: The Department acknowledges the comment.

1687. Comment: § 78a.66 (b)(4) - The language in this section to sample water supplies “for which there is a potential for pollution” is overly broad without a process as to how pollution or a potential for pollution is to be determined. This language should be removed and replaced with “water supplies will be sampled if it can be reasonably shown that the potential for impact exists based on hydrogeology and sound scientific practices.” (187, 209)

Response: This language is consistent with the Department’s authority under Section 402 of the Clean Streams Law. In this instance, a spill or release of a regulated substance that is not completely contained by secondary containment could threaten a water supply because the uncontained substance could be transported by outside forces acting upon it; gravity, precipitation, etc.

1688. Comment: Section 78.66(b)(4)-Reporting and remediating spills and releases
This section should be revised to read “ ... sample water supplies that have been polluted or for which there is a **likelihood** ~~potential~~ of pollution ...” The “potential for pollution” for any spill is a subjective term. However, following successful remediation activities, there should be no likelihood of pollution of water supplies - especially if and where remediation involves removal of source material and confirmation that the area meets Act 2 cleanup levels (if required). Talisman suggests that the term “potential for pollution” be determined by a governmental agency prior to requiring that water supplies be sampled following a spill or release. (222)

Response: This language is consistent with the Department’s authority under Section 402 of the Clean Streams Law. In this instance, a spill or release of a regulated substance that is not completely contained by secondary containment could threaten a water supply because

the uncontained substance could be transported by outside forces acting upon it; gravity, precipitation, etc.

1689. Comment: 78a.66(c) Remediating releases. Timely testing must be done to determine the level of contamination as a requirement pre and post remediation efforts and periodically thereafter to determine the quantity and nature of the spill/release as well as how the incident was remediated. (161)

Response: The Department acknowledges the comment and agrees.

1690. Comment: 78a.66(c)(1)The volume of releases or spills should be dependent on the nature of the substance not solely on the quantity. To err on the side of caution would be to reduce the minimum to 20 gallons on the well pad. (161)

Response: The Department disagrees, and notes that the regulation does not allow operators to escape the requirement to remediate the release and demonstrate attainment with applicable Act 2 statewide health standards. This form of cleanup is only available where there is 1) a relatively small spill or release, 2) the contamination can be removed by excavation of contaminated soils and 3) there is no pollution or threat of pollution to the waters of the Commonwealth. If any of these three conditions are not present, the operator must follow the more detailed processes. The rulemaking strikes an appropriate balance between the risk posed by the spill or release and the process needed to document the completion of the remediation.

1691. Comment:78.66(c)(2) - The operator must enter into the Act 2 Program (Chapter 250 regulations) and demonstrate attainment of one or more of the standards. The Department goes above and beyond the Chapter 250 or Act 2 regulations. These additional requirements causes a needless burden and adds needless costs to the operator. (333)

Response: Act 2 provides a procedure to remediate and receive relief of environmental liability relating to a release of a regulated substance addressed under various environmental statutes, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

1692. Comment: 78a.66(c)(2)The volume of releases to the ground should be minimally 20 gallons given the potential to pollute the waters of the Commonwealth. (161)

Response: The Department disagrees, and notes that the regulation does not allow operators to escape the requirement to remediate the release and demonstrate attainment with applicable Act 2 statewide health standards. This form of cleanup is only available where there is 1) a relatively small spill or release, 2) the contamination can be removed by excavation of contaminated soils and 3) there is no pollution or threat of pollution to the waters of the Commonwealth. If any of these three conditions are not present, the operator must follow the more detailed processes. The rulemaking strikes an appropriate balance between the risk posed by the spill or release and the process needed to document the completion of the remediation.

1693. Comment: § 78a.66 (c)(2) - The language that the operator or other responsible party must demonstrate attainment of the standards referenced under Act 2 is overly prescriptive and does not take into account other programs, such as Clean Streams, may be more appropriate and ensure protection of the environment. This language should be removed and remanded back to “may satisfy the requirements of the subsection by demonstrating attainment of one or more of the standards established under Act 2 and Chapter 250.” (187, 209)

Response: Act 2 provides a procedure to remediate and receive relief of environmental liability relating to a release of a regulated substance addressed under various environmental statutes, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

1694. Comment: 78a.66(c)(2)(i)(A) Replace the word regulated to polluttional. (161)

Response: The Department believes that the term “regulated substances” is broad enough to cover the commentator’s concerns. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty, unlike the undefined term “polluttional substances”.

1695. Comment: § 78a.66 (c)(2)(i)(D) - The reference to “threatened pollution” of water supplies is overly broad without a process as to how threatened pollution is to be determined. This language should be removed. (187, 209)

Response: This language is consistent with the Department’s authority under Section 402 of the Clean Streams Law. In this instance, a spill or release of a regulated substance that is not completely contained by secondary containment could threaten a water supply because the uncontained substance could be transported by outside forces acting upon it; gravity, precipitation, etc.

1696. Comment: 78a.66(c)(2)(ii) and (iii) Timelines should be reduced to 5 business days from the time of discovery and the report should be submitted within 120 calendar days. (161)

Response: Fifteen business days is a reasonable amount of time allowed for an operator to accurately compile all of the information required for the initial report. 180 days is a standard period of time for conducting site characterizations, which can be extremely complex, and may require several rounds of soil and groundwater sampling and the requisite analysis (which in and of itself can be time-consuming). The 180-day standard for site characterization has been successfully applied to thousands of storage tank cleanups since 1993 (see 25 Pa.Code § 245.310(a)).

1697. Comment: **78.66(c)(2)(iii)** – Chapter 250 or Act 2 has no provision that site characterization be completed within 180 days, why is this imposed on the O&G industry, alone? No other industry that enters into the Act 2 Program is subject to this requirement. (333)

Response: As for the established time frames in sections 78.66 and 78a.66, it is both reasonable and appropriate to require operators to carry out remedial actions promptly and not let contamination linger in the environment. The timeframes established in the final rulemaking are modeled on the timeframes established for corrective actions for releases from storage tanks in 25 Pa.Code Chapter 245. The storage tank corrective action process was established in 1993 and has been used successfully for thousands of storage tank cleanups, both before and after the passage of Act 2 in 1995. The tank regulations were updated in 2001 to harmonize the regulations with Act 2 and the Act 2 implementing regulations in 25 Pa.Code Chapter 250. These timeframes are appropriate and have built-in flexibility to address the unique considerations posed by each remedial site. Finally, the Department notes that the timeframes establish requirements for the steps that will lead to completion of the corrective action but do not establish a timeframe by which demonstration of attainment of an Act 2 standard must be made. The Department recognizes that each site poses unique challenges and a one-size-fits-all completion date requirement is not appropriate.

Act 2 has both voluntary and involuntary aspects. The Land Recycling Program relies, in large measure, on voluntary, remediation cleanups that have been and will continue to be encouraged by the Department.

Act 2 establishes “cleanup standards” for persons who remediate contaminated soil and groundwater caused by regulated substances released into the environment as defined under various environmental laws. These standards apply when persons either voluntarily perform or are required to perform remediation of soils and groundwater.

Section 106(a) of Act 2 states that, “The environmental remediation standards established under this act shall be used whenever site remediation is voluntarily conducted or is required under” the referenced environmental laws, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

Section 106(b) of Act 2 states; “Nothing in this act is intended to nor shall it be construed to amend, modify, repeal or otherwise alter any provision of any act cited in this section relating to civil and criminal penalties or enforcement actions and remedies available to the department or in any way to amend, modify, repeal or alter the authority of the department to take appropriate civil and criminal action under these statutes.” 35 P.S. § 6026.106(b). Thus, Act 2 contemplates that the Department may require (e.g., by issuance of a DEP Order) responsible persons to meet an Act 2 remediation standard. The Department has issued many such Orders since the adoption of Act 2.

1698. Comment: § 78a.66 (c)(2)(ii – v) - The schedule provided in this section is not consistent with Act 2 and should be amended to follow that set forth in Chapter 250. Additionally, while similar, the language presented here regarding a “remedial action plan” be submitted is applicable to Chapter 245; this should be corrected to reference “cleanup plan” required in Chapter 250. (187, 209)

Response: The Department acknowledges that several of these conditions may be more burdensome than the requirements under Act 2 but the choice of how to approach these remedial situations lies with the responsible person and not the Department.

In addition, the conditions outlined are largely modeled on the Department's storage tank Corrective Action Process regulations in 25 Pa. Code Chapter 245, Subchapter D (relating to corrective action process for owners and operators of storage tanks and storage tank facilities and other responsible parties). Thousands of storage tank cleanups have been completed using this process since the regulations were enacted in 1993.

1699. Comment: Commentator supports the striking of the second sentence of § 78.66(c)(2)(iv) [formerly § 78.66(c)(3)(iv)], which had seemed to exempt the party responsible for a release from portions of Act 2's notice and review provisions. Although some remedial actions may be exempt from certain of Act 2's notice and review requirements if they are completed within 90 days of release (See Act 2, sections 302(e)(4) and 303(h)(4)), it does not appear that the exemption contained in subsection (c)(3)(iv) was so limited. We are not aware of any provision in Act 13 or any other statute that would allow for the waiver of Act 2's notice and review requirements. Without such authority, the Department is right to strike the second sentence of subsection (c)(2)(iv). (231, 231a)

Response: The Department acknowledges the comment.

1700. Comment: 78.66(c)(2)(v)... within 45 days submit a Remedial Action Plan per Chapter 245.311(a). The Chapter 245 regulations are the regulations that apply to regulated aboveground or underground storage tanks.

Chapter 250 or Act 2 has no provisions that a Remedial Action Plan be submitted within 45 days of submittal of a Site Characterization Report.

In fact, within the Act 2 program, one can submit the Notice of Intent to Remediate, entering a site into the Act 2 Program and the next report that could be submitted to the Department is the final report. Again, why is the O&G industry being held to a different Act 2 process than everyone else that enters into the program?

Chapter 245.311(a)(7)(i) Scheduling. This requires a schedule that includes initiation and completion dates. Chapter 250 or Act 2 requires no time frame commitments, you can work at your own pace and when the project is completed you submit your final report. Again, why is the O&G industry being held to a different Act 2 process than everyone else? (333)

Response: Regarding the process for spill remediation, see response to comment 1697.

1701. Comment: 78a.66(c)(2)(v) If the remediation is not sufficient, a plan should be produced within 30 calendar days to the Department. (161)

Response: Forty-five calendar days is a reasonable amount of time allowed for an operator to develop and submit a remedial action plan.

1702. Comment: **78.66(c)(2)(vi)** – There is no Chapter 250 or Act 2 provision for the submittal of quarterly Remedial Action Progress Reports. Again, why is the O&G industry being held to a different Act 2 process than everyone else? (333)

Response: Regarding the process for spill remediation, see response to comment 1697.

1703. Comment: **78a.66(c)(2)(vi) and 78.66(c)(2)(vi)** – Commenter submits that this proposed rule should be modified to provide a timeline within which the DEP regional office will issue its approval of the final report. Commenter suggests 30 days is a reasonable time for DEP to review/approve the final report. (190)

Response: The Department disagrees that it is necessary or appropriate to include a timeline within which the Department will act on a final report in the final rulemaking. If determined to be necessary, the Department will establish review timeframe goals through policy or technical guidance.

1704. Comment: 78a.66(c)(2)(vi) Progress reports should be submitted every 30 days following the date of the remedial action plan implementation to the Department to determine its effectiveness. (161)

Response: The Department does not agree that it is necessary or appropriate to require progress reports every thirty days following the date of the remedial action plan implementation to the Department. The final rulemaking requires a remedial action progress report to be submitted to the Department three months following the remedial action plan implementation. This requirement is appropriate to ensure that implementation of the remedial action plan is progressing.

1705. Comment: Commentator supports the elimination of an “alternative” means for remediating pollution events, previously contained in (c)(3). (231, 231a)

Response: The Department acknowledges the comment.

1706. Comment: Reporting and remediating releases (78.66 and 78a.66) – the Department issued the Oil and Gas Spill Policy in September 2013. While there are still consistency issues, I feel the Department was heading in the right direction in 2014 to give some clarity to the policy regarding necessary testing parameters and procedures to operators and to the Department’s in-house staff members to ensure consistent understanding of the necessary measures. However, it appears that the Department will likely dismantle the current program and require all operators that experience a spill or release to enter the “voluntary” Act 2 program. In addition, as part of this proposed regulation, the Department has created submittal timeframes for oil/gas operators within this section that are not found in any current part of the Act 2 program. This certainly holds the industry to a higher standard than all other industries, which utilize the Act 2 program. Existing law fully addresses spills by this industry or any other and if consistency is still needed, revision of the policy, not the regulation, is the appropriate avenue. (150, 169, 227)

Response: Regarding the process for spill remediation, see response to comment 1697.

1707. Comment: REGARDING 78a.66 –REPORTING AND REMEDIATING SPILLS AND RELEASES - Commenter supports a change in the language of this proposed rule, one which expands the notification requirements to landowners. In order to protect their livestock, agricultural products, pets, and family, Commenter contends that landowners and neighbors on adjoining properties have a right to be informed of any and all spills and releases that occur. As the regulation is currently written, any spill less than 42 gallons need not be reported. Commenter believes a majority of property owners would want to be informed of a 41-gallon spill of frack fluid, drill cuttings, diesel fuel, hydrochloric acid, or any number of the hundreds of chemicals

and potentially hazardous substances involved in oil and gas operations. There is both subjectivity and uncertainty in the regulation as written. The industry is left to deem whether or not a spill or release “causes or threatens pollution to the waters of the commonwealth”. That determination is best left to DEP. Regulate in favor of the landowner and his neighbors - broaden the language to include notification to property owners and adjoining neighbors of any and all spills and releases. No exceptions. (176)

Response: It is the Department’s intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department’s eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department’s goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1708. Comment: §78a.66 We support the changes to this section, especially the restored and replaced water supplies. It is very important to provide adequate protection for water supplies. We strongly support the adoption of Act 2 requirements. Most of the areas where the gas development is occurring are green/virgin sites. The handling of spills and releases in conjunction with Act 2 is more respectful to our environment and will assist in preserving future land-use activities. Act 2 and these revisions provide better protection for the environment within our Region. We recommend the provisions be adopted. (172)

Response: The Department acknowledges the comment.

1709. Comment: Regarding emergencies:

I ask that gas and oil companies be required to establish and file with DEP a plan to notify neighboring residents in the event of a gas or oil operation public health emergency. (194)

Response: It is the Department’s intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department’s eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department’s goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1710. Comment: § 78.66 Spills and Releases

In September 2013, PADEP finalized a policy addressing spills on oil and gas well sites, including access roads. That document created a policy unique to the oil and gas industry, but could not impose new binding obligations beyond existing statutes and regulations. The policy includes references to mandatory provisions outside the policy and provides recommendations for reporting and remediation steps that would help operators “clearly protect themselves” from potential liability. See PADEP’s Comment and Response Document, September 2013, pp. 6, 9, 10, and 11.9 The stated purpose of the policy is to increase uniformity of handling spills on oil and gas well sites.

Relevant and applicable law, outside the policy, includes the Pennsylvania Clean Streams Law, 25 Pa. Code Chapter 91.33, 25 Pa. Code 78.66, and Pennsylvania's Land Recycling and Reclamation Act, Act 2. Pennsylvania Clean Streams Law, Act 2, and the reporting obligations under Section 91.33 fully provide for the reporting and cleanup of typical accidental spills that occur on conventional oil and gas well sites, which may include brine or oil spills. Under the existing provisions of section 78.66, conventional oil and gas operators are further required to report releases of brine, depending on the quantity spilled and the total dissolved solids in the brine. This provision addresses what may be unique to oil and gas operations, namely brine spills.

DEP has failed to state any need to revise section 78.66, and we are unaware of any such need. We strongly recommends that no revisions be made to this section of the rule for conventional operations. Neither brine nor oil presents a hazardous situation or significant threat to the environment or public health or safety in the course of typical conventional oil and gas operations that would justify revision. If conventional oil and gas operations present remediation challenges under existing law, PADEP should work to address those concerns with its existing authority and its vast arsenal of enforcement tools. We are unaware of any spills on conventional oil and gas operations that cannot be addressed under current law.

In fact, the situation of oil spills presents an excellent opportunity to develop small business alternatives as contemplated under the RRA. Spilled oil can and has been successfully remediated by measures far less intrusive and costly than the inflexible requirements spelled out in Act 2. For example, oil is lighter than water; a highly successful non-intrusive spill methodology is to contain the spill area by earthen berm, introduce freshwater, and “float” the oil so that it can be collected by vacuum truck. Another methodology discussed in our prior comments is bioremediation, a method specifically contemplated by other regulatory agencies. DEP has failed entirely to discuss any such alternatives.

Moreover, the Draft Final section 78.66 would increase the reporting and cleanup obligations beyond the 2013 Proposal through the elimination of the alternate method for spill cleanups that was developed under the 2013 Spill Policy. The Draft Final Rule would not only require full compliance with Act 2 for all spills, but would require operators to demonstrate Act 2 attainment through specific procedures with restrictive deadlines that are not found in Act 2. These additional requirements are virtually identical to the procedural requirements under the Storage Tank and Spill Prevention Act (“Tank Act”), from which oil and gas operations are generally exempt. By imposing Tank Act remediation procedures on spills of brines and oil, the proposed § 78.66 effectively eliminates the legislature's distinction between tanks used for oil and gas operations and regulated tanks storing gasoline or hazardous substances.

The Draft Final Rule would significantly broaden reporting obligations and require greater documentation, increased sampling, and more stringent restoration standards than are necessary or appropriate for conventional operations. These additional requirements would substantially increase the time and costs of addressing small spills on well sites, with little meaningful environmental benefit. Existing law provides standards for cleanups and enforcement authority where needed to protect public health, safety and the environment. Brine and oil accidental spills, which have occurred in the past and will occur in the future, can and should be addressed under existing law and policy.

All of the foregoing changes are proposed without the DEP having engaged in the proper procedural steps required under the RRA. As noted, the DEP failed to engage in any alternatives analysis. Similarly, the RRA requires a statement of needs, a consideration of the effectiveness of the current regulations, and what is, in effect, a cost-benefit analysis of the proposed regulation

relative to the harm being guarded against. These procedural details are discussed earlier and not repeated here. However, it is instructive to discuss the type of data that a proper cost-benefit analysis might have yielded.

The brine water produced in Pennsylvania's conventional operations is trapped from ancient oceans. It is similar to brine manufactured by Penn DOT for spreading on roads in winter. It weighs about 9 pounds per gallon. The proposed regulations require reporting for 5 gallons or more and would require Act 2 cleanup for 42 gallons or more.

Under EPA guidelines, there are over 700 hazardous materials that have a higher reportable quantity than Pennsylvania's produced brine. For example, Ammonia, Hydrogen Sulfide, and Phosphine are all toxic and may be fatal if inhaled. In fact, the latter two materials require self-contained breathing apparatus for cleanup. The reportable spill quantity for all three is 100 pounds.

A data-driven discussion would allow the relative dangers of these materials and brine to be quantified. A data-driven discussion would also account for the amount of sodium and calcium chloride contained in brine water. Some brine is nearly freshwater. For the majority of the conventional industry's existence, it was the practice to drain all brine water upon the ground, and since 1859 billions of gallons of brine were so deposited. Where that water contained high amounts of sodium and calcium chloride, there were observable impacts including vegetation kills. That was not the case where the water was virtually fresh and, in all circumstances, the danger of brine is qualitatively different than materials such as Ammonia, Hydrogen Sulfide and Phosphine.

But by preparing regulations in a process that is not data driven, the DEP has arrived at requirements that involve extraordinary new cost (Act 2 cleanup mandates), without any measurement of the benefit yielded by that extraordinary cost. Similarly, the DEP has arrived at the mandate for such extraordinary costs without the necessary analysis of alternatives for small business or the consideration of whether the extraordinary cost is in balance with the statutory mandate of "optimal" development of the Commonwealth's oil and gas resources. These are fatal oversights that require the current proposal to be abandoned in favor of compliance with the rigor expected of agencies adopting new burdensome and highly expensive regulations. (212)

Response: Regarding the process for spill remediation, see response to comment 1697.

1711. Comment: I am pleased that the Reporting and Remediating of Spills and Releases section 66 requires a 2 hour notification of any spill over 5 gallons that might affect waterways. (165)

Response: The Department acknowledges the comment.

1712. Comment: What is the significance of 42 gallons in evaluating the dangers of any spillage to the environment? This seems arbitrary and capricious in designing a response strategy that is not risk based on the potential impacts of the hazard. Typical risk assessment protocol suggests first defining the hazard and the potential to cause harm rather than establishing a guideline based on what appears to be just a volume calculation. Historically spills are always under reported. Introducing 42 gallons as a benchmark measurement in the risk assessment process may just be inviting many spills to be under reported to avoid increased regulatory intervention. Would a 42-gallon spill of a carcinogen, such as benzene, be equal to a similar spill of brine? (157)

Response: The Department disagrees, and notes that the regulation does not allow operators to escape the requirement to remediate the release and demonstrate attainment with applicable Act 2 statewide health standards. This form of cleanup is only available where there is 1) a relatively small spill or release, 2) the contamination can be removed by excavation of contaminated soils and 3) there is no pollution or threat of pollution to the waters of the Commonwealth. If any of these three conditions are not present, the operator must follow the more detailed processes. The rulemaking strikes an appropriate balance between the risk posed by the spill or release and the process needed to document the completion of the remediation.

1713. Comment: In some cases 180 days to perform the risk characterization may actually be a short-term that would have to be administratively extended . However, the nature of the hazard and exposure may also require risk characterization to be completed in a more timely fashion to ensure adequate public health safeguards are achieved. For example, a release that has the potential to impact public drinking water or a recreational water source must be evaluated in a shorter timeframe than 180 days to provide adequate protection for public health. Also, does DEP oversight need to be further detailed? For example, will DEP perform its own sampling and monitoring in conjunction with operator or its consultant? Does DEP have to provide consent that operator's remediation meets the minimum thresholds to protect the public and the environment. However, we do feel that the site characterization process defined in Act 2 Sec 250.204 is a sound process that will do a good job at defining risk to the affected population. (157)

Response: Subsection 78.66(c)(2)(iii) only allows the operator up to 180 calendar days to perform a site characterization for remediation purposes. Subsection 78.66(b)(3) requires the operator or other responsible party to take necessary corrective actions, upon discovery of the spill or release, to prevent the regulated substance from polluting or threatening to pollute the waters of the Commonwealth; damage to property; or impacts to downstream users of waters of the Commonwealth.

1714. Comment: Reporting and Remediating Spills and Releases (§ 78.66 and § 78a.66) commenter feels that the Department's 2013 Policy Addressing Spills and Releases at Oil & Gas Well Sites or Access Roads and the DEP memo from October 3, 2014 entitled Program Clarification: Common Constituents for Oil and Gas Related Spills and Releases policy provide an efficient and effective procedure for addressing spills and releases. Commenter urges the Department to retain the effective portion of the Alternative remediation option and incorporate clarifications relating to the leachability of brine from the 2014 memo in this section of the proposed regulatory changes. (205)

Response: Regarding the process for spill remediation, see response to comment 1697.

1715. Comment: Reporting and Remediating Spills and Releases (§ 78.66 and § 78a.66) Any requirement for publication of submission to the Department of a Notice of Intent to Remediate (NIT) and municipal notification of submission to the Department of a Final Report would slow down and complicate cleanup of a release on a well pad. The Department should waive these requirements under Act 2 as part of the regulatory changes. (205)

Response: The Department acknowledges that several of these conditions may be more burdensome than the requirements under Act 2 but the choice of how to approach these remedial situations lies with the responsible person and not the Department.

In addition, the conditions outlined are largely modeled on the Department's storage tank Corrective Action Process regulations in 25 Pa. Code Chapter 245, Subchapter D (relating to corrective action process for owners and operators of storage tanks and storage tank facilities and other responsible parties). Thousands of storage tank cleanups have been completed using this process since the regulations were enacted in 1993.

1716. Comment: We particularly support the notification requirements to landowners (78a.66) who need to protect their family, livestock and agricultural products and believe the language should be expanded so that landowners would be notified of any spills on their land. (220)

Response: It is the Department's intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department's eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department's goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

1717. Comment: The provisions of the proposed final rule requiring that spills that exceed 42 gallons or pollute or threaten to pollute the waters of the Commonwealth ("qualified spills") are to be remediated using the standards set forth in the Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) and its implementing regulations are not in the public interest and should be withdrawn. (201)

Response: Sections 78.66 and 78a.66 are intended to ensure that all spills or releases of regulated substances at conventional and unconventional oil and gas well sites are remediated in a responsible manner that protects public health, safety and the environment.

The Department's Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to thousands of successful remediation over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner

1718. Comment: The central purpose of Act 2 is to encourage the voluntary remediation of existing commercial and industrial land presenting public health and environmental hazards so that it may be reused as a source of employment, housing, recreation and open space areas. "The reuse of industrial land is an important component of a sound land-use policy that will help prevent the needless development of prime farmland, open-space areas and natural areas and reduce public costs for installing new water, sewer and highway infrastructure." 35 P.S. § 6026.102(1). "Incentives should be put in place to encourage responsible persons to voluntarily develop and implement cleanup plans without the use of taxpayer funds or the need for adversarial enforcement actions by the Department of Environmental Resources which frequently only serve to delay cleanups and increase their cost." Id. at § 6026.102(2). In the case of Act 2, the "incentive" is the elimination of legal liability.

The Department's authority to apply the environmental remediation standards in Act 2 outside the stated scope of the Act by either policy or regulation is legally suspect:

The environmental remediation standards established under this act shall be used whenever site remediation is voluntarily conducted or is required under the act of June 22, 1937 (P.L. 1987, No. 394), known as The Clean Streams Law, the act of January 8, 1960 (1959 P.L. 2119, No. 787), known as the Air Pollution Control Act, the act of July 7, 1980 (P.L. 380, No. 97), known as the Solid Waste Management Act, the act of July 13, 1988 (P.L. 525, No. 93), referred to as the Infectious and Chemotherapeutic Waste Law, the act of October 18, 1988 (P.L. 756, No. 108), known as the Hazardous Sites Cleanup Act, and the act of July 6, 1989 (P.L. 169, No. 32), known as the Storage Tank and Spill Prevention Act, to be eligible for cleanup liability protection under Chapter 5. In addition, the remediation standards established under this act shall be considered as applicable, relevant and appropriate requirements for this Commonwealth under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Public Law 96-510, 42 U.S.C. § 9601 et seq.) and the Hazardous Sites Cleanup Act.

35 P.S. § 6026.106. This section does not include reference to either the 1984 or 2012 Oil and Gas Acts, nor do those Acts reference Act 2. Under the maxim *expressio unius est exclusio alterius*, “the express mention of a specific matter in a statute implies the exclusion of others not mentioned.” *West Penn Allegheny Health Sys. v. Med. Care Availability and Reduction Error Fund (MCARE)*, 11 A.3d 598 (Pa. Cmwlth. 2010). Moreover, nothing in Act 2 vests the Department with discretion to apply its remediation standards outside the scope of § 6026.106 as a matter of policy or regulation. (201)

Response: Act 2 provides a procedure and standards to remediate and receive relief of environmental liability relating to a release of a regulated substance addressed under various environmental statutes, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

1719. Comment: The new proposed standards requiring Act 2 remediation for qualified spills will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. The Department has not produced any evidence that the alternatives to Act 2 remediation are insufficient to remediate accidents at conventional well sites. (201)

Response: Sections 78.66 and 78a.66 are intended to ensure that all spills or releases of regulated substances at conventional and unconventional oil and gas well sites are remediated in a responsible manner that protects public health, safety and the environment.

The conditions outlined are largely modeled on the Department’s storage tank Corrective Action Process regulations in 25 Pa.Code Chapter 245, Subchapter D (relating to corrective action process for owners and operators of storage tanks and storage tank facilities and other responsible parties). Thousands of storage tank cleanups have been completed using this process since the regulations were enacted in 1993.

1720. Comment: The mandatory application of Act 2 remediation standards to spills of crude oil or conventional production water in amounts as little as 42 gallons is completely unreasonable. (201)

Response: The Department's Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to thousands of successful remediation over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner.

1721. Comment: Pennsylvania grade crude oil is paraffin-based oil, making spills suitable for bioremediation. Indeed, the Environmental Protection Agency (EPA) recognizes that bioremediation is a proven alternative tool that can be used to treat crude oil spills and has issued fact sheets and similar technical materials on the subject. See NRT Fact Sheet: Bioremediation in Oil Spill Response, A.D. Venosa, U.S. EPA Region 4; Voodoo Science: The Practical Application of Bioremediation Techniques as a Removal Response Option at Oil Spill Sites in Northwestern Pennsylvania Oil Patch, V.E. Zenone, US EPA Region III (April 2004). (201)

Response: Bioremediation can be an effective remediation technique when done properly and is certainly a method of remediation available to operators attempting to demonstrate attainment with an Act 2 remediation standard. Truly small spills can be remediated through excavation and minor confirmation sampling under section 78.66(c)(1).

1722. Comment: As explained earlier in this document, there are important differences between conventional and unconventional production. See chart. (201)

Response: While the volume of regulated substances used by the unconventional and conventional industry may differ, the Department's Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to thousands of successful remediations over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner.

1723. Comment: Act 2 environmental remediation standards are highly disruptive to the environment for small spills of Pennsylvania grade crude oil and production water. For example, in a spill earlier this year of no more than 10 barrels of oil, the Department required the operator to cut down trees to make room for heavy equipment, dig up a section of a nearby creek, excavate 31 tri-axel loads of dirt from the site and haul it to a landfill, only to flush the remaining oil at the site using non-Act 2 techniques. (201)

Response: The Act 2 process prescribes cleanup standards but not clean up techniques.

1724. Comment: The direct and indirect costs of the new proposed standards requiring Act 2 remediation for qualified spills are so high that they will put small, independent conventional well operators out of business when combined with the other costs generated by the draft final rule. We concurs in estimates that Act 2 remediation costs are at least 3-4 times higher than a traditional remediation. In one recent case involving a conventional operator, a remediation that would cost \$10,000 using traditional methods has already cost \$200,000 thus far under Act 2, and that cost is expected to climb to \$250,000. These increased costs will in turn have a severe adverse effect on the productivity of small, independent conventional well operators, who will be discouraged from further well development for fear that the risk of incurring exorbitant costs from a small/moderate spill of oil or production water is too great. **Please see Appendix 7 for attachments.** (201)

Response: The Department’s Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to thousands of successful remediation over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner. ,

1725. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule requiring Act 2 remediation for qualified spills. (201)

Response: The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

1726. Comment: The Department's regulatory analysis form does not sufficiently demonstrate a need for the new proposed standards requiring Act 2 remediation for all qualified spills. In the form, the Department states: “Spills or releases from containment of regulated substances at oil and gas well sites pose a substantial risk to the environment and public health, including impacts to water resources.” Unfortunately, this one sentence does not address the most important question presented by the new proposed standards: Why are alternatives to Act 2 remediation inadequate to remediate a qualified spill? (201)

Response: The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

Regarding the process for spill remediation, see response to comment 1697.

1727. Comment: The Department's form does not reflect the Department's consideration of the direct and indirect costs of the proposed standards or the economic impact that those standards would have on small businesses. The Department's form is completely silent on increased cost of requiring an Act 2 remediation for all qualified spills. As explained above, we estimate that the costs of an Act 2 remediation is 3-4 times more expensive than a traditional remediation. This is a

critical omission. (201)

Response: The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, Preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

The Department does not understand what is meant by the commenter's use of the phrase "traditional remediation." The Act 2 standards have been in place since 1995 and have provided the standards for thousands of cleanups conducted since then, both voluntary and when required to be conducted under the environmental statutes. See 35 P.S. § 6026.106(a) and (b). See response to comment 1718.

1728. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent or less costly alternative methods to Act 2 remediation for qualified spills. This "my way or the highway" approach is not only contrary to the RRA, it also is contrary to the Department's assertion in the form that "[m]ost of these proposed regulations are performance based in lieu of prescriptive standards to allow operators the flexibility of choosing the best option to meet compliance." Under the new proposed standards, the operator has no options for qualified spills other than Act 2. (201)

Response: The Department's Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to thousands of successful remediation over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner.

1729. Comment: 78a.66 This entire section is unnecessary. The oil and gas industry is already subject to the requirements for reporting releases pursuant to 25 Pa. Code § 91.33 that apply to all other regulated entities in Pennsylvania. The reporting framework that exists under Pennsylvania law for every other industry has worked well. There is nothing sufficiently unique in this regard about the oil and gas industry that warrants a separate and significantly more onerous approach to reporting for the oil and gas industry in comparison with all other elements of the regulated community.

The commenter asserts that there is no need for radically different spill remediation procedures for oil and gas operations, when a robust and nationally copied remediation program already exists. The ANFR imposes requirements relating to the cleanup of spills at gas well sites that go beyond the criteria established under Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2), and creates new procedural requirements that do not currently apply to spills at gas well sites. Under Section 904 of Act 2, the only types of cleanups conducted under state law not governed by Act 2 are those implemented under the Tank Act and

the Hazardous Sites Cleanup Act. The Department cannot change a statute by regulation, as it has proposed to do in Section 76a.66. (199, 210)

Response: Act 2 establishes “cleanup standards” for persons who remediate contaminated soil and groundwater caused by regulated substances released into the environment as defined under various environmental laws. These standards apply when persons either voluntarily perform or are required to perform remediation of soils and groundwater.

Section 106(a) of Act 2 states that, “The environmental remediation standards established under this act shall be used whenever site remediation is voluntarily conducted or is required under” the referenced environmental laws, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. 35 P.S. § 6026.106(a). Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

1730. Comment: The proposed Section 78a.66 disregards and otherwise makes the future status of the Department’s current policy, Addressing Spills and Releases at Oil & Gas Well Sites or Access Roads, Document No. 800-5000-001, unclear. (199, 210)

Response: Sections 78.66 and 78a.66 are intended to codify much of the policies addressed in the referenced document. To the extent that the referenced policy document conflicts with this rulemaking, the policy document will be disregarded.

1731. Comment: We agree with the prior OG TAB’s position in Section I of its July 18, 2013 Report and Recommendation Letter to the EQB that the Department’s then-proposed Section 78.66 substantially increases the time and costs for addressing small spills of less than 42 gallons of a regulated substance, and that in most circumstances the costs to comply with the proposed regulation would far exceed the environmental benefit to be realized. (199, 210)

Response: 78.66 and 78a.66 are intended to ensure that all spills or releases of regulated substances at conventional and unconventional oil and gas well sites are remediated in a responsible manner that protects public health, safety and the environment.

The Department’s Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to thousands of successful remediation over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner.

1732. Comment: By eliminating the “alternative remediation option” from the Section 78a.66(c), the ANFR purports to require remediation under Act 2 standards. However, the procedural remediation requirements under the draft which reflects a far more “command and control” framework than Act 2. (199, 210)

Response: Regarding the process for spill remediation, see response to comment 1697.

1733. Comment: The requirement to identify and sample water supplies for which there is a “potential

for pollution” is vague and inappropriate for inclusion in this section. (199, 210)

Response: This language is consistent with the Department’s authority under Section 402 of the Clean Streams Law. In this instance, a spill or release of a regulated substance that is not completely contained by secondary containment could threaten a water supply because the uncontained substance could be transported by outside forces acting upon it; gravity, precipitation, etc.

1734. Comment: The scope of information to be reported under the ANFR revisions is broader than under the proposed rulemaking, requiring reporting on any degree of “threatened pollution” to surface water, groundwater or soil, “potential impacts to public health and safety or the environment”, and the weight or volume of each regulated substance released. As a result, operators will be required to assess a spill of produced water, in addition to brine, with enough specificity to be able to quantify and characterize the spill. As a result, operators are likely to incur significant expenses in collecting additional analytical data for produced water in order to prepare chemical-specific spill reports. (199, 210)

Response: The final rulemaking for subsection 78a.66(b)(2) is to serve as guidance for the responsible party to provide enough information, to the extent known, necessary for the Department to properly assess the reported spill incident, so the appropriate initial response can be employed by the Department.

1735. Comment: It is often infeasible to “demonstrate attainment” with Act 2 standards within the oil and gas context because there are no relevant Act 2 criteria for chlorides and other substances commonly found in produced fluids associated with oil and gas-related operations. For substances for which there are no medium-specific concentrations in soil, such as chlorides, operators will be required to pursue either background or site specific standard cleanups at each well site. (199, 210)

Response: The Department has updated the Spill Policy to address issues concerning chloride cleanups in soil and common constituents in materials typically found at oil and gas well sites. As additional issues are identified, they will be addressed through appropriate means (for example, training or additional technical guidance).

1736. Comment: The definition of “regulated substances” is overly broad and does not provide the necessary guidance for reporting obligations that would be imposed under the proposed Section 78a.66(b). Replacement of the previous “reportable release of brine” definition with a broad “regulated substance” trigger for reporting complicates spill reporting obligations at well sites for minor releases of brine previously exempt from reporting under the existing oil and gas regulations. (199, 210)

Response: The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported. The term has the added benefit of being a statutorily-defined term, providing clarity and certainty.

1737. Comment: The revision of the scope of entities subject to release reporting requirements to cover any “other responsible party” is excessively vague and reflects a significant departure from the remainder of Chapter 78a. Neither the Oil and Gas Act of 2012 nor the ANFR define the term

responsible party. It is not appropriate to extend the obligations of this provision to parties other than owners or operators. (199, 210)

Response: The term is self-explanatory.

1738. Comment: It is unnecessary and inappropriate to apply reporting requirements under other environmental laws and regulations, such as 25 Pa. Code § 91.33 – a regulation promulgated pursuant to the Clean Streams Law – to oil and gas spill reporting under Chapter 78a. The Department should focus its efforts on defining the circumstances in which owners and operators must report spills from oil and gas operations rather than adding open-ended references to other existing spill reporting obligations. (199, 210)

Response: The amendments to this section were intended to bring the uncertain requirements for reporting spills and releases of certain substances into line with the existing requirement to report certain small spills of relatively low total dissolved solids brine. The brine spill reporting requirements have been in place since March 2001 and do not appear to have placed a significant burden on the oil and gas industry in Pennsylvania. It did not make sense to allow spills and releases of larger amounts of substances presenting the possibility of much greater harm and hazard to go unreported to the Department. The Department believes that this requirement provides operators with clear and consistent guidance on when spills and releases must be reported to the Department and should allow operators following this rule to avoid any lingering potential liability for failure to report. In addition, the Department has an operational and oversight interest in receiving this information.

1739. Comment: 78a.66(b)(4) The term “reasonable and systematic manner” is ambiguous and does not provide a standard with which operators can comply. (210)

Response: The phrase is taken directly from 25 Pa.Code § 245.306(a)(4) (relating to interim remedial actions). Since this language was added to the Storage Tank regulations in 2001, hundreds of remedial actions involving sampling of water supplies have been conducted. The phrase is intended to give operators appropriate flexibility in addressing sampling of water supplies with the potential to be impacted. “Reasonable” is intended to convey that operators are not required to sample water supplies where it would be unreasonable to assume that an impact has occurred, such as water supplies significantly upgradient hydrologically from the spill or release site, or water supplies so far downgradient that samples from intervening water supplies have come back as non-detection for the contaminants of concern. “Systematic” is intended to convey that operators should be conducting the water supply impact investigation in a logical manner that addresses the water supplies most likely to be impacted first, followed by water supplies where the probability of impact is lower.

1740. Comment: 78a.66(b)(4) - The requirement to provide a copy of the sample results within 5 days should be modified to read

“5 business days.” (210)

Response: The Department agrees that §§ 78.66(b)(4) and 78a.66(b)(4) should be modified to read “5 business days.”

1741. Comment: 78a.66(b)(5) This section appears to be designed to facilitate emergency response

measures by vesting PADEP with certain discretionary powers to approve temporary emergency storage or transportation methods. It is unclear why treatment is not included in this list given that emergency treatment activities may be part of a response action. While we support the need for regulatory flexibility to facilitate emergency response actions, it believes that the provision does not go far enough. Specifically, the regulations should be clear that permits and other forms of formal authorization are not to be required where to do so would delay timely implementation of response actions. In that regard, Pennsylvania's regulations contain similar provisions to facilitate emergency response actions under other regulatory programs. See, e.g., 25 Pa. Code § 287.101(d).

The commentator's suggested amendatory language:

(5) The Department shall not require a permit or other formal authorization for temporary emergency remediation methods, including treatment, storage and transportation, necessary to prevent or mitigate harm to the public health, safety or the environment. Treatment and storage may be at the site of the incident or at an alternative appropriate site. The operator or responsible party shall promptly notify the Department if treatment or storage will take place at a location that is not the site of the incident. (199, 210)

Response: The Department disagrees with the suggested language. The Department believes that the final rulemaking allows sufficient flexibility for the Department to quickly and efficiently process a temporary emergency storage or transportation request. The Department believes that prompt prior approval is appropriate and the concept is retained in the final rulemaking.

1742. Comment: 78a.66(b)(6) This section is designed to address steps to decontaminate equipment used in responding to a spill or release. On its face, Section 78a.66(b)(6) requires that all equipment, including storage containers, processing equipment, trucks and loaders, be decontaminated in all instances following a response to a spill or release. Decontamination of equipment may be necessary if the equipment is going to be used for other purposes where cross-contamination could be an issue. However, a bright line mandate cuts too far. For example, if spilled diesel fuel is recovered and placed in a tank that is dedicated to holding diesel fuel, there would be little reason to empty and decontaminate the tank before putting more diesel fuel in the tank. To address this issue, the commentator recommends revising Section 78a.66(b)(6) as set forth below. In addition, the second sentence of Section 78a.66(b)(6) describing how contaminated wash water, waste solutions and residues are to be managed is unnecessary.

The commentator's suggested amendatory language:

(6) After responding to a spill or release, the operator shall decontaminate equipment, including storage containers, processing equipment, trucks and loaders, where necessary and appropriate, before returning the equipment to service. (199, 210)

Response: This final rulemaking is consistent with existing Residual Waste regulations. See 25 Pa. Code § 299.218.

1743. Comment: 78a.66(c) The "alternate remediation option" included in the Department's December 2013 proposed regulation was intended to establish an expedited procedure for responding to a spill where Act 2 liability protection was not desired by the owner or operator. However, as commenter pointed out in its previous comments to the Department in March 2014, the "alternate remediation option" that the Department in fact proposed was a process that was more onerous

than the full Act 2 process because of the restrictive timetables that applied. The Department has eliminated the “alternative remediation option” in the proposed Section 78a.66(c), but preserved the restrictive timetables and other procedural requirements of the proposed “alternative remediation option”. These procedures for submission of written reports, site characterizations, remedial action plans and progress reports included in Section 78a.66 are not derived from Act 2, which is a voluntary process that contains no such deadlines.

See the commentator’s comment to 78.66(c)(3)(viii) on page 103 (“The Alternate Remediation process proposed by the Department was intended to establish a simplified, expedited procedure for properly responding to a spill where Act 2 liability protection was not desired. Instead the Department has fashioned a process that is more onerous than the full Act 2 Process because of the restrictive timetables that apply.”). (210)

Response: Regarding the process for spill remediation, see response to comment 1697.

As for the established time frames in sections 78.66 and 78a.66, it is both reasonable and appropriate to require operators to carry out remedial actions promptly and not let contamination linger in the environment. The timeframes established in the final rulemaking are modeled on the timeframes established for corrective actions for releases from storage tanks in 25 Pa.Code Chapter 245. The storage tank corrective action process was established in 1993 and has been used successfully for thousands of storage tank cleanups, both before and after the passage of Act 2 in 1995. The tank regulations were updated in 2001 to harmonize the regulations with Act 2 and the Act 2 implementing regulations in 25 Pa.Code Chapter 250. These timeframes are appropriate and have built-in flexibility to address the unique considerations posed by each remedial site. Finally, the Department notes that the timeframes establish requirements for the steps that will lead to completion of the corrective action but do not establish a timeframe by which demonstration of attainment of an Act 2 standard must be made. The Department recognizes that each site poses unique challenges and a one-size-fits-all completion date requirement is not appropriate.

1744. Comment: 78a.66(c)(1) The decision regarding an operator’s intent to remediate a spill or release, and related PADEP notification, should be allowed to be made at a later time. (210)

Response: The Department believes that in the situation contemplated by subsection (c)(1), the operator will have a relatively clear idea of how to approach this spill or release at the time the notification call is made to the Department. By its terms, it only applies to spills or releases of less than 42 gallons of a regulated substance and the spill or release cannot pollute or threaten pollution of the waters of the Commonwealth. Therefore, the operator should be in a good position to identify the proper cleanup approach rather quickly. Operators may certainly determine later in the cleanup process that a straightforward excavation remediation may prove to be the best approach for a particular spill or release and the Department will review that decision accordingly.

1745. Comment: 78a.66(c)(2) It is feasible that a spill in excess of 42 gallons could occur on a well pad that results in absolutely no risk to waters of the Commonwealth or environment. For example, some spills of greater than 42 gallons could be captured along a site drainage swale or settling basin and completely remediated prior to any offsite contamination. Spills that pose no offsite risk to the environment should not require Act 2 clearance from the Department. (210)

Response: This language is consistent with the Department’s authority under Section 402 of the Clean Streams Law. In this instance, a spill or release of a regulated substance that is not completely contained by secondary containment could threaten a water supply because the uncontained substance could be transported by outside forces acting upon it; gravity, precipitation, etc. In the two examples given, drainage swales convey water and settling basins are designed to dewater, both of which could transport an uncontained spill or release and cause pollution to waters of the Commonwealth, no matter the volume of the spill or release.

1746. Comment: 78a.66(c)(2)(iv) The revised draft rulemaking removes significant flexibility with respect to public notice requirements pertaining to remediation submissions. Under Act 2 (Sections 302(e)(4) and 303(h)(4)), both intent to remediate and final report submissions are not required to be published for public notice for remediation to background or statewide standards if the person conducting the remediation submits the final report within 90 days of the release. Such flexibility extended to all other industries under Act 2 is not afforded under the revised draft rulemaking. The prior draft regulations specifically acknowledged an operator’s ability to conduct simplified cleanups quickly and without public notice, but those provisions have been deleted in the most recent draft. As a result an operator may not be able to follow the expedited remediation approach under Act 2. (210)

Response: The Department disagrees with the comment. The final-form rulemaking requires operators to address spills and releases that pollute or threaten to pollute the waters of the Commonwealth or are greater than 42 gallons in accordance with the Act 2 remediation standards. A component of those standards is notice and review. If an operator is conducting a background or Statewide health standard remediation, the exemption from notice and review provisions contained in section 302(e)(4) (background standard) or section 303(h)(4) (Statewide health standard) is still available to the operator.

1747. Comment: 78a.66 We support ACT 2 cleanup process and standards for reporting of hazardous spills and releases to keep the environment safe. (233).

Response: The Department acknowledges the comment.

1748. Comment: § 78a.66(1) Spills or releases to the ground of less than 42 gallons at a well site that do not [impact or] POLLUTE OR threaten to pollute [of] waters of the Commonwealth may be remediated by removing the soil visibly impacted by the SPILL OR release and properly managing the impacted soil in accordance with the Department’s waste management regulations. The operator or responsible party shall notify the Department of its intent to remediate a spill or release in accordance with this paragraph at the time the report of the spill or release is made. [Completion of the cleanup should be documented through the process outlined in § 250.707(b)(1)(iii)(B) (relating to statistical tests).] (2) For spills or releases to the ground of more than 42 gallons or that [impact] POLLUTE or threaten [pollution of] TO POLLUTE waters of the Commonwealth, the operator or OTHER responsible person MUST [may satisfy the requirements of this subsection by demonstrating] DEMONSTRATE attainment of one or more of the standards established by Act 2 and Chapter 250 (relating to administration of land recycling program) IN THE FOLLOWING MANNER:

These sections essentially codify portions of the Department’s Addressing Spills and Releases at Oil & Gas Well Sites or Access Roads (Document #800-5000-001 dated September 21, 2013), which imposes significantly more onerous obligations on the oil and gas industry than other industries are subjected to. In addition, Section 78a.66(2) leaves out the alternative remediation

practice allowed in the spill policy and instead requires industry to demonstrate attainment of an Act 2 standard for any release greater than 42 gallons. This inadvertently requires industry to undertake an Act 2 closure process for every occurrence, which is a long and burdensome process that is often not necessary when the initial response effectively contains and remediates the spill. If industry is not to be granted the release of liability under this Act 2 process, then we should not be subject to the Act 2 obligations. Taken together, these provisions will require the Department to be notified in all cases for a spill of any size regardless of whether it does or does not pollute the waters of the Commonwealth. As previously noted in our general comments, commenter believes regulatory programs should be fair and equitable and create a level playing field, and should not impose disparate requirements or disproportionate costs on one particular economic or extractive sector. In contrast to this fundamental principal, these provisions, including the underlying spill policy, are disparate, disproportionate, and inequitable. The extensive and elaborate specifications will increase costs and consume resources and will put unconventional wells at a disadvantage. Lastly, neither Act 2 nor 25 Pa. Code Chapter 250 includes a statewide health standard for chlorides in soil. While brine releases or spills from oil and gas industry activities occur infrequently, when they do occur there are significant unnecessary complications and costs related to their remediation that result from the lack of a chloride standard.(199)

Response: See response to comment 1668. Regarding the process for spill remediation, see response to comment 1697.

1749. Comment: Regarding Reporting and Remediating of Spills and Releases (§ 78.66), the reporting threshold of 5 gallons is far too stringent and burdensome. The remediation expectation should remain regardless of the amount, but the threshold for reporting should be, at the least, one barrel (42 gallons). (245)

Response: The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

1750. Comment: 78a.66 - We oppose PADEP's proposal to remove the requirement for PADEP to review and approve the final report. The Department should be responsible for completing a timely review of the interim and final reports, and providing assurance to the landowner and the public that the spill/release was remediated. (211)

Response: The requirement has not been removed. Sections 78.66(c)(2)(vii) and 78a.66(c)(2)(vii) state a final remedial action completion report shall be submitted to the appropriate Department regional office for approval.

1751. Comment: 78a.66 - The 2014 Comments made a number of recommendations to this proposed regulation. We appreciate the changes that were included but do not believe PADEP satisfactorily addressed our concerns or recommendations. In particular, we do not agree that the operator should be given ½ a year (180 days) to complete and submit a site characterization report for spills or releases. Site characterization work should receive high priority, and should be done within 30 days. This work is needed to guide immediate cleanup and remediation efforts. (211)

Response: Subsection 78a.66(c)(2)(iii) only allows the operator up to 180 calendar days to perform a site characterization for remediation purposes. Subsection 78a.66(b)(3) requires the operator or other responsible party to take necessary corrective actions, upon discovery

of the spill or release, to prevent the regulated substance from polluting or threatening to pollute waters of the Commonwealth; damage to property; or impacts to downstream users of waters of the Commonwealth.

1752. Comment: In 2013, the EQB proposed to strengthen reporting and remediation requirements for oil and gas well sites and access roads. In 2015, PADEP removed PADEP's review of the final report (previously PADEP's review was intended to ensure the remediation met all the requirements of the state health standard and the requirements of this regulation). PADEP also deleted the proposed clause that stated "Relief from liability will not be available to the responsible party, property owner or person participating in the cleanup." PADEP proposed new water sampling and restoration requirements.

We support the proposal to strengthen reporting and remediation requirements for spills and releases. We support PADEP new water sampling and restoration requirements. We recommend this regulation be expanded to cover more than oil and gas well sites and access roads. Spills anywhere within the full footprint and area used by Oil and Gas Operations as defined in § 78.1 should be required to meet the improved reporting and remediation requirements. (211)

We recommend that § 78a.66 be revised as follows:

§ 78a.66. Reporting and remediating SPILLS AND releases.

*** PADEP proposed deleting existing regulation sections (a) – (e) and replacing it with the new regulatory language below***

(a) *Scope.* This section applies to reporting and remediating spills or releases of regulated substances on or adjacent to the OIL AND GAS OPERATIONS DEFINED IN § 78.1. well sites, and access roads.

(b) *Reporting releases.*

(1) An operator or OTHER responsible party shall report the following spills and releases of regulated substances to the Department in accordance with paragraph (2):

(i) A spill or release of a regulated substance causing or threatening pollution of the AIR, LAND, OR waters of this Commonwealth IN THE MANNER REQUIRED BY § 91.33 (RELATING TO INCIDENTS CAUSING OR THREATENING POLLUTION).

(ii) THE FOLLOWING SPILLS OR RELEASES THAT ARE NOT COMPLETELY CONTAINED BY A CONTAINMENT SYSTEM: ANY spill or release TO WATER OR THAT MAY THREATEN WATER RESOURCES, ANY SPILL OR RELEASE TO LAND of 5 gallons or more of a regulated substance over a 24-hour period, AND ANY SPILL OR RELEASE OF ANY HAZARDOUS SUBSTANCE THAT MEETS THE REPORTABLE QUANTITIES OF 40 CFR §§ 302.4 AND 302.5 ~~that is not completely contained by a containment system.~~

(2) In addition to MEETING the notification requirements of § 91.33 (relating to incidents causing or threatening pollution), the operator or OTHER responsible party shall contact the appropriate regional Department office by telephone or call the Department's Statewide toll free number [at (800) 541-2050] as soon as practicable, but no later than 2 hours after discovering the spill or release, AND NOTIFY THE LOCAL GOVERNMENT AND WATER SUPPLIERS

IMMEDIATELY THEREAFTER. THE OPERATOR MUST ALSO SUBMIT A SPILL/RELEASE REPORT ON A FORM FURNISHED BY THE DEPARTMENT TO THE DEPARTMENT THROUGH ITS WEB SITE WITHIN 12 HOURS. THE SPILL/RELEASE REPORT SHALL BE IMMEDIATELY MADE AVAILABLE TO LOCAL EMERGENCY RESPONDERS AND THE PUBLIC ON THE DEPARTMENT'S WEBSITE. SPILL/RELEASE REPORTS MUST BE SUBMITTED TO THE DEPARTMENT THROUGH ITS WEB SITE EACH DAY THEREAFTER UNTIL THE SPILL/RELEASE IS CONTAINED, CONTROLLED, AND CLEANED UP. THE INITIAL SPILL/RELEASE REPORT AND EACH UPDATE SUBMITTED DAILY THEREAFTER SHALL BE IMMEDIATELY MADE AVAILABLE TO LOCAL EMERGENCY RESPONDERS AND THE PUBLIC ON THE DEPARTMENT'S WEBSITE. THE DEPARTMENT SHALL ALSO MAKE AVAILABLE TO THE PUBLIC ON ITS WEBSITE ANY INCIDENT COMMAND SYSTEM (ICS) FORMS OR REPORTS COMPLETED AS PART OF THE RESPONSE ACTION.

To the extent known, the following information shall be provided:

[no revisions recommended for (i)-(v)]

(vi) THE TYPE OF MATERIAL. The estimated weight or volume of each regulated substance spilled or released AND THE AMOUNT CONTAINED, CONTROLLED, OR RECOVERED.

(vii) The nature of any injuries.

(viii) SOURCE CONTROL AND CONTAINMENT ACTIONS INITIATED OR COMPLETED AND remedial actions planned, initiated or completed.

(3) ~~Upon the occurrence of any spill or release~~, UPON THE OCCURRENCE OF THE SPILL OR RELEASE, the operator or OTHER responsible party shall take necessary corrective actions to prevent:

(i) The regulated substance from [reaching] POLLUTING OR THREATENING TO POLLUTE the waters of the Commonwealth.

(ii) FIRE, EXPLOSION OR OTHER IMMINENT HAZARDS; DANGERS TO HUMAN HEALTH, DOMESTIC OR FARM ANIMALS, CROPS AND OTHER VEGETATION, OR NEARBY WILDLIFE; AND ~~Damage~~ Damage to property.

(ii) Impacts to downstream users of waters of the Commonwealth.

(4) THE OPERATOR OR OTHER RESPONSIBLE PARTY SHALL IDENTIFY AND SAMPLE WATER SUPPLIES THAT HAVE BEEN POLLUTED OR FOR WHICH THERE IS A POTENTIAL FOR POLLUTION IN A REASONABLE AND SYSTEMATIC MANNER. THE OPERATOR OR OTHER RESPONSIBLE PARTY MUST ALSO SAMPLE WATER SUPPLIES IDENTIFIED BY THE LANDOWNER OR THE DEPARTMENT. THE OPERATOR OR OTHER RESPONSIBLE PARTY SHALL RESTORE OR REPLACE A POLLUTED WATER SUPPLY IN ACCORDANCE WITH § 78a.51 (RELATING TO PROTECTION OF WATER SUPPLIES). THE OPERATOR OR OTHER RESPONSIBLE PARTY SHALL PROVIDE A COPY OF THE SAMPLE RESULTS TO THE WATER SUPPLY OWNER AND THE DEPARTMENT WITHIN 5 DAYS OF RECEIPT OF THE SAMPLE RESULTS FROM THE LABORATORY.

~~[(4)]~~ (5) The Department may immediately approve temporary emergency storage or transportation methods necessary to prevent or mitigate harm to the public health, safety or the environment. Storage may be at the site of the incident or at a site approved by the Department.

~~[(5)]~~ (6) After responding to a spill or release, the operator OR OTHER RESPONSIBLE PARTY shall decontaminate equipment used to handle the regulated substance, including storage containers, processing equipment, trucks and loaders, before returning the equipment to service. Contaminated wash water, waste solutions and residues generated from washing or decontaminating equipment shall be managed as ~~residual~~ REGULATED WASTE AND BE COLLECTED AND TRANSPORTED TO AN APPROVED WASTE HANDLING FACILITY APPROPRIATE FOR TREATING AND DISPOSING OF THE SPILLED OR RELEASED MATERIAL.

(c) *Remediating releases.* Remediation of an area [affected] POLLUTED by a spill or release MUST BE COMPLETED IN ACCORDANCE WITH ACT 2, CHAPTER 250, AND THE FOLLOWING REQUIREMENTS: ~~is required. The operator or OTHER responsible party shall remediate a release in accordance with [one of] the following:~~

~~(1) Spills or releases to the ground of less than 42 gallons at a well that do not [impact or] POLLUTE OR threaten to pollute waters [of] the Commonwealth may be remediated by removing the soil visibly impacted by the SPILL OR release and properly managing the impacted soil in accordance with the Department's waste management regulations. The operator or responsible party shall notify the Department of its intent to remediate a spill or release in accordance with this paragraph at the time the report of the spill or release is made. [Completion of the cleanup should be documented through the process outlined in § 250.707(b)(1)(iii)(B) (relating to statistical tests)].~~

~~(2) For spills or releases to the ground of more than 42 gallons or that [impact] POLLUTE or threaten [pollution of] TO POLLUTE waters of the Commonwealth, the operator or OTHER responsible person MUST [may satisfy the requirements of this subsection by demonstrating] DEMONSTRATE attainment of one or more of the standards established by Act 2 and Chapter 250 (relating to administration of land recycling program) IN THE FOLLOWING MANNER.~~

~~(3) For releases of more than 42 gallons or that impact or threaten polluting waters of the Commonwealth, as an alternative to paragraph (2), the responsible party may remediate a spill or release using the Act 2 background or Statewide health standard in the following manner:~~

~~(1i) Within 15 business days of the spill or release, the operator or OTHER responsible party shall provide an initial written report TO THE DEPARTMENT THROUGH ITS WEB SITE. THE REPORT SHALL BE IMMEDIATELY MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE. THE REPORT SHALL that includes, to the extent that the information is available, the following:~~

~~(Ai) The regulated substance involved., ITS ESTIMATED WEIGHT OR VOLUME, AND THE AMOUNT CONTAINED, CONTROLLED, OR RECOVERED.~~

~~(Bii) The location where the spill or release occurred.~~

~~(Ciii) The environmental media affected.~~

(Div) IMPACTS AND CONTINUED DANGERS TO HUMAN HEALTH, DOMESTIC OR FARM ANIMALS, CROPS AND OTHER VEGETATION, OR NEARBY WILDLIFE.

~~[Impacts to]~~

(v) POLLUTION OR THREATENED POLLUTION OF water supplies.

(Evi), IMPACTS TO PROPERTY, buildings or utilities. THE NATURE OF ANY INJURIES OR DAMAGE.

(Fv) Interim remedial actions planned, initiated or completed, INCLUDING SOURCE CONTROL AND CONTAINMENT ACTIONS.

(ii2) The initial report must also include a summary of the actions the operator or OTHER responsible party HAS TAKEN SINCE THE SPILL OR RELEASE HAS OCCURRED AND THE ACTIONS IT intends to take at the site to address the spill or release such as a schedule for site characterization, to the extent known, and the anticipated time frames within which it expects to take those actions. After the initial report, any new POLLUTION OR OTHER impacts identified or discovered during interim remedial actions or site characterization shall also be reported in writing to the Department within 15 ~~[calendar]~~ BUSINESS days of their discovery. TO THE DEPARTMENT THROUGH ITS WEB SITE. THE REPORT SHALL BE IMMEDIATELY MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE.

(iii3) Within ~~180~~ 30 calendar days of the spill or release, the operator or OTHER responsible party shall perform a site characterization to determine the extent and magnitude of the contamination and submit a site characterization report to the appropriate Department regional office describing the findings. THE REPORT SHALL BE PROVIDED TO THE DEPARTMENT THROUGH ITS WEB SITE. THE REPORT SHALL BE IMMEDIATELY MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE. ~~THE TIME TO SUBMIT THE SITE CHARACTERIZATION REPORT MAY BE EXTENDED BY THE DEPARTMENT.~~ The report must include a description of any interim or final remedial actions taken. IF THE SITE CHARACTERIZATION INDICATES THAT THE INTERIM REMEDIAL ACTIONS TAKEN DID NOT ADEQUATELY REMEDIATE THE RELEASE, THE OPERATOR OR RESPONSIBLE PARTY SHALL DEVELOP AND SUBMIT A REMEDIAL ACTION PLAN. REMEDIAL ACTION PLANS SHOULD CONTAIN THE ELEMENTS OUTLINED IN § 245.311(A) (RELATING TO REMEDIAL ACTION PLAN). ~~[For a background standard remediation, the site characterization must contain information required under § 250.204(b) — (e) (relating to final report). For a Statewide health standard remediation, the site characterization must contain information required under § 250.312(a) (relating to final report)].~~ THE REPORT SHALL BE REVIEWED BY THE DEPARTMENT AND EITHER BE DEEMED COMPLETE AND SATISFACTORY OR THE DEPARTMENT SHALL REQUIRE ADDITIONAL SITE CHARACTERIZATION OR REMEDIATION WORK TO BE PERFORMED.

(iv4) ~~[This]~~ THE report UNDER PARAGRAPH (iii) may BE CONSIDERED TO be a final remedial action report if the interim remedial actions meet[s] all of the requirements of an Act 2 ~~[background or Statewide health standard]~~ remediation ~~[or combination thereof]~~ AND THE DEPARTMENT HAS DEEMED THE REMEDIATION TO BE COMPLETE AND SATISFACTORY. ~~Remediation conducted under this section may not be required to meet the notice and review provisions of these standards except as described in this section.~~

~~(v) If the site characterization indicates that the interim remedial actions taken did not adequately remediate the SPILL OR release the operator or OTHER responsible party shall develop and submit a remedial action plan to the appropriate Department regional office for approval. The plan is due within 45 calendar days of submission of the site characterization to the Department. Remedial action plans should contain the elements outlined in § 245.311(a) (relating to remedial action plan).~~

(5) A REMEDIAL ACTION PROGRESS REPORT SHALL BE SUBMITTED TO THE DEPARTMENT THREE MONTHS FOLLOWING THE DATE OF REMEDIAL ACTION PLAN IMPLEMENTATION

~~(vi6) [Once] AFTER the remedial action plan is FULLY implemented the OPERATOR OR OTHER responsible party shall submit a final report to the appropriate Department regional office for approval. [The Department will review the final report to ensure that the remediation has met all the requirements of the background or Statewide health standard, or combination thereof, except the notice and review provisions. Relief from liability will not be available to the responsible party, property owner or person participating in the cleanup.] THE DEPARTMENT WILL REVIEW THE FINAL REPORT TO ENSURE THAT THE REMEDIATION HAS MET ALL THE REQUIREMENTS OF THE BACKGROUND OR STATEWIDE HEALTH STANDARD, OR COMBINATION THEREOF, EXCEPT THE NOTICE AND REVIEW PROVISIONS. RELIEF FROM LIABILITY WILL NOT BE AVAILABLE TO THE RESPONSIBLE PARTY, PROPERTY OWNER OR PERSON PARTICIPATING IN THE CLEANUP.~~

~~(vii6) [An operator or responsible party remediating a release under this paragraph may elect to utilize Act 2 at any time.] WITHIN 30 DAYS OF THE SPILL OR RELEASE, THE OPERATOR SHALL SUBMIT A LESSONS LEARNED REPORT THAT SUMMARIZES ITS PLANS, ACTIONS, EQUIPMENT, OR PROCEDURAL CHANGES TO PREVENT OR MINIMIZE THE RISK OF FUTURE SPILLS OR RELEASES, INCLUDING PROPOSED AMENDMENTS TO ITS PPC PLAN FOR DEPARTMENT REVIEW AND APPROVAL. THE REPORT SHALL BE PROVIDED TO THE DEPARTMENT THROUGH ITS WEB SITE. THE REPORT SHALL BE IMMEDIATELY MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE. (211)~~

Response: The Department disagrees with the proposed revisions to subsection (a) to expand the scope of this section beyond just well sites and access roads.

The Department disagrees with the proposed revisions to subsection (b)(1). Section 78a.66(b)(1)(i) specifically calls out spills that cause or threaten pollution to the waters of the Commonwealth because the provisions in 25 Pa. Code § 91.33 require notice to the Department in those situations.

The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

The Department disagrees with the proposed revisions to subsection (b)(2). It is the Department's intention to have an electronic spill and release reporting and tracking system available for the public and government entities to receive up-to-date information

concerning spills and releases and remedial actions at oil and gas operations. The system will be similar to the Department's eNOTICE system, which allows users to get information about their communities and the facilities they are interested in delivered directly via email. The Department's goal is to have notification of spills and releases submitted electronically to the Department and loaded directly into the spill and release database, and available to the public in real time, just as it is available to the Department.

The Department disagrees with the proposed changes to subsection (b)(2)(vi) and (viii). The final rulemaking for 78a.66(b)(2) is to serve as guidance for the responsible party to provide enough information, to the extent known, necessary for the Department to properly assess the reported spill incident, so the appropriate initial response can be employed by the Department.

The Department disagrees with the proposed changes to (b)(3). This section of the final rulemaking only addresses hazards created through spills or releases of regulated substances. Other hazards are addressed through other sections of the regulations (for example, sections 78.55 and 78.73).

The Department disagrees with the proposed change to subsection (b)(4). The intent of the proposed language is unclear and unnecessary.

The Department disagrees with the proposed changes to subsection (b)(6). The material in question is residual waste by definition. The standards in sections 78.62 and 78.63 provide safeguards against highly contaminated material being disposed of on well sites.

The Department disagrees with the proposed changes to subsection (c), and notes that the final regulation does not allow operators to escape the requirement to remediate the release and demonstrate attainment with applicable Act 2 Statewide health standards. This form of cleanup is only available where there is 1) a relatively small spill or release, 2) the contamination can be removed by excavation of contaminated soils and 3) there is no pollution or threat of pollution to the waters of the Commonwealth. If any of these three conditions are not present, the operator must follow the more detailed processes. The rulemaking strikes an appropriate balance between the risk posed by the spill or release and the process needed to document the completion of the remediation.

1753. Comment: § 78.66 and § 78a.66 Spills and Releases - In September 2013, PADEP finalized a policy addressing spills on oil and gas well sites, including access roads. That document created a policy unique to the oil and gas industry, but could not impose new binding obligations beyond existing statutes and regulations. The policy includes references to mandatory provisions outside the policy and provides recommendations for reporting and remediation steps that would help operators "clearly protect themselves" from potential liability. See PADEP's Comment and Response Document, September 2013, pp. 6, 9, 10 and 11.3 The stated purpose of the policy is to increase uniformity of handling spills on oil and gas well sites.

Relevant and applicable law, outside the policy, includes the Pennsylvania Clean Streams Law, 25 Pa. Code Chapter 91.33, 25 Pa. Code 78.66, and Pennsylvania's Land Recycling and Reclamation Act, Act 2. Pennsylvania Clean Streams Law, Act 2, and the reporting obligations under Section 91.33 fully provide for the reporting and cleanup of typical accidental spills that occur on oil and gas well sites, which may include brine or oil spills. Under the existing provisions of section 78.66 and § 78a.66, oil and gas operators are further required to report

releases of brine, depending on the quantity spilled and the total dissolved solids in the brine. This provision addresses what may be unique to oil and gas operations, namely brine spills.

Comment is unaware of any need to revise Section 78.66 and § 78a.66 and strongly recommends that no revisions be made to this section of the rule for oil and gas operations. Neither brine nor oil typically presents a hazardous situation or significant threat to the environment or public health or safety in the course of typical oil and gas operations that would justify revision. If oil and gas operations present remediation challenges under existing law, PADEP should work to address those concerns with its existing authority and its vast arsenal of enforcement tools. Commenter is unaware of any spills on oil and gas operations that cannot be addressed under current law. (213)

Response: Regarding the process for spill remediation, see response to comment 1697.

1754. Comment: The Draft Final § 78.66 and § 78a.66 would increase the reporting and cleanup obligations beyond the 2013 Proposal, through the elimination of the alternate method for spill cleanups that was developed under the 2013 Spill Policy. The Draft Final Rule would not only require full compliance with Act 2 for all spills, but would require operators to demonstrate Act 2 attainment through specific procedures with restrictive deadlines that are not found in Act 2. These additional requirements are virtually identical to the procedural requirements under the Storage Tank and Spill Prevention Act (“Tank Act”), from which oil and gas operations are generally exempt. By imposing Tank Act remediation procedures on spills of brines and oil, the proposed § 78a.66 and § 78a.66 effectively eliminates the legislature’s distinction between tanks used for oil and gas operations, and regulated tanks storing gasoline or hazardous substances.

The Department has created submittal timeframes for oil/gas operators within this section that are not found in any current part of the Act 2 program. This certainly holds the oil/gas industry to a higher standard than all other industries, which utilize the Act 2 program. Existing policy and guidance fully addresses spills by this industry or any other and if consistency is still needed, revision of the policy, not the regulation, is the appropriate avenue. It is expected that as part of this program, additional electronic forms and notifications will be created that also adds to the burden of the operator. These additional forms should be made available to the stakeholders as part of the regulatory review process. (213)

Response: Regarding the process for spill remediation, see response to comment 1697.

1755. Comment: § 78.66 and § 78a.66 Spills and Releases - The Draft Final Rule would significantly broaden reporting obligations, and require greater documentation, increased sampling, and more stringent restoration standards than are necessary or appropriate for operations. These additional requirements would substantially increase the time and costs of addressing small spills on well sites, with little meaningful environmental benefit. Existing law provides standards for cleanups and enforcement authority where needed to protect public health, safety and the environment. Brine and oil accidental spills, which have occurred in the past and will occur in the future, can be and should continue to be addressed under existing law and policy. (213)

Response: 78.66 and 78a.66 are intended to ensure that all spills or releases of regulated substances at conventional and unconventional oil and gas well sites are remediated in a responsible manner that protects public health, safety and the environment.

The Department’s Act 2 standards explicitly reflect the risks various compounds and elements pose to human health and the environment, and have been applied successfully to

thousands of successful remediation over the past 19 years. The final rulemaking specifically provides flexibility to oil and gas operators to address small spills and releases, fully-contained releases and larger spills and releases in a flexible and straightforward manner

1756. Comment: A spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system.

A 5-gallon release for reporting a release is an extremely stringent standard and is considered burdensome to the operator. Commenter suggests utilizing 42 gallons as the benchmark for reporting a release to the Department. (213)

Response: The Department believes that the regulation is stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the final rulemaking reaches an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

1757. Comment: (vii) The nature of any injuries.

Commenter does not understand why there needs to be a listing of potential injuries in this section. (213)

Response: The final rulemaking for 78.66(b)(2) and 78a.66(b)(2) is to serve as guidance for the responsible party to provide enough information, to the extent known, necessary for the Department to properly assess the reported spill incident, so the appropriate initial response can be employed by the Department.

1758. Comment: (ii) Damage to property. - Commenter does not understand the reasoning behind the need to list damages to property. (213)

Response: The requirement under 78.66(b)(3)(ii) is for the responsible party to take necessary corrective actions to prevent damage to property. The Department believes this requirement to be appropriate.

1759. Comment: The requirement to report the nature of any injuries (Section 78.66(b)(2)(vii)) and property damage (Section 78.66(b)(3)(ii)) is outside the scope of protecting the environment and should be stricken from this regulation package. (335)

Response: The final rulemaking for 78.66(b)(2) and 78a.66(b)(2) is to serve as guidance for the responsible party to provide enough information, to the extent known, necessary for the Department to properly assess the reported spill incident, so the appropriate initial response can be employed by the Department.

The requirement under 78.66(b)(3)(ii) is for the responsible party to take necessary corrective actions to prevent damage to property. The Department believes this requirement to be appropriate.

1760. Comment: (4) THE OPERATOR OR OTHER RESPONSIBLE PARTY SHALL IDENTIFY AND SAMPLE WATER SUPPLIES THAT HAVE BEEN POLLUTED OR FOR WHICH THERE IS A POTENTIAL FOR POLLUTION IN A REASONABLE AND SYSTEMATIC MANNER. THE OPERATOR OR OTHER RESPONSIBLE PARTY SHALL RESTORE OR

REPLACE A POLLUTED WATER SUPPLY IN ACCORDANCE WITH § 78a.51 (RELATING TO PROTECTION OF WATER SUPPLIES). THE OPERATOR OR OTHER RESPONSIBLE PARTY SHALL PROVIDE A COPY OF THE SAMPLE RESULTS TO THE WATER SUPPLY OWNER AND THE DEPARTMENT WITHIN 5 DAYS OF RECEIPT OF THE SAMPLE RESULTS FROM THE LABORATORY.

Commenter is concerned about the use of § 78a.51 in accordance with this section. Once again, the water supply should be restored to baseline water quality established prior to oil/gas activities. (213)

Response: The final rulemaking requires water supplies to be restored to Pennsylvania Safe Drinking Water Act standards or better. The SDWA Standards are based on scientific fact as far as what is, and is not, in a water supply to determine to ensure it is safe for human consumption. If the water quality has been documented prior to being affected by oil and gas operations, that water quality, even if it is of a higher quality than SDWA standards, must be re-established by the operator.

1761. Comment: [~~(4)~~ (5) The Department may immediately approve temporary emergency storage or transportation methods necessary to prevent or mitigate harm to the public health, safety or the environment. Storage may be at the site of the incident or at a site approved by the Department. Members have concern regarding the use of this language and potential additional permitting requirements. As read, this section can be interpreted that additional permitting requirements may be necessary for a site to become a waste transfer facility, when the operator is looking for a simple waste staging location to aid in the remedial process. The Department is defeating the purpose of effectively addressing a spill or release issue in a timely manner by adding this section to the proposed rulemaking. (213)

Response: 25 Pa. Code § 287.101(d) states, “The Department will not require a permit under this article for cleanup or other remediation at the site of a spill, release, fire, accident or other unplanned event, unless the site is part of a permit area for an active facility or the proposed permit area in an application.” (emphasis added). Well sites and access roads are part of a permitted area. While some circumstances may dictate for the Department to immediately approve temporary emergency storage or transportation methods necessary to prevent or mitigate harm to the public health, safety or the environment; the Department reserves the right to review any proposals to process or treat waste at a well site or access road and require any necessary permits, authorizations and approvals necessary to process or treat the waste, after it is contained.

1762. Comment: For spills or releases to the ground of more than 42 gallons or that [~~impact~~ POLLUTE or threaten [~~pollution of~~] TO POLLUTE waters of the Commonwealth, the operator or OTHER responsible person MUST [~~may satisfy the requirements of this subsection by demonstrating~~] DEMONSTRATE attainment of one or more of the standards established by Act 2 and Chapter 250 (relating to administration of land recycling program) IN THE FOLLOWING MANNER:

With this regulatory language, the operator will enter the voluntary Act 2 Program, which is an unprecedented requirement being made by the Department. The oil/gas operators are being discriminated against, as no other industry follows this regulatory outline. What is the Department’s reasoning for requiring operators to enter the Act 2 program in this instance? (213)

Response: Act 2 provides a procedure to remediate and receive relief of environmental liability relating to a release of a regulated substance addressed under various environmental statutes, including the Clean Streams Law, the Solid Waste Management Act, and the Hazardous Sites Cleanup Act. Many substances that are spilled at sites regulated under the Oil and Gas Act are regulated as waste under the Solid Waste Management Act or as pollutants under the Clean Streams Law (see, for example, sections 3273 and 3273.1 of the 2012 Oil and Gas Act, 35 Pa.C.S. §§ 3273, 3273.1). If these wastes and pollutants are regulated substances as defined under Act 2 and have contaminated soils and groundwater, they must be addressed under Act 2.

1763. Comment: (i) -Within 180 calendar days of the spill or release, the operator or OTHER responsible party shall perform a site characterization to determine the extent and magnitude of the [contamination] POLLUTION and submit a site characterization report to the appropriate Department regional office describing the findings. THE TIME TO SUBMIT THE SITE CHARACTERIZATION REPORT MAY BE EXTENDED BY THE DEPARTMENT.

The report must include a description of any interim remedial actions taken. [For a background standard remediation, the site characterization must contain information required under § 250.204(b) — (e) (relating to final report). For a Statewide health standard remediation, the site characterization must contain information required under § 250.312(a) (relating to final report).]

The Act 2 program and Chapter 250 currently have no provision that require the completion of site characterization. Once again, the oil/gas industry is being required to follow regulations that is required of no other industry. What is the Department's reasoning behind establishing these deadlines? (213)

Response: 180 days is a standard period of time for conducting site characterizations, which can be extremely complex, and may require several rounds of soil and groundwater sampling and the requisite analysis (which in and of itself can be time-consuming). The 180-day standard for site characterization has been successfully applied to thousands of storage tank cleanups since 1993 (see 25 Pa. Code § 245.310(a)).

1764. Comment: 78.66(c)(2)(v) The Act 2 program and Chapter 250 currently have no provisions that a Remedial Action Plan is submitted to the Department within 45 days of a site characterization report. Once again, why is the Department singling out the oil/gas industry with this regulation and their own timeframes and deadlines? The Department fails to recognize that within the Act 2 program, a remediator can submit a Notice of Intent to Remediate (NIR) to officially enter the program and the next report submittal to the Department could be the Final Report. By creating many unnecessary steps and going through the Act 2 process, the Department is losing sight that the most important item is to thoroughly and effectively remediate a release or spill in a timely manner. The existing spill policy process allows for the effective completion of remedial activities. The outlined Act 2 process brings forth a very lengthy process. (213)

Response: A remedial action plan is only required to be submitted to the Department if the site characterization indicates that the interim remedial actions did not adequately remediate the spill or release. If the site characterization shows that all Act 2 requirements have been met, the site characterization may be considered to be the final remedial action report.

1765. Comment: (VI) A REMEDIAL ACTION PROGRESS REPORT SHALL BE SUBMITTED TO THE DEPARTMENT THREE MONTHS FOLLOWING THE DATE OF REMEDIAL ACTION PLAN IMPLEMENTATION.

There is no Act 2 or Chapter 250 provision that requires the submittal of a quarterly remedial action progress report. Once again, the Department is making the process cumbersome and has outlined additional requirements for oil/gas operators that no other industry is required to follow. (213)

Response: The submittal of a remedial action progress report could occur up to approximately 10 ½ months after a spill or release had occurred. It is important for the operator to provide updates on the progress of the remediation to keep the Department and the public informed.

1766. Comment: Section 78.66 - The Pennsylvania Land Recycling Program Act 2 sets forth requirements governing the remediation of releases greater than 42 gallons yet the proposed rules result in additional requirements, Act 2 has no provision that site characterization be completed within 180 days and no provisions that a remedial action plan be submitted within 45 days of submittal of a site characterization report. In addition, Act 2 does not require the submittal of quarterly remedial action progress reports. We are not sure why the oil and gas industry is held to different standards than other industries falling under Act 2. (367)

Response: Regarding the process for spill remediation, see response to comment 1697.

§§ 78.67 and 78a.67 Borrow pits

1767. Comment: 78a.67 Borrow pits - These provisions need to be carefully monitored to determine if further regulations are needed to protect the land, air, and water risks that may evolve. (161)

Response: The Department acknowledges the comment.

1768. Comment: §78a.67 We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1769. Comment: The provisions of the proposed final rule governing borrow pits - as set forth in section 78.67 (borrow pits) - are not in the public interest and should be withdrawn. (201)

Response: Sections 78.67 and 78a.67 are intended to ensure that all borrow pits constructed in support of conventional and unconventional oil and gas development are constructed in a responsible manner that protects public health, safety and the environment and ensures that borrow pits are restored after completion of drilling.

1770. Comment: The Department lacks the statutory authority to subject well operators who own or control a borrow pit solely for use in oil and gas well development to the requirements set forth in 25 Pa. Code Ch. 77 (noncoal mining) Subchapter I (environmental protection standards). (201)

Response: The Department disagrees with the comment. Section 3273.1(b) of the 2012 Oil and Gas Act (the Act) does not provide the owner or operator a blanket exemption from the requirements of the Noncoal Surface Mining Conservation and Reclamation Act (NCSMCRA) for borrow pits used exclusively for oil and gas activities. Rather, Section

3273.1(b) directs that obligations under NCSMCRA “shall be considered to have been satisfied if the owner or operator” (1) properly permits or registers the well pursuant to the Act, (2) fulfills bonding obligations under the Act, and (3) “maintains compliance with this chapter and applicable regulations of the Environmental Quality Board” (EQB). (emphasis added). This conditional language does not provide a blanket exemption from NCSMCRA or Chapter 77, nor does it provide a blanket exemption from regulation of the activity in general. More specifically, Section 3273.1(b) does not prohibit the EQB from promulgating regulations regarding environmental protection standards for borrow pits used exclusively for oil and gas activities, nor does it prohibit the EQB from adopting environmental protection standards under Chapter 78 and Chapter 78a that already exist for similar pits under Chapter 77. Section 3273.1(b) does, however, explicitly contemplate applicable EQB regulations regarding borrow pits. Therefore, Section 3273.1(b) ensures only that if an owner or operator is in compliance with this section and applicable regulations (i.e., Sections 78.67 and 78a.67), the Department may not enforce an *additional* round of obligations pursuant to authority granted under NCSMCRA and exercised through the noncoal permitting program. The Department believes that adopting the same environmental protection standards for borrow pits across industries is important for consistent treatment of like work, and because these standards have a demonstrated effectiveness in helping such pits avoid violating of the Pennsylvania Clean Streams Law and other Pennsylvania environmental statutes.

1771. Comment: The Department identified the following authorities in its regulatory analysis form for the proposed changes to Chapter 78: 58 Pa. CS. §§ 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c), 3274; 35 P.S. § 691.5; 35 P.S. § 6018.105; 32 P.S. § 693.5; 35 P.S. § 6062.104; 71 P.S. §§ 510-17, 510-20. None of these statutes authorizes the Department to promulgate regulations applying the noncoal mining standards contained in 25 Pa. Code Ch. 77 to the operation of a borrow pit where the minerals are extracted solely for the purpose of oil and gas well development. (201)

Response: See response to comment 1770.

1772. Comment: The Department's regulatory analysis form reflects a fundamental legal flaw. In the form, the Department states that the proposed revisions to Section 78.67 “will ensure that borrow pits used for the construction of oil and gas access roads and well site construction meet the same environmental standards as permitted non-coal surface mines, but will not be subject to the permitting requirements. Section 3273(c) of Act 13 of 2012 provided a permitting exemption for borrow pits used by the oil and gas industry.” First and foremost, there is no section 3273(c). Secondly, even if the Department intended to refer to 58 Pa.C.S. § 3273.1(b), its interpretation of this statute as only exempting borrow pits used in oil and gas operations from the permitting requirements of the Noncoal Surface Mining Conservation and Reclamation Act is contrary to the statute's plain language. Clearly, 58 Pa.C.S. §3273.1(b) refers to all obligations under the Act and implementing regulations, not just permitting. (201)

Response: See response to comment 1770.

1773. Comment: § 78.67 Borrow Pits - The Department has added some language to comply with Section 3273.1 of Act 13, which provides an exemption from obligations under the Noncoal Surface Mining Conservation and Reclamation Act or regulations under that statute, where a borrow area is used solely for the purpose of oil and gas well development. The Department has added, however, a requirement that areas subject to this exemption comply with standards in Chapter 77, adopted pursuant to the Noncoal SMCRA. This is contrary to the exemption provided in Act 13, which cannot be altered by the Department or the EQB. Without legislative

amendment, this expansion is beyond the scope of legal authority.

In addition, in the Draft Final Rule, DEP has added the requirement that such areas be “included in any permit required under Chapter 102.” The meaning and purpose of this statement is unclear. The exemption in Act 13 states that the obligations for borrow areas are satisfied when the well is permitted and the owner or operator of the well meets its bonding obligations. There is no reference to additional permits under Chapter 102 needed to satisfy the exemption. If the Department means that borrow pits are not exempt from the Pennsylvania Clean Streams Law or that permits under Chapter 102 may be needed for certain borrow areas, the language must be revised to state its intent more clearly. (212, 213)

Response: See response to comment 1770. The Department has revised the section to clarify that borrow pits must be included when determining permitting requirements under § 102.5(c).

1774. Comment: •Borrow pits used solely for oil and gas well development are statutorily exempted from the Noncoal Surface Mining Conservation and Reclamation Act, 52 P.S. § 3301 et seq., and its implementing regulations contained in 25 Pa. Code Ch. 77 (noncoal mining). See 52 P.S. § 3303 (defining “surface mining” to exclude “the extraction of minerals by a landowner for his own noncommercial use from land owned or leased by him”); 58 Pa.C.S. § 3273.1(b)(“Obligations under the Noncoal Surface Mining Conservation and Reclamation Act, or a regulation promulgated under the Noncoal Surface Mining Conservation and Reclamation Act, for any borrow area where minerals are extracted solely for the purpose of oil and gas well development, including access road construction, shall be considered to have been satisfied if the owner or operator of the well meets the conditions imposed under subsection (a)(1) [well permits] and (2) [financial security requirements] and maintains compliance with this chapter and applicable regulations of the Environmental Quality Board.”) (Emphasis supplied). The Department’s proposal to hold borrow pits used in oil and gas operations to the same environmental protection standards governing noncoal mining operations runs contrary to law and legislative intent. (201)

Response: See response to comment 1770.

1775. Comment: § 78a.67. Borrow pits. - Subsection (a) requires the operator of a borrow pit to operate, maintain and reclaim the site in compliance with the environmental performance standards of non-coal mining regulations and with the erosion and sediment control regulations and “other applicable laws.” It is recommended that either these “other applicable laws” be identified or that this all-encompassing reference be deleted. (193)

Response: The purpose of the subsection is to notify operators that laws other than those listed may apply. The laws that apply will depend on the type, scope and location of the activity being conducted.

1776. Comment: **78a.67(b)** - DEP should require all existing borrow pits to be registered immediately and brought into compliance immediately or closed within three months. These borrow pits are notoriously messy without adequate erosion and sediment control, safety measures, and typically there has been poor to no restoration or permanent best management practices installed after closure. They are also often not even registered or mapped with DEP. (182)

Response: The Department disagrees with the comment. The Department believes that 60 days from the effective date of the final rulemaking is an appropriate and reasonable timeframe to register an existing borrow pit.

1777. Comment: **78a.67(c) and 78.67(c)** – Regarding borrow pits, we again see DEP's standard time frame for restoration within 9 months of completion of drilling. As stated in comments previously set forth herein, this 9- month time frame is too strict and doesn't allow for the flexibility and economic/operational efficiency of leaving a borrow pit in place that is likely to be utilized for ongoing operations and development in the field. For example, stone from a borrow pit may be utilized to maintain the roads to the well sites which work will be ongoing activity long after drilling is completed. Rather than linking the life of a borrow pit to drilling, the requirement to restore a borrow pit should not be triggered until it is no longer being used by the operator. (190)

Response: The Department disagrees with the comment. Without linking the life of a borrow pit to drilling the well, the borrow pit would never be closed or restored.

1778. Comment: The commentator recommends that 78a.67(b) be deleted. Sections 78a.67(c)(1) and (2) provide adequate authority for the Department to ensure restoration of the borrow pit. In addition, Section 78a.67(a) requires an operator who owns a borrow pit to operate, maintain and reclaim the borrow pit in accordance with the performance standards in Chapter 102 and Chapter 77. As it relates to subsection 78a.67(c)(1), operators may open a borrow pit for use at one well pad and later determine that the pit could also serve future well pad(s) and access road(s) construction. As written, it is not clear whether and, if so, how operators are to identify what well sites the borrow pit will service. For example, acquisitions by an operator or fluctuating natural gas markets may result in more well sites to be serviced by a borrow pit. The Department should allow an operator the flexibility to extend the life of the borrow pit by adding more well sites to be serviced as they are determined.

Suggested amendatory language:

Delete section 78a.67(b). (210)

Response: The Department disagrees with the comment. There is nothing in Section 78a.67(b) that prevents the owner or operator from adding additional wells to be serviced by a borrow pit.

1779. Comment: The new proposed standards governing borrow pits used for conventional well operations are not supported by acceptable data and will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. Borrow pits that are used in oil and gas operations are already subject to a long list of environmental protection statutes and regulations. In Document No. 563-2111-115, entitled Borrow Pits for Oil and Gas Well Development Activities, the Department identified those environmental statutes and regulations as follows:

- Oil and Gas Act, 58 P.S. § 601.603 (now 58 Pa.C.S. § 3273.1(b)) (see above).
- Clean Streams Law, 35 P.S. § 691.1 et seq. Borrow pits must be operated in a manner that does not result in pollution of surface waters or groundwater.
- Solid Waste Management Act, 35 P.S. § 6018.101 et. seq. Borrow pits cannot be used for disposal or storage of solid waste unless the owner or operator complies with the Solid Waste Management Act. See also 25 Pa. Code Ch. 287-289, 299.

- Dam Safety and Encroachments Act, 32 P.S. § 693.1 et seq. Well operator must locate and operate a borrow pit to protect any stream, body of water, or watercourse and wetland. See also 25 Pa. Code Ch. 105.
- Surface Mining Reclamation and Conservation Act, 52 P.S. § 1396.1 et seq. If a borrow pit encounters coal, then authorization under the Department's Coal Mining Program is required in order for the coal to be removed from the site.
- General Safety Law, 43 P.S. § 25-2(f). Providing that all pits and other excavations be properly constructed and operated to protect workers.
- 25 Pa.Code Ch. 102 (requirements for erosion and sediment control). See 25 Pa.Code § 78.53; Document No. 800-2100-008 (Policy for Erosion and Sediment Control and Stormwater Management for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities).
- 25 Pa.Code Ch. 92 (NPDES). Borrow pits regulated by the Noncoal Surface Mining Conservation and Reclamation Act that have a disturbed area of five acres or greater, or one acre with a point-source discharge to surface water, must obtain a NPDES permit in accordance with 25 Pa. Code Ch. 102. If there is a point source discharge of pollutants to surface waters of the Commonwealth, an NPDES permit must be obtained and a water quality management plan part II permit must be obtained for the treatment facility.
- 25 Pa.Code Ch. 93 (water quality standards). If a borrow pit is located in a designated special protection watershed or the existing use of the watershed is High Quality or Exceptional Value, the anti-degradation requirements of this chapter must be satisfied.

According to the Department's online compliance reports, the Department conducted 13,445 well inspections in 2014, a 78% increase over 2008. During that same period (2008-2014), there was an 83% decrease in new conventional drilling. Of the 13,445 inspections conducted in 2014, none resulted in a notice of violation for operating a borrow pit in a manner contrary to these existing laws or regulations. This is no basis for more stringent regulations on the use of borrow pits in conventional well operations. (201)

Response: The Department disagrees with this comment. Although borrow pits are subject to the statutes and regulations listed in the comment, they are subject in a general sense in that many activities occurring in Pennsylvania are subject to the same restrictions (e.g., conducting an activity in a way that does not pollute surface water or groundwater under the Clean Streams Law). The commentator appropriately mentions Section 3273.1(b) of the Oil and Gas Act, which contemplates the creation of tailored regulation of borrow pits – see response to comment 1770. The Department disagrees with the commentator’s assessment of Department compliance data indicating that the Department has not observed even a single incidence of noncompliance with any of the laws and regulations mentioned by the commenter since 2008. The Department has observed more than zero violations of the listed laws and regulations since 2008.

1780. Comment: The direct and indirect costs of the new proposed standards are so high that they will put small, independent conventional oil and gas well operators out of business.

Requirement	Cost
License	\$300.00
Sign	\$500.00
Soil Tests	\$1,500.00
Seeding	\$500.00

Inspection (one-time)	\$300.00
Silt fencing	\$3,000.00
Sedimentation Ponds	\$5,000.00
TOTAL	\$11,100.00

These costs will have a severe adverse effect on the productivity of small, independent conventional well operators, who will be forced out of business, leaving only bigger operators. (201)

Response: The Department disagrees that the costs listed by the commentator represent a new cost to operators. The majority of the costs listed including soil tests, seeding, silt fence and sediment traps and basins are associated with complying with the Clean Streams Law and, as noted by the commenter in comment 1779, oil and gas operators are currently required to comply with the Clean Streams Law. ,

1781. Comment: The new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should these standards become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10- 15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: See response to comment 993.

1782. Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule governing the use of borrow pits in conventional well operations. (201)

Response: See response to comment 2301.

1783. Comment: The Department's regulatory analysis form does not demonstrate a need for tougher standards for borrow pits in conventional well operations. In the form, the Department refers to unspecified “environmental risks” posed by borrow pits. What risks? As explained above, the Department's online oil and gas compliance reports do not support such a finding. Moreover, in the form the Department states: “Conventional well operators are much smaller in scope and they generate far less waste than unconventional drilling, therefore the potential impact to the environment is significantly less.” Despite this admission, the proposed standards governing the use of borrow pits are identical for conventional and unconventional well operators. It is obvious that the Department contradicted its own findings and did not consider any of the differences between conventional and unconventional operations in formulating these standards. (201)

Response: Please see the final regulatory analysis for further explanation and the Department’s analysis on the economic impact of this provision.

1784. Comment: The Department's regulatory analysis form does not reflect the Department's consideration of the direct and indirect costs of the proposed standards or the economic impact that those standards would have on small businesses. As noted above, the total costs of the proposed standards are at least \$11,100.00. There is no evidence in the form suggesting that this fact was taken into consideration. (201)

Response: See response to comment 1780.

1785. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to prevent the harm sought to be avoided regarding borrow pits in conventional well operations. This is obvious from the mindless, cut-and-paste approach it used in making the same standards applicable to both conventional and unconventional operations. For example, the size of conventional borrow pit is usually .25 acre to 5 acres, as compared to the unconventional industry, who has removed whole sides of mountains to form its borrow pits. This cavalier approach to the regulatory process is fatal to small, independent conventional well operators, who lack the financial resources of larger conventional and unconventional well operators. (201)

Response: Please see the final regulatory analysis for further explanation and the Department's analysis on the economic impact of this provision.

1786. Comment: Finally, the new proposed standards for borrow pits used in conventional well operations represent a policy decision of such a substantial nature that they require an act of the General Assembly before they can become law. As explained above, the Department's attempt to rewrite Act 13 of 2012 and the Noncoal Surface Mining Conservation and Reclamation Act to remove the statutory exemption for borrow pits used in oil and gas development by way of regulation is improper. In its regulatory analysis form, the Department admits that neither West Virginia nor Ohio have regulations governing borrow pit reclamation, which "places the Commonwealth in a position that is more attuned to landowner concerns." Also, why should the oil and gas industry be treated more severely than the timber industry, which also uses borrow pits for their operations? If Pennsylvania is to be the first in the region to impose such onerous regulations on the use of borrow pits in conventional well operations, it should not do so on the backs of small, independent conventional well operators who are least able to absorb the increased costs. (201)

Response: See response to comment 1770. Regarding the timber industry, there is no exemptions from the regulation of borrow pits for the timber industry under NCSMCRA or 25 Pa. Code Chapter 77. If, however, certain timbering operations use borrow pits that are not so regulated under these provisions, this may be because the borrow pits fall into one of the general exemptions to the definition of "surface mining" in Section 3303 of NCSMCRA, or "noncoal surface mining activities" in Section 77.1 of Chapter 77. In order to treat gas operators similarly, Sections 78.67(c)(2) and 78a.67(c)(2) provide that borrow pits that no longer meet conditions under Section 3273.1 of the Oil and Gas Act may still be exempt from NCSMCRA and Chapter 77 if any of the general exemptions found in those provisions apply to the borrow pit in question.

1787. Comment: § 78a.67(a) For consistency with the § 78a.1 definition of "borrow pit", the language in the first sentence of this subsection should be modified to read ". . . because the pit is used exclusively for extraction of materials for the purpose of oil and gas development . . .".

Chapter 77 (“Noncoal” Mining) of Title 25 of the Pennsylvania Code was promulgated pursuant to the Noncoal Surface Mining Conservation and Reclamation Act (“NSMCRA”). Section 3273.1(b) of the Oil and Gas Act of 2012 exempts from obligations of NSMCRA and its implementing regulations any borrow area where minerals are extracted solely for the purpose of oil and gas well development, including access road construction, if the owner or operator of a well has a permit, maintains a bond, and is in compliance with the Act and applicable regulations. The proposed subsection 78a.67(a) is contrary to the Section 3273.1(b) exemption established by the Legislature because it would require operators of such borrow pits to nevertheless operate, maintain and reclaim the borrow pit in accordance with the performance standards in Chapter 77, Subchapter I (a regulation implemented pursuant to NSMCRA). The provisions of proposed subsection 78a.67(a) regarding compliance with Chapter 77 should therefore be deleted. (210)

Response: Regarding the language defining “borrow pit”, the Department has modified the language to reflect your suggestion for consistency. Regarding NCSMCRA, see response to comment 1770.

1788. Comment: § 78a.67(d) New subsection (d) should be deleted, as borrow pits constructed prior to the effective date of these proposed amended regulations should not be retroactively required to comply with new standards set forth in this subsection. Upgrading a borrow pit that is already in existence to the new standards may be impossible.

On a related note, subsection (d) is unclear as drafted because it places the requirements of this subsection on the operator that constructed a borrow pit – not the current operator who owns or controls the borrow pit.

The commentator’s suggested amendatory language:

Delete subsection 78a.67(d). (210)

Response: The Department disagrees with the first comment. Section 78a.67 seeks to clarify existing statutory requirements which do not include grandfathering provisions. It is the intent of the Department to bring existing borrow pits into compliance with the final rulemaking.

The Department agrees with the second comment and will modify Sections 78.67(d) and 78a.67(d) to reflect the commentator’s comment.

1789. Comment: In 2013, the EQB proposed a new regulation for noncoal borrow areas for oil and gas well development, including performance, registration and restoration requirements. In 2015, PADEP clarified the mining permit exemption and added a requirement for borrow pits that do not meet the proposed standards to be upgraded within one year.

We support the proposed new regulation at § 78a.67 and PADEP’s new requirement for existing borrow pits to be upgraded within a year. However, we request that the proposed regulation be strengthened by referencing the proposed site restoration standards of § 78a.65, by including a PADEP review and approval process, including public review, and by clarifying that waste may not be stored in, disposed of, or buried in a borrow pit. We do not support a two-year extension of the borrow pit restoration requirements.

We recommend that § 78a.67 be revised as follows:

§ 78a.67. Borrow pits.

(a) An operator who owns or controls a borrow pit that does not require a permit under the Noncoal Surface Mining Conservation and Reclamation Act (52 P. S. §§ 3301—3326), under the exemption in section 3273.1(b) of the act (relating to relationship to solid waste and surface mining), BECAUSE THE PIT IS USED EXCLUSIVELY FOR EXTRACTION OF MINERALS FOR THE PURPOSE OF OIL AND GAS WELL DEVELOPMENT, INCLUDING ACCESS ROAD CONSTRUCTION, shall operate, maintain and reclaim the borrow pit in accordance with the performance standards in Chapter 77, Subchapter I (RELATING TO ENVIRONMENTAL PROTECTION PERFORMANCE STANDARDS) and IN ACCORDANCE WITH Chapter 102 (relating to environmental protection performance standards; and erosion and sediment control), and other applicable laws. THE MINING PERMIT EXEMPTION ONLY APPLIES SO LONG AS THE BORROW PIT IS SERVICING AN OIL AND GAS WELL SITE WHERE A WELL IS PERMITTED UNDER SECTION 3211 OF THE ACT (RELATING TO WELL PERMITS) OR REGISTERED UNDER SECTION 3213 OF THE ACT (RELATING TO WELL REGISTRATION AND IDENTIFICATION) AND THE REQUIREMENTS OF SECTION 3225 OF THE ACT (RELATING TO BONDING) ARE SATISFIED BY FILING A SURETY OR COLLATERAL BOND FOR WELLS DRILLED ON OR AFTER APRIL 18, 1985. AREAS SUBJECT TO THE MINING PERMIT EXEMPTION MUST BE INCLUDED IN ANY PERMIT REQUIRED UNDER CHAPTER 102. WASTE SHALL NOT BE STORED IN, DISPOSED OF, OR BURIED IN A BORROW PIT.

(b) Operators shall register the location of their existing borrow pits by _____, (*Editor's Note: The blank refers to 60 calendar days after the effective date of adoption of this proposed rulemaking.*) by providing the Department, [~~in writing~~], ELECTRONICALLY THROUGH THE DEPARTMENT'S WEBSITE, with the GPS coordinates, township and county where the borrow pit is located. The operator shall ~~register the location~~ SUBMIT AN APPLICATION FOR THE USE of a new borrow pit TO THE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. THE APPLICATION SHALL BE SUBMITTED ELECTRONICALLY TO THE DEPARTMENT THROUGH ITS WEB SITE. THE PERMIT APPLICATION SHALL BE IMMEDIATELY MADE AVAILABLE TO THE PUBLIC ON THE DEPARTMENT'S WEBSITE. THE DEPARTMENT SHALL PROVIDE A 30-DAY PUBLIC COMMENT PERIOD ON THE PROPOSED PERMIT APPLICATION. AFTER CONSIDERING COMMENT RECEIVED, THE DEPARTMENT SHALL ISSUE A DECISION ON THE PERMIT.

(c) Borrow pits used for the development of OIL AND GAS OPERATIONS ~~oil and gas well sites and access roads~~ that no longer meet the conditions under section 3273.1 of the act must meet one of the following:

(1) Be restored within 9 months after completion of drilling THE FINAL WELL ON A WELL SITE SERVICED BY THE BORROW PIT [~~all permitted wells on the well site~~] or 30 calendar days after the expiration of all [~~existing~~] well permits on the well site IF THE BORROW PIT IS TO BE CONTINUOUSLY UTILIZED FOR ALL PERMITTED WELLS, whichever occurs later, TO THE SITE RESTORATION STANDARDS OF § 78.65.

(2) Obtain a noncoal surface mining permit for its continued use, unless relevant exemptions apply under the Noncoal Surface Mining Conservation and Reclamation Act

and regulations promulgated thereunder. ~~[A 2 year] AN extension of the restoration requirement may be approved under § 78.65(d) (relating to site restoration). (211)~~

Response: The Department disagrees with the suggested language in Sections 78.67(c) and 78a.67(c) as it is the intent of the Department to make it clear that only oil and gas well sites and roads that do not meet the conditions under 3271 of the Act must meet the stated requirements.

The Department disagrees with the suggested additional language in Sections 78.67(c)(1) and 78a.67(c)(1) as it is the intent of the Department that a borrow pit is restored within 9 months of completion of drilling of the last well being serviced by the borrow pit. It is understood that the borrow pit will be used continuously until the last well serviced by the borrow pit is completed.

The Department disagrees with removing the two year extension provision from Sections 78.67(c)(2) and 78a.67(c)(2) for restoration of the borrow pit. Section 3216(g) of the Oil and Gas Act of 2012 allows for the extension of the restoration period for up to 2 years upon demonstration by the owner of the need to extend.

The Department declines to add language regarding waste; as such prohibition would be unnecessarily duplicative of regulations related both to waste and to noncoal mining.

The Department disagrees with the suggested change in the language in Sections 78.67(b) and 78a.67(b) as the Oil and Gas Act of 2012 does not require a 30 day comment period for borrow pits.

The Department intends to provide an effective date for adoption of the final rulemaking. The Department does not agree with the recommended revisions to Sections 78.67(c)(2) and 78a.67(c)(2). The Department believes that the restoration extension described under § 3216 is appropriate to apply to borrow pits. Borrow pits may remain unrestored when servicing properly permitted and bonded wells including the two-year extension of the restoration requirement pursuant to Sections 78.65(c) and 78a.65(c). The circumstances under which an extension would be prudent and the criteria used by the Department to make a determination are listed under Sections 3216(g)(1)(i)-(ii) of the Oil and Gas Act. Additionally, Sections 78.67(a) and 78a.67(a) require the operator to operate, maintain and reclaim the borrow pit in accordance with the performance standards established in 25 Pa. Code Chapter 77 Subchapter I and 25 Pa. Code Chapter 102 which describe best practices for site reclamation and restoration.

1790. Comment: § 78.67 and § 78a.67 Borrow Pits - The Department has added some new language to comport with Section 3273.1 of Act 13, which provides an exemption from all obligations under the Noncoal Surface Mining Conservation and Reclamation Act or regulations under that statute, where a borrow area is used solely for the purpose of oil and gas well development. The Department has added, however, a requirement that areas subject to this exemption comply with standards in Chapter 77, adopted pursuant to the Noncoal SMCRA. This is contrary to the exemption provided in Act 13 for ALL obligations under the Noncoal SMCRA, not just for Noncoal SMCRA permitting requirements, which cannot be revised through regulatory revisions by the Department or EQB. Without express legislative amendment, this requirement is contrary to existing law. (213)

Response: See response to comment 1770.

1791. Comment: Section 78.67 regarding borrow pits seems to tie pit usage to a specific well and requires registration of pits. Who bears responsibility for 'communal' pits that numerous operators may use simultaneously or over the course of the pit's life? Item (d) requires inspection of existing pits by 'qualified personnel'. What does that even mean? (361)

Response: The owner is ultimately responsible for the borrow pit regardless of the number of operators using the pit. Qualified personnel are those who know and understand the regulatory requirements necessary to operate a borrow pit within the law.

§§ 78.68 and 78a.68 Oil and gas gathering pipelines

1792. Comment: 78a.68 The section should contain more detail on pipeline construction specifically installation of hydraulic dams to prevent the rapid dewatering of shallow ground water. The dewatering occurs through preferential migration of groundwater down the pipeline backfill resulting in lowered groundwater recharge and dewatering of shallow groundwater that supports upland wetlands, vernal pools and other shallow groundwater features. (239)

Response: All oil and gas gathering pipeline construction activities must comply with regulations in Chapters 102 and 105. The Department provides more detailed technical guidance in the 2012 Erosion and Sediment Pollution Control Program Manual (363-2134-008). This manual provides direction for the installation and spacing of impermeable trench plugs in pipeline trenches. Properly installed trench plugs will block the flow of groundwater along the path of the pipeline trench and maintain the natural groundwater path.

1793. Comment: **78a.68** - We support that stormwater management under Chapter 102 has been added to the requirements to control erosion and sediment in this section. However, DEP does not include post construction stormwater management, a critically needed component to ensure that sites are equipped with an effective stormwater system after being built. DEP should change this section to: "shall comply with Chapter 102 (relating to erosion and sediment control) and Post Construction Stormwater Management requirements". See comments at 78a53. regarding restoration of disturbed areas.

We support the inclusion in this section of the PA Stormwater Best Management Practices Manual, the Erosion and Sediment Pollution Control Program Manual, and the Riparian Forest Buffer Guidance. We oppose the inclusion of the Oil and Gas Operators Manual (1997) which is outdated and does not address horizontal drilling and high volume hydraulic fracturing practices that are used in the unconventional formations in the State. It also does not cover the current practices used at conventional drilling sites.

DEP should remove the Oil and Gas Operators Manual (1997) from this section for both conventional and unconventional well drilling. If DEP does not remove it, DEP should make clear that the PA Stormwater Best Management Practices Manual and/or the Erosion and Sediment Pollution Control Program Manual always take precedent over the Oil and Gas Operators Manual for design standards and the Oil and Gas Operators Manual is only to be used for industry specific issues not addressed in the Stormwater Best Management Practices and/or the Erosion and Sediment Pollution Control Program Manuals. See comments at 78a53. (182)

Response: Post Construction Stormwater Management (PCSM) is addressed in Chapter 102, Section 102.4 (b)(5) requires that certain items are to be included in the drawings and

narrative of the Erosion and Sedimentation (E&S) Plan. Specifically the E&S Plan shall be planned, designed and implemented to be consistent with the requirements for a PCSM Plan, Also, the Department acknowledges that the Oil and Gas Operators Manual should be updated but also acknowledges that the guidance documents are listed as a reference and are not incorporated as requirements. The reference has been retained.

1794. Comment: Section 78a.68 Section for oil and gas gathering lines. There is no reference or requirement for re-vegetation, testing of line precautions, minimum of maximum depths, placement of permanent markers or protecting from unauthorized access or acts. These references should be addressed. (9)

Response: Pipelines need to be re-vegetated as required by Chapter 102, Erosion and Sediment Control, and there are sections addressing pressure testing for HDD and well development pipelines. Pipeline safety issues outside of corrosion control, such as unauthorized acts, placement depths or access, are beyond the scope of this rulemaking.

1795. Comment: Ensure the use of the highest standard in pipe used for conveyance of gas. (22)

Response: The focus of this section is actions relating to drilling activities, not the technical specifications for pipelines. Accordingly, specification for pipeline material is beyond the scope of this rulemaking.

1796. Comment: Commentator opposes the Department's proposal to eliminate § 78.68, which contains requirements for oil and gas gathering lines for conventional operators. There is little difference between oil and gas gathering lines used in conventional operations and those used in unconventional operations. The concerns associated with the construction and maintenance of gathering lines are common to both, and so should be the requirements imposed by § 78.68.

For example, the threats to wetlands and endangered species posed by a gathering pipeline are not affected by whether the pipeline carries gas produced by conventional or unconventional drilling. As a result, the flagging required by § 78.68(b) would offer the same protection regardless of whether the gathering line carries conventional or unconventional gas, and there is no reason to apply those protections to one (unconventional) and not the other (conventional).

Similarly, the requirement of proper erosion and sedimentation and post-construction stormwater management in § 78.68(g) is equally meaningful in a conventional as unconventional setting. The Department should restore § 78.68 as originally proposed. (231, 231a)

Response: The Department has removed proposed section 78.68, Oil and Gas Gathering Lines, from the final regulations. Chapter 78 applies to conventional oil and gas operations. Removal of this section does not imply that any earthmoving activities as well as water obstructions and encroachments or any other regulated activity otherwise are dismissed from the applicable permit requirements for these activities relative to Chapter 102 Erosion and Sediment Control and Chapter 105 Water Obstructions and Encroachments; in other words, Conventional Oil and Gas operations must still meet and comply with the requirements of Chapter 102 and Chapter 105.

1797. Comment: 78a.68(b) Visible flagging, markers or signs should be consistent and standardized for instant recognition by the public. (161)

Response: The intent of visible flagging requirements in subsection 78a.68(b) is to ensure that sensitive resources and other important boundaries are easily visible to the crews actively working on the construction site. A standardized approach to allow for recognition by the general public is unnecessary.

1798. Comment: § 78a.68(b) As written this language is very restrictive and nearly impossible to continuously implement. Flagging, markers, etc. are temporary features that are routinely removed or otherwise disturbed by landowners, weather conditions, animals, etc. and no operator should be subject to violation if these temporary markers are not continuously maintained, and means for denoting the limits of disturbance should be left up to the applicant. Additionally, boundaries described in this section are often not “shared”, so the Department’s use of this word in the provision is not clear.

The commentator’s suggested amendatory language:

(b) Shared boundaries of the limit of disturbance, wetlands and other water resources, and the location of threatened and endangered species habitats shall be clearly identified on project mapping and with temporary markings in the field prior to earth disturbances. When practical and necessary, these temporary markings should be maintained while nearby earth disturbances are ongoing. (210)

Response: The Department does not agree with this recommendation. It is vital to delineate special area boundaries in the field i.e. limit of disturbance (LOD), jurisdictional streams and wetlands as well as endangered species habitat otherwise unseen or not readily visible to reduce the likelihood of unintentional disturbance during clearing and grubbing or other earthmoving activities. Without persistent, accurate and consistent visual demarcation of these boundaries there is an increased likelihood of these areas being significantly disturbed during construction and restoration activities.

1799. Comment: § 78a.68(c)(1): Based on the context of this sentence, we believe the term “restoration” is improperly used. It is recommended that the Department use the term “backfilling” which is consistent with and supports the requirements in §78a.68(d). (195)

Response: Restoration does not occur in the timeline of a pipeline until another step (revegetation) has completed, possibly many months after the topsoil and subsoil has been put back and this requirement has been fulfilled.

1800. Comment: § 78a.68(c)(4) This subsection should be revised for clarity.

The commentator’s suggested amendatory language:

(4) Imported topsoil must be of equal or greater quality to native topsoil to ensure the restored land is capable of supporting the uses that existed prior to earth disturbance. (210)

Response: The current language adequately ensures that at a minimum the native topsoil will be used to backfill the pipeline trench and if not available then imported topsoil of equal or greater quality will be used.

1801. Comment: 78a.68(e) Refueling of equipment should be 100 feet outside any water or wetland to maximize protection. (161)

Response: In order to reduce the likelihood of any accidental discharges of fuels or other hazardous substances, 50 feet provides a sufficient buffer to bodies of water when refueling.

1802. Comment: 78a.68 (e) Oil and gas gathering PIPELINES [lines] 78a.68(e) Equipment shall not be refueled within the jurisdictional floodway of any watercourse or within 50 feet of any body of water. As noted in our general comments, variance and exception language can improve efficiency and make the regulatory process more performance-oriented. Consistent with this principal, Commenter asks that the Department provide exception language for when materials staging for gathering line installations is not feasible outside the floodway or more than 50 feet from a body of water. For example, water withdrawal pumps need to be refueled. These pumps are often placed within the floodway to operate effectively, and refueling them outside of the floodway poses an operational and safety risk from continually mobilizing the pump for refueling. Since sufficient containment around the unit is required to prevent any release, the prescriptive language is not necessary. Commenter suggests the Department provide exception language for instances where operators would not be able to reasonably comply. Commenter would support a provision like that written for 78a.68(f): “Equipment shall not be refueled within the jurisdictional floodway of any watercourse or within 50 feet of any body of water, unless otherwise approved in writing by the Department .” (199, 210)

Response: The Department disagrees with the commenter’s proposed change. In order to reduce the likelihood of any accidental discharges of fuels or other hazardous substances, 50 feet provides a sufficient buffer to bodies of water when refueling.

1803. Comment: 78a.68(f) Staging areas should also be 100 feet outside any body of water or wetland to maximize protection. (161)

Response: The proposed setback for material staging areas from water bodies is appropriate and consistent with other regulatory requirements.

Furthermore, Subsection 78a.68(f) has been modified to allow for materials staging within the floodway or within 50 feet of a water body if first approved in writing by the Department.

1804. Comment: **78a.68(g)** – The commenter questions DEP/EQB's statutory authority to mandate that “all buried metallic gathering pipelines shall be installed and placed in operations in accordance with 49 CFR Part 192 or 195.” These federal standards deal with constructing, operating and maintaining pipelines, which is outside the scope of DEP/EQB' s statutory authority. Considering neither the USDOT, nor the PUC currently subject gathering pipelines to their complete jurisdiction, why does DEP/EQB believe that it has the authority to mandate that gathering pipelines fully comply with USDOT regulations? The IRRC similarly asked “for an explanation of why these sections are needed, in light of other federal and state laws that cover these matters.” *IRRC Comments* at pg. 17. Notably, no such explanation is provided in the ANOFR. (190)

Response: Section 3218.4(a) of the 2012 Oil and Gas Act provides that “[a]ll buried metallic pipelines shall be installed and places in operation in accordance with 49 CFR Pt. 192, Subpart I (relating to requirements for corrosion control).” Section 78.68(g) reflects this requirement. The incorporation of 49 CFR Part 195, Subpart H is included because that subpart also outlines standards for protecting pipelines against corrosion, specifically steel pipelines transporting hazardous liquids such as condensate from natural gas operations. The reference to 49 CFR Part 195, Subpart H is consistent with the intent to

Section 3218.4(a) of the Oil and Gas Act to set forth standards for the installation and placement of metallic pipelines, including related corrosion control requirements.

1805. Comment: 78a.68(g) All gathering lines should exceed federal guidelines in class 4 areas to be consistent with class 3 areas given potential development and safety considerations. (161)

Response: Gathering pipeline safety requirements other than corrosion control requirements are beyond the scope of this rulemaking. The Department is not authorized by the 2012 Oil and Gas Act to adopt requirements which are more stringent than the Federal requirements.

§§ 78.68a and 78a.68a Horizontal directional drilling for oil and gas pipelines

1806. Comment: §78a.68a. We find the language changes reasonable and necessary. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges your comment.

1807. Comment: Horizontal Directional Drilling for Oil and Gas Pipelines (§ 78a.68a) Horizontal directional drilling activities (horizontal bores for pipeline installation) are regulated per Chapter 102 (Erosion/Sediment Pollution Control Program) and Chapter 105 (Waterways and Wetlands Permitting). Commenter believes this activity is already appropriately regulated by Pennsylvania DEP via these chapters and does not require this additional language in Chapter 78. Commenter requests that this section be removed from regulation. (205)

Response: The references to 25 Pa.Code Chapters 102 and Chapter 105 are appropriate to notify operators of horizontal directional drilling associated with pipeline construction related to oil and gas operations, including gathering and transmission pipelines that occurs beneath any body of water or watercourse of applicable requirements outside of 25 Pa.Code Chapter 78a. Section 78a.68a addresses issues specific to horizontal directional drilling which are not addressed in Chapters 102 or 105. The section has been retained.

1808. Comment: Section 78a.68a (a) and (g). This section provides for the horizontal directional drilling for oil and gas pipelines does not reference or require obtaining a PADEP General Permit #5 and the permit applications minimum requirements and conditions nor does it address minimum monitoring requirements for pressure and loss of drilling fluids. (9)

Response: The Department disagrees with this comment. Section 78a.68a (a) clearly requires all 105 and 102 authorizations to be in place prior to commencing any horizontal directional drilling. A Chapter 105 General Permit - 5 (GP5) would be required, if and when applicable, to the individual stream or body of water crossing.

Furthermore, Section 78a.68a (g) does address the comment on minimum monitoring requirements for pressure and loss of drilling fluids. Loss of pressure requirements is basically an industry standard that is monitored by the operator during the drilling process and monitoring for loss of drilling fluids must be done in accordance to the approved PPC plan.

1809. Comment: §78a.68a.(a) Pipeline construction is an “oil and gas operation”, as defined in Act 13 and the most recent version of this ANFR. Erosion and sediment control requirements for oil and gas operations are addressed in Section 78a.53, thus the reference to Chapter 102 is not necessary.

Inclusion of the phrase “pipeline construction related to oil and gas operations” is confusing. Horizontal directional drilling is an activity associated with pipeline construction and is included in the definition of “oil and gas operation”. Commenter recommends that the introductory clause be clarified to read as follows: “Any horizontal directional drilling that is associated with construction of oil and gas activity, including well development, gathering and transmission pipelines, that occurs beneath anybody ...”

The commentator’s suggested amendatory language:

(a) Any horizontal directional drilling that is associated with construction of oil and gas activity, including well development, gathering and transmission pipelines, that occurs beneath any body of water or watercourse must be authorized by the Department in accordance with 25 Pa. Code Chapter 105 (relating to dam safety and waterway management). (210)

Response: The intent of this section of the final regulations is to regulate activities relating to drilling associated with oil and gas pipelines, not construction of any oil and gas activity. Therefore, the proposed language is being retained.

1810. Comment: 78a.68a (b). This provision is redundant of the Department’s proposed Section 78a.55 (a), which would apply to all “oil and gas operations”, as defined. Accordingly, we believe that Subsection 78a.68a (b) is not necessary.

The commentator’s suggested amendatory language:

Delete subsection 78a.68a (b). (210)

Response: Subsection §78a.68a(b) includes specific requirements related to the activity of horizontal directional drilling that are not specifically addressed in section 78a.55 which relates to PPC for unconventional oil and gas operations. And any person conducting this activity is required to prepare a PPC plan. However, a separate PPC plan is not required for HDD activities provided that the PPC plan developed under §78a.55 meets the requirements in this section.

1811. Comment: 78a.68a (e) Staging areas should be increased from 50 to 100 feet from any watercourse or body of water. (161)

Response: Subsection 78a.68(e) requires staging areas to be outside of the floodway or at least 50 feet from any body of water. The distance of 50 feet is consistent with the definition of a floodway in Chapter 105. However this section has been modified to allow for materials staging within 50 feet of a water body or within the floodway if first approved in writing by the Department.

1812. Comment: 78a.68a (e). The commentator requests that language be added to allow for an alternate approach to be considered and approved, depending on site-specific circumstances.

The commentator’s suggested amendatory language:

(e) Unless an alternative plan is approved by the Department, materials staging areas for horizontal directional drilling operations shall be outside of a floodway, as that term is defined in

25 Pa. Code Chapter 105, of any watercourse or greater than 50 feet from any body of water.
(210)

Response: The section has been modified to allow for HDD related materials to be staged within the floodway or within 50 feet of a water body, if first approved by the Department.

1813. Comment: §78a.68a (g) Monitoring for pressure and loss of fluid returns can vary and require frequent modifications. Loss of fluid and/or pressure does not always yield an inadvertent return, thus monitoring requirements should not be memorialized in a PPC plan. Commenter suggests clarifying this statement to ensure that monitoring for discharges be established, but not monitoring for pressure and fluid loss.

The commentator's suggested amendatory language:

(g) Horizontal directional drilling operations shall be monitored for pressure and loss of drilling fluid returns. Bodies of water and watercourses over and adjacent to horizontal directional drilling operations shall also be monitored for any signs of drilling fluid discharges. (210)

Response: Loss of drilling fluid regardless of whether or not an inadvertent return occurs represents a potential environmental impact.

1814. Comment: §78a.68a (h) Horizontal directional drilling activities will be performed under DEP authorization, per paragraph (a), and in accordance with a site-specific PPC plan. For purposes on paragraph (h), it should be sufficient to specify that the contingency plan portion of the PPC Plan must be implemented.

The commenter's suggested amendatory language:

If a discharge of drilling fluids to waters of the Commonwealth occurs during horizontal drilling activities, the drilling operator shall immediately implement the contingency plan portion of the site-specific PPC plan. (210)

Response: The Department disagrees with this comment. Not all horizontal directional drilling activities are described under section 78a.68a(a). Discharges of materials other than drilling fluids may occur during HDD activities. The language in §78a.68a (h) is appropriate.

1815. Comment: §78a.68a (i) It may not be practical or reasonable for industry to report all "loss of drilling fluid circulation", particularly when the fluid does not come to the surface.

The commentator's suggested amendatory language:

(i) When a drilling fluid discharge is discovered, the operator shall request an emergency permit under 105.64 (relating to emergency permits), if necessary. (210)

Response: Loss of drilling fluid regardless of whether or not an inadvertent return occurs represents a potential environmental impact.

1816. Comment: 78a.68a(i) – Under § 78.68a(i), a directional drilling operator will be required to immediately report a loss of drilling fluid circulation to DEP and request an emergency permit if necessary. This requirement fails to recognize that a temporary loss of drilling fluid circulation is a rather common occurrence during HDD operations, but it is not an absolute indicator that there

is a problem and it certainly does not mean there is a discharge of fluid. Commenter presumes that the intent of this rule is to report discharges of fluid; however, DEP/EQB is incorrectly equating a loss of drilling fluid circulation to a discharge of fluid. That is an erroneous and arbitrary presumption that is not supported by any facts. Reporting every loss of drilling fluid circulation to the DEP would be unduly burdensome, would not further any regulatory or environmental objective, would create an unnecessary administrative burden on the DEP, and would provide no benefit to the operator, the DEP or the public. Commenter recommends that the reference to “loss of drilling fluid circulation” be removed from the proposed rule so it appropriately focuses on reporting of actual drilling fluid discharges to DEP. (190)

Response: Loss of drilling fluid regardless of whether or not an inadvertent return occurs represents a potential environmental impact.

1817. Comment: 78a.68a(k) Discharges of drilling fluid should be managed in accordance with the Clean Streams Act as pollutinal and not residual waste. (161)

Response: The Department acknowledges that discharges of drilling fluid may constitute pollution under the Clean Streams Law. However, the residual waste regulations under Subpart D, Article IX include appropriate requirements for management of the material.

1818. Comment: §78a.68a(k) The commentator supports the beneficial reuse of drilling fluid, and requests that provisions for such be included in the proposed subsection.

The commentator’s suggested amendatory language:

(k) Management of horizontal directional drilling fluid returns and drilling fluid discharges shall be in accordance with Part I, Subpart D, Article IX (relating to residual waste management). (210)

Response: This reference to Article IX has been changed to Subpart D, Article IX.

1819. Comment: In 2013, the EQB proposed a new regulation governing horizontal directional drilling associated with gathering and transmission pipelines, including new planning, notification, construction, and monitoring requirements. In 2015, PADEP, revised the proposed regulation to clarify that PADEP approval is required before drilling can commence and that pre-approved directional drilling fluid additives do not require a separate approval, among other administrative changes.

We support requirements for horizontal directional drilling associated with gathering and transmission pipelines.

The 2014 Comments recommended that the regulation specifically limit drilling additives to non-toxic materials, since there is a potential risk to the environment of exposure to these additives. We reiterate this important recommendation.

We also recommend changes to the PPC Plan requirement similar to those we recommended for § 78a.55, above. In addition to PADEP, the operator should notify the landowner, neighboring owners, local resident, the local government and local emergency response resources relied on in the PPC at least 24 hours prior to beginning of any directional drilling activities.

We are concerned about the proposal to allow material staging areas within 50 feet of a water body. We recommend that material staging areas be located at least 100 feet away from a water body to provide a protective buffer.

We recommend that § 78a.68a be revised as follows:

§ 78a.68a. Horizontal directional drilling for oil and gas pipelines.

(a) [Any] NO horizontal directional drilling ACTIVITIES associated with pipeline construction related to oil and gas operations, including gathering and transmission pipelines, that occur[s] beneath any body of water or watercourse ~~[will]~~ MAY COMMENCE PRIOR TO ~~[be authorized]~~ AUTHORIZATION by the Department in accordance with Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management). HORIZONTAL DIRECTIONAL DRILLING SHALL BE USED FOR CROSSING ALL BODIES OF WATER OR WATERCOURSES, UNLESS THE OPERATOR DEMONSTRATES THAT A DRY CROSSING PRESENTS LESS RISK TO WATERS OF THE COMMONWEALTH.

(b) Prior to beginning of any horizontal directional drilling activity, THE PERSON PLANNING TO CONDUCT THOSE ACTIVITIES ~~[the directional drilling operator]~~ shall develop a PPC plan under § 102.5(l) (relating to permit requirements). The PPC plan must include a site specific contingency plan that describes the measures to be taken to control, contain and collect any discharge of drilling fluids and minimize impacts to waters of the Commonwealth.

THE PPC PLAN SHALL INCLUDE INFORMATION TO DEMONSTRATE THAT THE OPERATOR HAS SUFFICIENT EQUIPMENT AND TRAINED AND QUALIFIED PERSONNEL IMMEDIATELY AVAILABLE, OR ON CONTRACT, TO CONTAIN, CONTROL, AND CLEAN-UP THE WORST-CASE DISCHARGE OR RESPOND TO THE WORST-CASE EMERGENCY.

IF LOCAL EMERGENCY RESPONSE RESOURCES ARE RELIED ON IN THE PPC PLAN, THE OPERATOR MUST DEMONSTRATE THAT THE LOCAL RESPONDERS ARE TRAINED, QUALIFIED, AND EQUIPPED TO RESPOND TO AN INDUSTRIAL ACCIDENT. IF THE LOCAL RESPONDERS ARE NOT TRAINED, QUALIFIED, AND EQUIPPED TO RESPOND TO AN INDUSTRIAL ACCIDENT, THE OPERATOR SHOULD BE REQUIRED TO PROVIDE ITS OWN INDUSTRIAL RESPONSE EQUIPMENT AND PERSONNEL.

THE OPERATOR MUST CONDUCT A DRILL TO TEST THE PPC PLAN PRIOR TO COMMENCING DIRECTIONAL DRILLING, AND MUST PROVIDE 3 DAYS' NOTICE OF THE TEST TO THE DEPARTMENT AND LOCAL EMERGENCY RESPONSE RESOURCES RELIED ON IN THE PPC PLAN, TO PROVIDE THEM WITH THE OPPORTUNITY TO PARTICIPATE.

THE OPERATOR SHALL SUBMIT THE PPC PLAN TO THE DEPARTMENT FOR REVIEW AND APPROVAL AS PART OF THE PERMIT APPLICATION. OPERATIONS MAY NOT COMMENCE UNTIL DEPARTMENT APPROVAL OF THE PPC PLAN IS COMPLETE.

PROPOSED REVISIONS TO THE PPC PLAN MUST BE SUBMITTED TO THE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTING A CHANGE TO THE PRACTICES IDENTIFIED IN THE PPC PLAN. ONCE APPROVED, THE DEPARTMENT WILL AUDIT EACH PPC (Plan) AT LEAST ONCE DURING THE

CONSTRUCTION PERIOD TO VERIFY THAT THERE IS SUFFICIENT TRAINED AND QUALIFIED PERSONNEL AND EQUIPMENT AVAILABLE TO CARRY OUT THE PLAN.

The PPC plan must be present onsite during drilling operations and ~~made available to~~ filed with the Department ~~upon request~~.

(c) The Department, THE LANDOWNER, THE LOCAL GOVERNMENT AND LOCAL EMERGENCY RESPONSE RESOURCES (IF RELIED ON IN THE PPC PLAN) shall be notified at least 24 hours prior to beginning of any horizontal directional drilling activities, including conventional boring, beneath any body of water or watercourse. Notice shall be made electronically to the Department through its web site and include the name of the municipality where the activities will occur, GPS coordinates of the entry point of the drilling operation and the date when drilling will begin.

(d) All required permits and Material Safety Data Sheets shall be on site during horizontal directional drilling ACTIVITIES [~~operations~~] and be made available to the Department upon request.

(e) Material staging areas shall be outside of a REGULATED floodPLAIN~~way~~, as defined in § 105.1 (relating to definitions), of any watercourse or greater than 100 ~~50~~ feet from any body of water, WHICHEVER IS GREATER. AS IS REQUIRED UNDER §§ 105.1, 105.14(B), 105.15, AND 105.18A(A)(1), NO CONSTRUCTION ACTIVITY, INCLUDING CONSTRUCTION OF TEMPORARY PIPELINES, MAY ADVERSELY IMPACT EXCEPTIONAL VALUE WETLANDS.

(f) Non-toxic ~~d~~Drilling fluid additives other than bentonite and water must be approved by the Department prior to use. THE USE OF TOXIC DRILLING FLUID ADDITIVES IS PROHIBITED. All approved horizontal directional drilling fluid additives will be listed on the Department's web site. USE OF A PRE-APPROVED HORIZONTAL DIRECTIONAL DRILLING FLUID ADDITIVE DOES NOT REQUIRE SEPARATE DEPARTMENT APPROVAL.

(g) Horizontal directional drilling ACTIVITIES [~~operations~~] shall be monitored for pressure and loss of drilling fluid returns. Bodies of water, ~~and~~ watercourses, AND WETLANDS over and adjacent to horizontal directional drilling ACTIVITIES [~~operations~~] shall also be monitored for any signs of drilling fluid discharges. Monitoring shall be in accordance with the PPC plan. DIRECTIONAL DRILLING OPERATIONS MUST CEASE IMMEDIATELY IF THERE IS A DRILLING FLUID LOSS OR PRESSURE DROP OR THERE IS ANY SIGN OF A DRILLING FLUID DISCHARGE INTO ANY BODY OF WATER, WATER COURSE, OR WETLAND.

(h) Horizontal directional drilling activities may not result in a discharge of drilling fluids to waters of the Commonwealth. If a discharge occurs during horizontal directional drilling activities, the [drilling operator] PERSON SUBJECT TO SUBSECTION (a) shall immediately implement the contingency plan developed under subsection (b).

(i) When a drilling fluid discharge or loss of drilling fluid circulation is discovered, the loss or discharge shall be immediately reported to the Department, and the [operator] PERSON SUBJECT TO SUBSECTION (a) shall request an emergency permit under § 105.64 (relating to emergency permits), if necessary FOR EMERGENCY RESPONSE OR REMEDIAL ACTIVITIES TO BE CONDUCTED.

(j) Any water supply complaints received by the [operator] PERSON SUBJECT TO SUBSECTION (a) shall be reported to the Department within 24 hours ELECTRONICALLY TO THE DEPARTMENT through the Department's web site. THE DEPARTMENT SHALL IMPLEMENT THE REQUIREMENTS OF § 78.51 WHEN RESPONDING TO THE COMPLAINT.

(k) Horizontal directional drilling fluid returns and drilling fluid discharges shall be [contained, stored and recycled or disposed of] MANAGED in accordance with Part I, Subpart D, Article IX (relating to residual waste management). (211)

Responses: The Department disagrees with this suggested revision on 78a.68a(a), requiring HDD crossings of all bodies of water or watercourses. The intent of this subsection is to inform the operator of responsibilities under Chapters 102 and 105 when conducting HDD operations. In addition, open cut crossings may not always be feasible due to impediments such as railways or roadways.

The Department disagrees with this comment on 78a.68a. (b), relating to PPC plan development. The details you provide are not necessary. PPC plans are already discussed in detail in Section 78a.55a Control and Disposal Planning; emergency response for unconventional wells.

The Department disagrees with this comment on 78a.68a. (c). The Department does not believe it is necessary or appropriate to require an operator to provide notice of HDD activities to the landowner, the local government or local emergency response.

The Department disagrees with this comment on 78a.68a. (e). The proposed setback for material staging areas from water bodies is appropriate and consistent with other regulatory requirements. Therefore all material staging areas shall be outside of a jurisdictional floodway of any watercourse or greater than 50 feet from any body of water.

In response to the second part of this comment and the statement “AS IS REQUIRED UNDER §§ 105.1, 105.14(B), 105.15, AND 105.18A(A)(1), NO CONSTRUCTION ACTIVITY, INCLUDING CONSTRUCTION OF TEMPORARY PIPELINES, MAY ADVERSELY IMPACT EXCEPTIONAL VALUE WETLANDS,” the Department disagrees with this statement due to the lack of clarity. Under Chapter 105, Section 105.18a the Department may issue a written determination and permission to encroach upon an EV wetland if the listed requirements in that section are met by the applicant.

The Department disagrees with this comment on 78a.68a. (f). This comment adds no relevant clarity to this section on HDD drilling fluid additives. The Department has determined that language regarding approval for fluid additives other than bentonite is appropriate because HDD activities often comingle with fresh groundwater. The Department will maintain a list of all approved non-toxic HDD fluid additives on its website. The operator may use fluid additives from the online list or propose a new fluid additive for use. Additives may not be used prior to obtaining approval from the Department.

The Department disagrees with this comment on 78a.68a(g), monitoring HDD for pressure and loss of drilling fluid returns. If a discharge occurs during horizontal directional drilling activities, the drilling operator shall immediately implement the contingency plan developed

pursuant to § 78a.68a(b). Also § 78a.68a(i) states that when a drilling fluid discharge or loss of drilling fluid circulation is discovered, the loss or discharge shall be immediately reported to the department, and the operator shall request an emergency permit pursuant to 25 Pa. Code § 105.64 (relating to emergency permits), if necessary.

The Department disagrees with this comment on 78a.68a. (j). This recommendation is not necessary because the Department will implement the requirements in 78.51 when receiving water supply complaints electronically.

§§ 78a.68b and 78a.68b Well Development Pipelines for Oil and Gas Operations

1820. Comment: §78a.68b(a) The language relating to Chapter 102 would not be necessary since a Well development pipeline is an “oil and gas operation”, as defined in Act 13 and the current version of this rule , and erosion and sediment control requirements for oil and gas operations are addressed in Section 78a.53.

The commentator’s suggested amendatory language:

(a) Well Development pipelines must meet applicable requirements in Chapter 105 (relating to dam safety and waterway management). (210)

Response: The Department disagrees with this comment and, for clarity purposes, will keep the draft language in Section §78a.68b(a).

1821. Comment: Well Development Pipelines: Section 78a.68b imposes significant restrictions on “well development pipelines,” a term with much broader coverage than “temporary pipelines” - the term originally used in this section. (191)

Response: The Department disagrees with the commenter’s assertion that the change from “temporary pipelines” to “well development pipelines” is a change in scope or applicability of the regulation. The term has the same coverage because the definition has not been revised.

1822. Comment: **78a.68b(b)** – Section 78.68b(b) raises significant concerns for the commenter. This section imposes a blanket restriction on burying pipelines that are carrying any fluids other than fresh ground water, surface water, water from water purveyors or other approved sources. Commenter strongly disagrees with this restriction as it is an unreasonable limitation on field construction and operations.

Operators should be encouraged rather than discouraged from piping all their water sources to/from their well sites to reduce truck traffic, allow for efficient recycling of water, and better protection of the water line. Installation of water lines underground will better protect those pipelines from the elements, damage and vandalism. Operators should be permitted to utilize buried water lines to transport both fresh and flowback water as needed from the wellhead to/from storage and to/from active frac sites.

Yes, there are risks associated with buried pipelines, but most of those risks are the same (if not increased) if the pipeline is placed on the surface. Burying pipelines that carry flowback water will actually provide much greater protection than simply placing it on the surface. This arbitrary regulatory restriction is being imposed in a vacuum. DEP needs to publicize what its rationale is for a strict ban on burying pipelines carrying flowback water so that operators are provided a

reasonable opportunity to suggest practices and procedures to avoid and/or mitigate DEP' s as yet unknown concerns. (190)

Response: The Department disagrees with this comment. Well Development pipelines that are carrying fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources, should not be buried except for those exceptions listed in this section. Buried pipelines cannot be easily inspected for leaks or damage but aboveground pipelines can be visually inspected daily when in use and if leaks or defects are observed, repairs or other effective corrective measures can be taken expeditiously and thereby reducing or avoiding an accidental pollutional event. With operator due diligence, aboveground pipelines are an effective and efficient means for transporting fluids associated with well development.

1823. Comment: § 78a.68b(b) OPERATORS SHALL INSTALL WELL DEVELOPMENT [Temporary] pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or OTHER DEPARTMENT-approved sources [shall be installed] aboveground except when crossing pathways, roads or railways where the pipeline may be installed below ground surface, OR CROSSING A WATERCOURSE OR BODY OF WATER WHERE THE PIPELINE MAY BE INSTALLED BELOW THE GROUND SURFACE WITH PRIOR DEPARTMENT APPROVAL.

As previously commented, the commentator is concerned about the requirement that lines used for the movement of fluids be constructed aboveground. Burying these lines makes them more resilient to the effects of freezing and thawing and eliminates the risk of vandalism, both of which can result in leaks. In order to operate these buried lines, the commentator constructs all water pipelines (above or below ground) in accordance with detailed standard operating procedures (SOPs) designed to ensure efficient operation while providing necessary environmental protection. As such, our design standards for water pipelines require high- density polyethylene (HDPE) pipe with a dimension ratio (DR) of 7 for all water transfer projects. The commentator requires HDPE butt fusion connections on all waterlines with detailed fusion logs completed for every connection and maintained for the lifetime of the pipeline. Isolation valves are installed at all tee and pipeline ends and air release valves are installed at all topographic highpoints along the pipeline. These design parameters are supplemented by an extensive monitoring and maintenance program which includes daily inspections of buried lines transferring reused water when such lines are in use. These multiple measures allow us to use these lines while maintaining appropriate environmental protection. Therefore, the commentator requests that the language be modified to allow for transfer of reused water in underground lines with prior Department approval. Additionally, the commentator requests that existing buried infrastructure currently utilized for water reuse and recycling be grandfathered into this rule. These modifications will improve the efficiency and fairness of this section consistent with our general comments. (199)

Response: The Department disagrees with your comment/request. Well Development pipelines that are carrying fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources, should not be buried except for those exceptions listed in this section. Buried pipelines cannot be easily inspected for leaks or damage but aboveground pipelines can be visually inspected daily when in use and if leaks or defects are observed, repairs or other effective corrective measures can be taken expeditiously and thereby reducing or avoiding an accidental pollutional event. With operator due diligence, aboveground pipelines are an effective and efficient means for transporting fluids associated with well development. Furthermore, since well development pipelines are temporary, the Department does not believe existing buried well development

pipelines (infrastructure) currently utilized to move fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources need to be grandfathered into this rule.

1824. Comment: §78a.68b(b) “Other Department-approved sources” of fluids is vague and undefined, and it is not clear what Department regulatory framework/mechanism would be used for the approval of these speculative “other sources” This provision should be further clarified by the Department. (210)

Response: Other approved sources may include sources approved for storage in a well development impoundment such as mine influenced water sources or water treated to appropriate standards at a WMRG123 facility.

1825. Comment: Among the restrictions is an apparent ban on subsurface installation. Once again there is no explanation for this change. Oil & Gas water pipelines should be subject to the same regulatory framework as other industries operating within PA (mining, chemical, municipal sewage lines, etc). There are no industry specific permits or prohibitions in place for any other industrial underground pipelines regardless of the material they convey. These pipelines allow significant truck traffic to be removed from the roads. They should be encouraged, not discouraged. (191)

Response: Well Development pipelines are high volume temporary pipelines that carry fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources, and should not be buried except for those exceptions listed in 78a.68b(b). Buried pipelines cannot be easily nor visually inspected for leaks or damage but aboveground pipelines can be visually inspected daily when in use and if leaks or defects are observed, repairs or other effective corrective measures can be taken expeditiously and thereby reducing or avoiding an accidental pollutional event. The Department is not discouraging pipelines – though with operator due diligence, aboveground pipelines are an effective and efficient means for transporting fluids associated with well development.

1826. Comment: There may be instances where culverts, casing, or apparatuses which could be construed as culverts were previously installed for the specific purpose of installing temporary piping under impediments. Permits should not be required in such instances where these structures do not convey water as §78a.68b(c) currently requires. We would suggest the following: “(c) Temporary pipelines cannot be installed through existing stream culverts, storm drain pipes or under bridges without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification of culverts and bridges); except where such structures were previously specifically installed for this purpose.” (191)

Response: To the extent that a culvert, storm drain pipe or bridge had been installed for the specific purpose of installing temporary piping under impediments, then it should be memorialized in a permit, pursuant to §105.151.

1827. Comment: §78a.68b(c) There may be instances where culverts, casing, or apparatuses which could be construed as culverts were previously installed for the specific purpose of installing temporary piping across impediments.

Commentator Suggested Amendatory Language: (c) Temporary pipelines cannot be installed through existing stream culverts, storm drain pipes or under bridges without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification

of culverts and bridges); except where such structures were previously specifically installed for this purpose. (210)

Response: To the extent that a culvert, storm drain pipe or bridge had been installed for the specific purpose of installing temporary piping under impediments, then it should be memorialized in a permit, pursuant to §105.151.

1828. Comment: In §78a.68b(d), the Department should provide equal protection for wetlands by requiring secondary containment for joints or couplings. (225)

Response: Due to the length of many wetland crossings, it may not be feasible for a pipeline to cross the entire wetland without joints or couplings.

1829. Comment: In 2013, the EQB proposed a new regulation for the installation, construction, testing, inspection, operation and removal of temporary pipelines used for Oil and Gas Operations. In 2015, PADEP proposed several changes to the regulation (§ 78a.68b) to clarify that temporary pipelines may be used for well development; may be installed below water bodies; and may allow for joints or couplings over water, if secondary containment is provided. PADEP also proposed to require recordkeeping of pressure test results and defects; to require daily inspections while the pipeline is in use; and to limit the temporary pipeline use to less than one year. (211)

Response: The Department acknowledges the comment.

1830. Comment: Section 78a.68b(d) requires the installation of shut off valves on either side of a temporary crossing. Placing shutoff valves at both ends of a stream crossing may seem like good practice, but it is not. This would essentially place a minimum of four (4) mechanical joints/couplings in very close proximity to stream crossings which would increase environmental risk. Additionally, the valves would provide little to no protection to the stream if there was a line failure as they could not be actuated until an operator manually isolated the subject valves. Shutoff valves at both ends of the line (impoundment or tank and pad) would be adequate and more protective of the environment. (191)

Response: The Department disagrees and will keep this existing language. If there is a leak, a defect under repair or a catastrophic failure/rupture in the pipeline segment crossing the water course or body of water, having shutoff valves at both ends of that pipeline segment would greatly reduce the discharge of well development pipeline fluid directly into the watercourse or body of water.

1831. Comment: §78a.68b(d) This section needs clarification. Secondary containment could be established adjacent to the watercourse where shut off valves could be installed, but relatively impossible within the watercourse itself where joints and couplings may exist. It's practical to require the minimum number of joints and couplings possible for watercourse crossings.

This section does not address fused joints. Fused joints have been discussed with the Department numerous times, and industry has provided the Department with documentation and samples of fused joints. Properly fused joints are, in fact, stronger than the pipe itself. The Department should not consider a fused joint "a joint", as described in this section. The inclusion/approval of fused joints would effectively allow for a "single section of pipe" as dictated in this section. (210)

Response: The Department disagrees that secondary containment is not feasible for joints and couplings in pipelines over a watercourse. A welded seam is not considered to be a joint for the purposes of this subsection.

1832. While placing shutoff valves at both ends of a stream crossing may seem like good practice, it is counter to the original intent of this section. Placing shutoff valves at both ends of a stream crossing essentially places a minimum of four (4) mechanical joints/couplings in very close proximity to stream crossings. Additionally, the valves would provide little to no protection to the stream if there was a line failure as they could not be actuated until an operator manually isolated the subject valves. (210)

Response: The Department disagrees with your comment and will keep this existing language. If there is a leak, a defect under repair or a catastrophic failure/rupture in the pipeline segment crossing the water course or body of water, having shutoff valves at both ends of that pipeline segment would greatly reduce the discharge of well development pipeline fluid directly into the watercourse or body of water.

1833. Comment: 78a.68b Well Development Pipelines - given the nature of the fluids in these pipelines and the susceptibility for damage, greater safeguards must be implemented in all areas. In many cases, they are placed alongside roadways where incidents are more likely to occur. Minimal distances from vehicular traffic should be established. (d) These pipelines should avoid wetlands as well as watercourses or bodies of water. Automatic shut-off valves should be installed. (161)

Response: While pipelines that are not placed alongside roadways may be less susceptible to accidental damage, it would be very impractical to restrict siting of well development pipelines as described by the commenter.

1834. Comment: Section 78.68b(e), This section provides for the temporary pipelines for oil and gas operations, indicates that the shut off valves should prevent 1000 barrels of fluid from being lost. 1000 barrels of fluid is extremely excessive. The standard capacity of a 'barrel' is 55 gallons. If the section is not revised each leak between shut off valves on a pipeline which could travel more than 1000 miles could release 50,000 gallons. The shut off valve placement, description, and minimum allowable release is extremely vital in protecting the environment, and the health and safety of the state. 100 barrels, although not ideal, would be release that could be more effectively and completely cleaned up. (9)

Response: The Department has determined that preventing a discharge of no more than 1000 barrels of fluid is appropriate to limit environmental damage in an emergency situation and also allow for reasonable operation of well development (temporary) pipelines.

1835. Comment: 78a.68b(e) Discharges should be limited to 50 barrels of fluid given that it may be highly pollutant flowback or mine-influenced water. (161)

Response: The Department has determined that preventing a discharge of no more than 1000 barrels of fluid is appropriate to limit environmental damage in an emergency situation and also allow for reasonable operation of well development (temporary) pipelines.

1836. Comment: § 78a.68(e) In addition to the requirements of subsection (c), [temporary] WELL DEVELOPMENT pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, must have shut off valves, check valves or other [method] METHODS of segmenting the pipeline placed at designated intervals, to be determined by the pipeline diameter, that prevent the discharge of [no] more than 1,000 barrels of fluid. Elevation changes that would effectively limit flow in the event of a pipeline leak shall be taken into consideration when determining the placement of shut off valves and be considered effective flow barriers. Commenter is concerned about the requirement to add additional valves along a pipeline on a specified basis. Multiple factors must be considered during pipeline design including topography, accessibility, and the presence of sensitive receptor areas such as streams and wetlands. While the commenter appreciates the Department's attempt to provide means to limit the amount of accidental discharge, in practice valves often act as potential leak-points and thus should be limited where possible. The commenter suggests the language be modified to allow operators to locate valves according to the most beneficial construction design and outside of sensitive receptor areas, as opposed to an arbitrary fluid amount which may inadvertently increase the risk of leakage. (199)

Response: The Department has determined that preventing a discharge of no more than 1000 barrels of fluid is appropriate to limit environmental damage in an emergency situation and also allow for reasonable operation of well development (temporary) pipelines.

1837. Comment: §78a.68b(f) An allowance for alternative marking methods is needed in this section as cattle and other farm animals eat typical flagging.

The commentator's suggested amendatory language:

(f) Highly visible flagging, or other alternative marking method approved by the Department, shall be placed at regular intervals, no greater than 75 feet, along the entire length of the Well Development pipeline. (210)

Response: The Department agrees and has revised the language to allow use of highly visible flagging, markers or signs.

1838. Comment: Section 78.68b (g). This section should address pressure testing after the pipelines has been moved, altered or repaired. An industry standard is to pressure treat after a pipeline is moved or repaired to re-test the validity of the line. (9)

Response: Section 78a.6b(g) addresses pressure testing as described by the commenter. No revisions are needed.

1839. Comment: 78a.68b(g) Pressure testing should be conducted initially and annually while operational to promote integrity. (161)

Response: Well development pipelines may not be in use for more than 12 months without Department approval and must be re-tested every time they are moved, repaired, or altered. A specific requirement to conduct pressure testing annually is unnecessary.

1840. Comment: §78a.68b(g) Similar to paragraphs (b) and (e), this type of prescriptive pressure testing requirement should be limited to pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, or in the alternative, a 15 minute (rather than 2 hour) pressure test should be adequate for those water sources.

The commentator's suggested amendatory language:

(g) Well development pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved or altered. For well development pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, a passing test is holding 125% of the anticipated maximum pressure for 15 minutes. Leaks or other defects discovered during pressure testing shall be repaired prior to use. (210)

Response: The 2 hour pressure testing is necessary to identify uncontrolled releases of pressurized fluids which may not be show during a 15 minute pressure test.

1841. Comment: § 78a.68b (g) - 125% of the anticipated maximum pressure it not clearly defined, it should state "anticipated maximum operating pressure". 2 hours at 125% is an unrealistic timeframe to produce a passing test. Further, a 2-hour test following movement, repair or alteration is unreasonable. This requirement is unduly burdensome, considering ongoing field operations. What is the reasoning behind the need for a 2-hour test? (187, 209)

Response: This maximum pressure testing standard is necessary to prevent uncontrolled release of pressurized fluids that will cause environmental harm. Furthermore, pipelines must be tested after movement, repair or alternation to ensure that they were not damaged in the move or that the repair or alteration was successful.

1842. Comment: §78a.68b. We find the language changes reasonable and necessary. We appreciate the provision requiring that pressure test results and any defects and repairs to the well development pipeline shall be documented and made available to the Department upon request. We know on occasion pipelines may leak and since there is a variety of waters being used, this will be helpful information in case of any pipeline failure. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges your comment.

1843. Comment: **78a.68b(i)** – Additionally, EQB must clarify § 78.68b(i), which requires inspections prior to and during each use. What is meant by "during each use?" For example, if fluid is flowing for 14 consecutive days, how often is the operator to inspect the facilities based on this regulation? (190)

Response: Prior to and each day it is in use. If the fluid is flowing for 14 consecutive days then there need to be 15 inspections i.e. one prior to startup of the fluid flow and one each of the 14 consecutive days of operation.

1844. Comment: 78a.68b(i) Inspection dates, defects and repairs must be documented and made available to the Department on a monthly basis. (161)

Response: Documentation made available to the Department upon request is adequate.

1845. Comment: §78a.68b(i) The requirement to inspect these pipelines "daily" should be limited to only those pipelines carrying fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources. (210)

Response: Uncontrolled release of pressurized fluids will cause environmental harm regardless of the chemical characteristics

1846. Comment: § 78a.68b(i) [Temporary] WELL DEVELOPMENT pipelines shall be inspected prior to and during each DAY THE PIPELINE IS IN use. Inspection dates and any defects and repairs to the [temporary] WELL DEVELOPMENT pipeline shall be documented and made available to the Department upon request. The requirement for daily inspection is excessive for well development pipelines which are moving freshwater. The commenter requests that the Department modify this language to reduce the inspection burden on freshwater lines which do not present any significant environmental risk. (199)

Response: Uncontrolled release of pressurized fluids will cause environmental harm regardless of the chemical characteristics

1847. Comment: §78a.68b(j) The commentator suggests replacing the word “and” with the word “or”, as both will relieve pressure on the pipe, reducing the potential for discharge. There may be instances where an operator intends to utilize the pipeline within a reasonable timeframe after the initial “use”. Dewatering the entire pipeline would be a wasteful and unnecessary action.

The regulatory framework/mechanism for Department approval of a well development pipeline proposed to be in use for more than twelve months is not clear. This is acceptable with the word “temporary” added back into the regulation but places an undue and burdensome restriction on landowners as repeated installation and removal of pipelines that could be installed semi-permanently underground would have substantially less environmental impact.

The commentator’s suggested amendatory language:.

(j) Well Development pipelines not in use for more than 7 calendar days shall be emptied or depressurized. (210)

Response: The Department disagrees with the comments. Pipelines not in use for more than 7 calendar days should be depressurized and then emptied. It is not possible to fully depressurize a pipeline that is not empty. There should not be a situation where a well development pipeline is sitting idle for more than 7 days while under pressure and containing well development fluids. Since the pipelines are technically not in use, operator daily inspections are not required and leaks or discharges during this period that could occur, even if the pipeline is depressurized, may go unnoticed and undetected – which could result in environmental impacts.

The twelve month restriction on well development pipelines initially only requires getting Department approval to maintain the pipeline for the continued functions of moving well development fluids. If following Department review it is determined that the operator has failed due diligence with utilizing the temporary pipeline then corrective measures will be taken to adjust or remove the idle well development pipelines whether on the surface or underground.

1848. Comment: Please see comment in “Definitions” regarding proposed change in nomenclature § 78a.68b(j): To eliminate ambiguity, it is recommended that “consecutive” be incorporated into this subsection as follows: “...not in use for more than 7 consecutive calendar days...”. (195)

Response: The Department acknowledges your comment and has included the word “consecutive” in subsection 78a.68b(j).

1849. Comment: Subsection 78a.68b(j) does not recognize the somewhat intermittent nature of certain operations. Consequently, the following addition is recommended: “...pipelines not in use for more than 7 CONSECUTIVE calendar days shall be emptied [and] or depressurized.” (193)

Response: The Department acknowledges your comment and has included the word “consecutive” in subsection 78a.68b(j).

1850. Comment: § 78a.68(j) [Temporary] WELL DEVELOPMENT pipelines not in use for more than 7 calendar days shall be emptied and depressurized. IN NO CASE MAY A WELL DEVELOPMENT PIPELINE BE IN USE FOR MORE THAN TWELVE MONTHS WITHOUT APPROVAL FROM THE DEPARTMENT Commenter requests clarification regarding the twelve month determination. Does it refer to twelve months from first to last use, or a continuous twelve month use? Commenter requests that the language be modified to clarify that a well development pipeline may not be in use for more than twelve months since first use, without the Department’s approval. (199)

Response: The Department acknowledges the comment. The provision is clear that the well development pipeline may not be in use for greater than 12 months. The Department considers the pipeline to be in use upon completion of construction of the pipeline.

1851. Comment: In addition, the requirement to empty and depressurize a well development pipeline not in use for more than 7 calendar days is cumbersome to the operator whose water sourcing operations are constantly changing based on the needs of the completion activities being conducted. Commenter recommends changing this requirement for buried water lines from 7 calendar days to 14 calendar days. Furthermore, and as previously discussed, buried lines are installed for longevity and thus can often be used for more than 12 months. As buried lines avoid the inconvenience to landowners and the public from over land lines, reduce truck traffic and its associated environmental impacts, and are at less risk to damage from vandalism and weather than aboveground lines, commenter urges the Department to provide for and encourage the use of buried water infrastructure in this rule. Similar to aboveground pipelines, the requirement to empty and depressurize a buried pipeline not in use for more than 7 calendar days is cumbersome and provides no additional environmental benefit. Buried water lines are installed to provide water sourcing for the entire development area, and they commonly experience periods of less frequent use due to reduced operations occurring within the area. Commenter recommends changing this requirement for buried water lines from 7 calendar days to 30 calendar days. (199)

Response: The Department disagrees with the comments. First the commentator recommends two different modifications to the 7 day period for buried water lines, 7 to 14 calendar days and 7 to 30 days calendar days. Pipelines not in use for more than 7 calendar days should be depressurized and then emptied. It is not possible to fully depressurize a pipeline that is not empty. There should not be a situation where a well development pipeline is sitting idle for more than 7 days while under pressure and containing well development fluids. Since the pipelines are technically not in use, operator daily inspections are not required and leaks or discharges during this period that could occur, even if the pipeline is depressurized, may go unnoticed and undetected – which could result in environmental impacts.

The twelve month restriction on well development pipelines initially only requires getting Department approval to maintain the pipeline for the continued functions of moving well development fluids. If following Department review it is determined that the operator has failed due diligence with utilizing the temporary pipeline then corrective measures will be taken to adjust or remove the idle well development pipelines whether on the surface or underground. Also, buried well development pipelines, while under pressure and containing well development fluids, over a period of time may release fluids creating an erosion or sedimentation pollution issue.

1852. Comment: 78a.68b(m) The records regarding the location, types of fluids transported, and time of installation of these pipelines must be sent to the Department in the event of liability issues. (161)

Response: In the event that a pipeline failure or other issue is discovered, the Department may request records required under § 78a.68b(m)

The Department has added a new subsection (n) to this section to set an outside timeframe for records retention. Given the temporary nature of the pipelines, the Department has established a requirement to retain these records for one year after the pipeline is removed from service. The records will be maintained by the Operator and available upon request by the Department for one year.

1853. Comment: § 78a.68b (i) and (m) - These sections are administratively over burdensome. Currently operators have the responsibility to self-report leaks to the department and remediate as appropriate. Nothing further should be required for temporary activities such as drilling and completions. (187, 209)

Response: The Department does not agree with this comment. Operator responsibility as a participant in this highly dynamic and complex industrial operation of oil and natural gas exploration and extraction requires certain due diligence. Inspections of potential pollution producing activities such as the well development pipelines that carry well development fluids under pressure are necessary. These initial and daily inspections are important and necessary to assure no leaks or discharges are occurring. Therefore the Department will require these inspections while the pipeline is in use.

Also a large part of operator responsibility when acquiring permits from the Department is record keeping. Therefore, the Department will require the operator to keep records regarding the location of all well development pipelines, the type of fluids transported through those pipelines and the approximate period of time that the pipeline was installed. The records shall be made available to the Department upon request. For further clarification of records keeping, a new section has been added to the final rule.

“(N) RECORDS REQUIRED UNDER THIS SECTION SHALL BE RETAINED BY THE OPERATOR FOR ONE YEAR AFTER THE WELL DEVELOPMENT PIPELINE IS REMOVED.”

1854. Comment: The methane leaks are noxious to all and air pollution has been connected to lower brain function, allergies and other health problems. Pipelines should be away from the public at all costs! You cannot put a price tag our health and the health of our future (children). They are priceless. The DEP must protect the future of our children's health. (97)

Response: Methane emissions from pipelines are regulated under Article III and are beyond the scope of this rulemaking.

1855. Comment: § 78a.68b. [Temporary] WELL DEVELOPMENT pipelines for oil and gas operations. Commenter has concerns about this section which seems to limit the use of buried pipelines for the movement of reused water. In an effort to reduce truck traffic related to water hauling, companies have made significant investments to develop buried pipelines to transport the water to the field. Because of these lines we can maximize our water reuse and recycling, minimize the use of surface water and groundwater and reduce truck traffic on local roads. The reasons for burying these pipelines are numerous. This infrastructure is intended to service an entire field rather than just a single pad, thus longevity is of particular concern. As such, buried lines are much less susceptible to damage from vandalism or weather (freezing and thawing). Additionally, companies can take the opportunity to co-locate the lines when installing other buried infrastructure thereby reducing the inconvenience to landowners resulting from a myriad of over-land lines. The ability to economically move and store a large amount of water across a development field is essential to preserve the economics of water reuse and recycling. At a minimum, commenter requests that existing buried water infrastructure be grandfathered into this regulatory program. In general, the Department should modify this and other sections to encourage the use of buried water infrastructure for the reasons mentioned above. (199)

Response: Since well development pipelines are temporary, the Department does not believe existing buried well development pipelines (infrastructure) currently utilized to move fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources need to be grandfathered into this rule. Under this subsection all pipelines carrying fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources are to be aboveground, except for those exceptions listed in § 78a.68b(b), to facilitate daily inspections while the pipeline is in use.

1856. Comment: §78a.68b This title is confusing. Well development pipelines constitute an “oil and gas operation” as defined by Act 13 and the most recent version of this rule, so the inclusion of “for oil and gas operation” is redundant. The commentator suggests revising the heading simply to state: “Well Development pipelines.”

Section 78a.68b, as proposed, would prohibit the use of centralized semi-permanent underground pipelines which are the least environmentally impactful conveyance method as opposed to trucking and repeated installation of “real” temporary surface lines. This will result in hundreds of thousands of additional truck road hours per year to transport fluids.

Oil and gas water pipelines should be subject to the same regulatory framework as other industries operating within Pennsylvania (mining, chemical, municipal sewage lines, etc). There are no industry specific permits or prohibitions in place for any other industrial underground pipelines regardless of the material(s) these pipelines convey. (210)

Response: Even though well development pipelines are high volume pipelines that can carry fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources, those well development pipelines designated to carry only fresh ground water, surface water, water from water purveyors or other Department-approved sources can be placed subsurface but must still adhere to and meet the requirements in 78a.68b (a) through (n). Those well development pipelines with anticipated multi-use options generally transport fluids which are pollutants or potential pollutants,

including recycled or reuse water, and may be placed above ground except for those exceptions listed in 78a.68b(b). Aboveground well development pipelines can be easily or visually inspected for leaks or damage daily when in use and if leaks or defects are observed, repairs or other effective corrective measures can be taken expeditiously. With operator due diligence, aboveground pipelines are an effective and efficient means for transporting fluids associated with well development.

1857. Comment: § 78a.68b. Well development pipelines for oil and gas operations -This section requires all pipelines used for well development to meet the same standards for siting, installing, use and removal. While the proposed criteria may be appropriate for pipelines transporting materials that pose a risk to the environment, they represent overkill for pipelines used to transport fresh water. It is recommended that this section be changed to apply standards only to the level necessary to address the risk posed by the fluids to be transported. (193)

Response: Well Development pipelines are high volume pipelines that can carry fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources. The type of fluids transported through these pipelines can change often. Therefore inspections and limits on use are necessary to be able to address leaks and discharges when they occur that if not detected, would cause environmental harm.

1858. Comment: 78a.68b, underground piping will not be allowed to move reuse water, therefore all reuse will need to be trucked. If all reuse water is transported by truck and existing pipeline infrastructure is shut in, the commenter will assume significant increases in cost per well for completion activities, averaging over a million dollars per well. Increased truck traffic will also have adverse impacts on local road infrastructure and adverse safety implications as well. (189)

Response: This regulation does not prohibit the transport of reuse water by above ground pipelines. Reuse water may still be transported by above ground pipelines. Well Development pipelines are high volume pipelines that carry fluids other than fresh ground water, surface water, water from water purveyors or other Department-approved sources, and should not be buried except for those exceptions listed in 78a.68b(b). Buried pipelines cannot be easily or visually inspected for leaks or damage. If a leak or break occurs on a buried pressurized well development pipeline, the discharging fluids could eventually surface on a downslope contour resulting in an erosion event or a soil subsidence and possible eventual sedimentation and/or pollution into waters of the Commonwealth. Also there is a good possibility of shallow ground water contamination. However, aboveground pipelines are to be visually inspected daily when in use and if leaks or defects are observed, repairs or other effective corrective measures can be taken expeditiously. With operator due diligence, aboveground pipelines are just as an effective and efficient means for transporting fluids associated with well development as subsurface well development pipelines.

1859. Comment: Well Development Pipelines for Oil and Gas Operations (§ 78a.68b). Commenter commonly employs a practice of conversion of buried well development water pipelines into gas gathering lines (or vice versa) in order to limit additional impacts to the environment, eliminating additional earth disturbance, timber clearing, stream and road crossings, etc. In these instances, the lines that are repurposed undergo hydrostatic or pneumatic testing and meet industry standards for gathering and water service pipelines.

Commenter requests that the Department develop an approval process which would provide for a waiver or variance from the restrictions found under § 78a.68b for the installation of buried well development pipelines and conversion of these pipelines into gathering pipelines, provided that:

- Where well development pipelines are to be repurposed in situ for use as gathering pipelines, they be made to comply with minimum requirements for gathering pipelines under Pennsylvania Public Utility Commission and USDOT Pipeline and Hazardous Materials Safety Administration.
- In instances where burying pipelines is appropriate and approved by the Department, commenter suggests that the operator be required to notify Pennsylvania's One-Call System prior to conducting ground disturbance activities.

Commenter believes that with proper management and by adhering to requirements for installation and testing of gathering and pipelines, this practice can be implemented in a manner that is beneficial to the operator and the surface property owner, while limiting additional impacts from construction activities to the environment. (205)

Response: The Department acknowledges the comment and notes that under the definition for “well development pipelines,” well development pipelines lose functionality after the well site they service has been restored which is not the case for gathering lines temporarily used to move water.

1860. Comment: We support PADEP’s proposed requirements for well development pipelines used for Oil and Gas Operations. We support PADEP’s proposed new requirement for recordkeeping of pressure test results and defects; the requirement for daily inspections while the pipeline is in use; and the one - year use limit.

We do not understand PADEP’s proposal to allow joints or couplings in the pipeline over water, if secondary containment is provided. This proposal does not clarify the size or type of secondary containment required or how a spill would be fully contained. Absent further clarification, we recommend the prohibition for joints and couplings over water be maintained.

Because temporary pipelines are not designed to safely transport hydrocarbons to market, and these pipelines could potentially be operating at the well site while hydrocarbons are initially produced, the regulation should make it clear that temporary pipelines may not be used to transport hydrocarbons to market.

We support limits on temporary pipeline crossing of water bodies and wetlands. We recommend, however, that temporary pipelines be designed and routed to avoid water or wetland crossings, unless it is not technically feasible. Where crossings cannot be avoided, operators of temporary pipelines should be required comply with all applicable provisions of Chapters 102 and 105 and to protect wetlands.

Pipelines that fail pressure tests should be successfully retested prior to use. Pressure testing should be completed using uncontaminated freshwater. All pipelines should be properly supported along the span to mitigate pipeline sagging and bending stresses. Additional criteria should be included for inspector training and qualifications, and a list of inspection components to determine fitness for service should be added. PADEP inspection and audit requirements should be added.

We recommend that § 78a.68b be revised as follows:

§ 78a.68b. Well Development pipelines for oil and gas operations.

(a) THE CONSTRUCTION, INSTALLATION, USE, MAINTENANCE, REPAIR, AND REMOVAL OF WELL DEVELOPMENT [Temporary] pipelines must meet applicable requirements in Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management), NOTWITHSTANDING THE PROVISIONS OF § 102.8(N) AND REGARDLESS OF THE EXTENT OF LAND DISTURBED. USE OF TEMPORARY PIPELINES FOR TRANSPORTATION OF HYDROCARBONS IS PROHIBITED.

(b) OPERATORS SHALL INSTALL WELL DEVELOPMENT [Temporary] pipelines that transport fluids other than fresh groundwater, surface water, water from water purveyors or OTHER DEPARTMENT approved sources OF UNCONTAMINATED WATER, shall be installed aboveground except when crossing pathways, roads or railways where the pipeline may be installed below ground surface, OR CROSSING A WATERCOURSE OR BODY OF WATER WHERE THE PIPELINE MAY BE INSTALLED BELOW THE GROUND SURFACE WITH PRIOR DEPARTMENT APPROVAL

(c) [Temporary] WELL DEVELOPMENT pipelines [cannot] MAY NOT be installed through existing stream culverts, storm drain pipes or under bridges CROSSING STREAMS without approval by the Department under § 105.151 (relating to permit applications for construction or modification of culverts and bridges).

(d) TEMPORARY PIPELINES SHALL BE DESIGNED AND ROUTED TO AVOID CROSSINGS OF BODIES OF WATER, WATERCOURSES, OR WETLANDS, UNLESS THE OIL AND GAS OPERATOR DEMONSTRATES TO THE DEPARTMENT THAT IT IS NOT TECHNICALLY FEASIBLE TO ROUTE THE PIPELINE AROUND THE BODY OF WATER, WATERCOURSE, OR WETLAND. IF A TEMPORARY PIPELINE MUST CROSS A BODY OF WATER, WATERCOURSE, OR WETLAND, THE FOLLOWING REQUIREMENTS MUST BE MET:

(1) The section of a [Temporary] WELL DEVELOPMENT pipeline crossing over a watercourse or body of water, ~~except wetlands,~~ may not have joints or couplings UNLESS SECONDARY CONTAINMENT IS PROVIDED.

(2) [Temporary] WELL DEVELOPMENT pipeline crossings over wetlands must utilize a single section of pipe ~~to the extent practicable~~ UNLESS THE OIL AND GAS OPERATOR DEMONSTRATES TO THE DEPARTMENT THAT IT IS NOT TECHNICALLY FEASIBLE.

(3) Shut off valves shall be installed on both sides of the WATER OR WETLAND ~~temporary~~ crossing.

(4) THE PIPELINE SHALL BE PROPERLY SUPPORTED ALONG THE SPAN TO MITIGATE PIPELINE SAGGING AND BENDING STRESSES.

(e) In addition to the requirements of subsection (c), [Temporary] WELL DEVELOPMENT pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or ~~approved~~ sources OF UNCONTAMINATED WATER APPROVED BY THE DEPARTMENT, must have shut off valves, check valves or other [method]

METHODS of segmenting IMMEDIATELY ISOLATING the pipeline FLOW. The control valves shall be placed at designated intervals, to be determined by the pipeline diameter, that prevent the discharge of [no] more than 1,000 barrels of fluid. Elevation changes that would effectively limit STOP flow in the event of a pipeline leak shall be taken into consideration when determining the placement of shut off valves and be considered effective flow barriers.

(f) Highly visible flagging shall be placed at regular intervals, no greater than 75 feet, along the entire length of the temporary pipeline.

(g) [Temporary] WELL DEVELOPMENT pipelines shall be pressure tested prior to being First placed into service and after the pipeline is moved, repaired or altered. A passing test is holding 125% of the anticipated maximum pressure for 2 hours. Leaks or other defects discovered during pressure testing shall be repaired AND THE PIPELINE SHALL BE RETESTED. EVERY PIPELINE SHALL PASS PRESSURE TESTING prior to use or re-use. PRESSURE TEST RESULTS AND ANY DEFECTS AND REPAIRS TO THE WELL DEVELOPMENT PIPELINE SHALL BE DOCUMENTED AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

(h) Water used for hydrostatic pressure testing OF THE PIPELINE MUST BE UNCONTAMINATED FRESHWATER. IF THE PIPELINE IS NEW AND UNCONTAMINATED, THE TEST WATER MAY BE RETURNED TO ITS ORIGINAL SOURCE, AS LONG AS IT REMAINED UNCONTAMINATED DURING THE TESTING. IF THE PIPELINE HAS BEEN PREVIOUSLY USED, THE TEST WATER MUST BE COLLECTED AND TRANSPORTED TO AN APPROVED TREATMENT AND DISPOSAL FACILITY. ~~shall be discharged in a manner that does not result in a discharge to waters of the Commonwealth unless approved by the Department~~ IN WRITING.

(i) [Temporary] WELL DEVELOPMENT pipelines shall be inspected BY A TRAINED AND QUALIFIED INSPECTOR TO DETERMINE FITNESS FOR SERVICE prior to USE and THE OPERATOR MUST INSPECT THE PIPELINE EACH during DAY THE PIPELINE IS IN use.

(1) THE INSPECTOR SHALL EXAMINE THE TEMPORARY PIPELINE FOR LEAKS, CRACKS, BENDING STRESS, CORROSION, EROSION, MATERIAL INCOMPATIBILITY, WELD FAILURE, JOINT FAILURE, VALVE FAILURE, AND OTHER FORMS OF DETERIORATION OR PHYSICAL DAMAGE, AND TO AND VERIFY THAT ALL THE REQUIREMENTS OF THIS SECTION ARE MET.

(2) THE INITIAL INSPECTION MUST BE COMPLETED BY A PIPING INSPECTOR WHO APPLIES THE API 570 PIPING INSPECTION CODE STANDARD FOR INSPECTION, REPAIR, ALTERATION AND RERATING OF IN-SERVICE PIPING SYSTEMS. THE ENTIRE LENGTH OF THE TEMPORARY PIPELINE SHALL BE INSPECTED PRIOR TO USE BY THE API 570 INSPECTOR. THE API 570 INSPECTOR MUST DETERMINE, IN WRITING, THAT THE TEMPORARY PIPELINE IS FIT FOR SERVICE, AND A RECORD OF THAT DETERMINATION MUST BE KEEP ON FILE BY THE OPERATOR AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST. ANY REPAIRS RECOMMENDED BY THE API 570 INSPECTOR MUST BE MADE PRIOR TO USE.

(3) THE OPERATOR MUST INSPECT AND MONITOR THE TEMPORARY PIPELINE DURING USE AND MUST IMMEDIATELY SHUT DOWN THE PIPELINE IF LEAKS OR OTHER INTEGRITY DEFICIENCIES ARE IDENTIFIED. THE TEMPORARY PIPELINE MUST BE REPAIRED, RE-INSPECTED, AND FOUND TO SATISFY THE API 570 TANDARD PRIOR TO USE.

(4) Inspection dates and any defects and repairs to the [Temporary] WELL DEVELOPMENT pipeline shall be documented and made available to the Department upon request.

(j) [Temporary] WELL DEVELOPMENT pipelines not in use for more than 7 calendar days shall be emptied and depressurized. IN NO CASE MAY A WELL DEVELOPMENT PIPELINE BE IN USE FOR MORE THAN TWELVE MONTHS WITHOUT APPROVAL FROM THE DEPARTMENT.

(k) Flammable materials may not be transported through a [Temporary] WELL DEVELOPMENT pipeline.

(l) Temporary pipelines shall be removed in accordance with the required restoration timeline of the well site it serviced under § 78.65 (relating to site restoration).

(m) An operator shall keep records regarding the location of all temporary pipelines, the type of fluids transported through those pipelines, and the approximate period of time that the pipeline was installed, INSPECTIONS, TESTING AND REPAIR. The records shall be ~~made available to~~ FILED ANNUALLY WITH the Department ~~upon request.~~

(N) THE DEPARTMENT SHALL INSPECT EACH TEMPORARY PIPELINE AT LEAST ONCE DURING ITS OPERATING LIFE, AND SHALL CONDUCT AN AUDIT OF THE TEMPORARY PIPELINE INSPECTION, TESTING AND REPAIR RECORDS WITHIN 30 DAYS OF RECEIPT.

(N) RECORDS REQUIRED UNDER THIS SECTION SHALL BE RETAINED BY THE OPERATOR FOR ONE YEAR AFTER THE WELL DEVELOPMENT PIPELINE IS REMOVED.

(m) An operator shall keep records regarding the location of all temporary pipelines, the type of fluids transported through those pipelines, and the approximate period of time that the pipeline was installed, INSPECTIONS, TESTING AND REPAIR. The records shall be ~~made available to~~ FILED ANNUALLY WITH the Department ~~upon request.~~

(211)

Response: Regarding transport of hydrocarbons, the Department agrees. §78a.68b(k) prohibits transportation of flammable materials through a temporary pipeline.

Regarding joints and couplings, In some cases, it may not be feasible to construct a pipeline crossing without some form of joint or coupling over the water course or body of water. The Department believes requiring secondary containment for the joints in these cases provides adequate protection.

Regarding requirements to avoid wetlands, the revisions proposed by the commenter are unnecessary because Chapter 105 requires avoidance and minimization of impacts to water bodies and wetlands.

Regarding pressure testing after a repair, the Department agrees. §78a.68b(g) has been amended to include pressure testing after repairs are completed and prior to use.

Regarding the proposed revisions to hydrostatic test water discharge, the discharge must be conducted in accordance with a Department approval.

Regarding the proposed inspection requirements, the temporary nature, the installation techniques used and the materials transported allow failures of temporary pipelines to be readily detected by pipeline inspectors. Therefore the Department does not believe that specialized training and qualification requirements for temporary pipeline inspectors or a list of inspection components to determine fitness for service are warranted.

Regarding the proposed revisions to the pipeline inspection requirements, it is unnecessary for operators to file inspection reports for each well development pipeline with the Department annually. The Department believes that requiring the operator to maintain the records and make them available upon request is sufficient to ensure compliance with the Section.

Regarding the proposed addition of requirements for the Department to inspect well development pipelines, enforcement and inspection policies of the Department are expressed in the Department's Oil and Gas Compliance and Enforcement Policy.

1861. Comment: Section 78a.68b - Well Development Pipelines for Oil and Gas Operations
Many of the requirements of section 78a.68b, relating to well development pipelines, are unnecessary as applied to freshwater pipelines. For example, the requirements for daily inspections at subsection (h), maps at subsection (m), and emptying and depressurizing at subsection (j) are excessive for pipelines transporting freshwater. While more stringent requirements might be appropriate for pipelines transporting residual waste such as flowback and production water, freshwater lines do not present the types of risks that this section is written to mitigate. (222)

Response: Uncontrolled release of pressurized fluids will cause environmental harm regardless of the chemical characteristics.

1862. Comment: Commenter notes that the Department has replaced the term "temporary" with the term "well development," while retaining the definition that refers to the transport of materials for the drilling and/or stimulation of wells, and the residual waste generated by such activities. Comment reiterates its prior comment here that such pipelines are already regulated under Chapters 102 and 105 as appropriate and should not be subject to duplicative and/or unnecessary regulation under Chapter 78. Daily inspections of such pipelines, especially those transporting fresh water, are unnecessary. (213)

Response: The Department acknowledges that pipelines and pipeline construction activities may be regulated under Chapter 102 and 105 but believes that the additional provisions included in Sections 78a.68, 78a.68a and 78a.68b are needed and therefore appropriate to regulate unconventional gas gathering, horizontal directional drilling and well development pipeline development.

§§ 78.69 and 78a.69 Water Management plans

1863. Comment: **78a.69** - DEP should develop requirements and standards for water management plans that are more comprehensive and takes into consideration the cumulative impacts of the depletion of the fresh water resources of the Commonwealth by oil and gas development. The reduction of available clean water due to pollution and degradation of quality of drinking water resources and natural water resources compounds the loss of volume. The standards are vague and not developed enough to be meaningful. We support the requirement for Water Management Plans but they need to have enforceable and environmentally-based standards that protect streams and other water features at all levels and assess the cumulative and long-term impacts of this consumptive use. (182)

Response: Sections 78a.69(b) (1 – 6) and 78a.(c)(i)-(ii) of the final rulemaking establishes comprehensive requirements and standards that are based on the criteria in 58 P.S. § 3211(m)(2). Water management plans are to demonstrate that the withdrawal and use of water sources protects those sources as required by law and protects public health, safety and welfare. It is not appropriate to list all specific standards in regulations as conditions change over time requiring timely modifications. Specific details are better listed in guidance material that can be easily updated in a timely fashion.

1864. Comment: Commentator supports the Department’s proposed changes to § 78a.69. The revised version of § 78a.69 is a significant improvement over the initial draft regulation published in December 2013. The revised § 78a.69 enhances the Department’s ability to monitor water withdrawals from the Commonwealth’s water resources and ensures consistent application of water management planning requirements across all water basins in the Commonwealth. (231)

Response: The Department acknowledges the comment.

1865. Comment: Commentator thanks the Department for revising the regulation to apply to all persons, rather than just “unconventional well operators,” as initially proposed. § 78a.69(a). The Department’s revised language is more consistent with the statutory mandates of Act 13. (231)

Response: The Department acknowledges the comment.

1866. Comment: Please stop allowing drillers to draw their frack water from nearby streams and creeks. (135)

Response: A water management plan is a plan associated with drilling or completing an unconventional well that demonstrates that the withdrawal and use of water sources in the Commonwealth protect those sources and protects public health, safety and welfare. An approved water management plan does not provide for water rights. Further, the Department does not regulate riparian land disputes.

1867. Comment: Develop water management plans that specify the source and volume of the water used in site construction, drilling, hydraulic fracturing, and site restoration. This would be required for unconventional but not conventional operators. All gas development requires large volumes of water and withdrawals can harm streams, rivers, and aquifers. There is no logical reason to let conventional drillers off the hook for planning and documenting their water use. (84, 110, 111, 218, 299)

Response: Water used by conventional operators is significantly less than unconventional operators. Water management plans are required for water withdrawals or use of water for the drilling or hydraulic fracture stimulation of unconventional natural gas wells. Water management plans are for specific water withdrawal points. Information regarding the amount of water used for well construction and stimulation is provided in the well completion report, submitted to the Department after the well is completed.

1868. Comment: DEP must require all oil and gas industry operators to develop water management plans. (144, 151, 241, 3057-3093,)

Response: See response to comment 1867.

1869. Comment: DEP should require all operators of all types of oil and gas wells to develop water management plans that specify the source and volume of the water used in construction, drilling, hydraulic fracturing, and restoration. (198, 250, 2848-3056)

Response: See response to comment 1867.

1870. Comment: A new section 78.69 should require that operators of conventional oil and gas wells prepare water management plans in compliance with the standards in section 78.69a, as amended in accordance with our comments. Water is a precious public resource that should be managed carefully by all operators. (211)

Response: See response to comment 1867.

1871. Comment: All well operators should be required to develop water management plans that specify the source and volume of the water used in site construction, operation, and restoration. All gas development requires large volumes of water and withdrawals can harm streams, rivers, and aquifers. There is no reason to exempt conventional drillers from planning and documenting their water use. (377)

Response: See response to comment 1867.

1872. Comment: Water management plans that specify source and volume of water used in site construction, drilling, fracking, site restoration should be filed with DEP and updated regularly by all operators. (155)

Response: Water management plans are required for withdrawals or use of water for drilling or hydraulic fracture stimulation of unconventional natural gas wells. Water management plans are for specific water withdrawal points and not specific uses of water taken from those points. Information regarding the amount of water used for well construction and stimulation is provided in the well completion report, submitted to the Department after the well is completed. In addition, all withdrawals under approved water management plans must be monitored daily and submitted to the Department. This combination of data allows the Department to understand the type and scope of water use by unconventional operators.

1873. Comment: It is suggested that a phase in period for currently approved sources be added to this section to cover the interim period between the effective dates of the regulation. (232)

Response: Currently used sources without Water Management Plans are in violation. The current rule making reflects the existing requirement for anyone who withdraws water or uses from water sources within the Commonwealth for the drilling or hydraulic fracture stimulation of unconventional wells. Current Water management Plans are still valid under the final rulemaking but will be required to be updated upon renewal or modification.

1874. Comment: 78a.69. The section should contain more detail on restrictions on low flow stream conditions that must be avoided and could limit flow to relatively high flows such as 2Q30, (two year mean low flow with a 30 day reoccurrence interval). High flow storm water flow skimming should be encouraged and added to the regulations. (239)

Response: Section 78a.69(b)(1-6) provides the details necessary to address low flow stream conditions. Further details on restrictions on low flow stream conditions for water management plans are better presented in guidance documents rather than regulations as conditions may change over time requiring timely modifications. Guidance documents allow for those updates and flexibility.

1875. Comment: DEP is required by law to issue two sets of regulations- but that doesn't change the agency's mandate to develop regulations that protect people and the environment, Sometimes the only difference is the scale of operations. Conventional wells also use water and chemicals, create waste, and disturb land. Conventional operators also cause spills, accidents, and contamination. Due to the inherent risks of all oil and gas development, DEP should require *all operators of all wells* to:

Develop water management plans that specify the source and volume of the water used in site construction, drilling, hydraulic fracturing, and site restoration. This would be required for unconventional but not conventional operators. All gas development requires large volumes of water and withdrawals can harm streams, rivers, and aquifers. There is no logical reason to let conventional drillers off the hook for planning and documenting their water use. (294)

Response: See response to comment 1867.

1876. Comment: We support PADEP's proposed changes, but we reiterate the recommendation from the 2014 Comments that PADEP adopt and incorporate the requirements imposed by the Delaware River Basin Commission, Susquehanna River Basin Commission, and Great Lakes Commission into its approval and that PADEP be authorized to supplement those requirements. PADEP also should be required to adopt the most stringent of the Commissions' requirements, if there are conflicts among them. Finally, the spelling of the word "maintain" should be corrected in section 3 of the Water Management Plan Requirements. (211)

Response: The Department must be able to make the determination that a proposed water withdrawal will meet the terms and conditions of the 2012 Oil and Gas Act, 58 P.S. § 3211(m)(2). It is not appropriate for the Department to implement regulations of other agencies when reviewing proposals. The misspelled word was corrected.

1877. Comment: With this new proposed regulatory package, there continues to be a lack of clarity on several issues regarding monitoring requirements, submittals and guidelines for plans. If these expectations were more sufficiently outlined in the regulation package with use of technical guidance, we believe that many of the issues would be clarified to operators and to Department representatives to ensure consistency and understanding of this regulatory section. The Department should further explain many of the requested details to lessen the interpretative

burden between the operator and regulatory representatives. (213)

Response: The Department agrees that guidance documentation is helpful but disagrees that the guidance should be in the regulations as guidance may change over time. Specific monitoring requirements, submittals and guidelines for Water Management Plans are better presented in guidance documents rather than regulatory packages. The Department intends to develop the necessary guidance documents.

1878. Comment: § 78a.69 (a)(1) we recommend that the phrase “and protects public health, safety and welfare” be deleted from this subsection, as it is inconsistent with the Legislature’s intent in § 3211(m) of the Oil and Gas Act of 2012. Additionally, it is unduly broad and otherwise unnecessary as long as all of the other conditions in the proposed § 78a.69 are met. (210)

Response: This language is part of the definition of a water management plan in 58 P.S. § 3203. Further, 58 P.S. § 3211(m)(3)(ii) states “the Department may establish additional requirements as necessary to comply with the laws of this Commonwealth.”

1879. Comment: § 78a.69 (a) The commentator notes that while clarifications have been made to subsection 78a.69(a) to confirm that water management plan and subsequent source approvals are not required for water sources outside the Commonwealth, we suggest that a similar clarification be made to the definition of “water management plan” in 25 Pa. Code § 78.1. (210)

Response: The Department does not enforce Chapter 78 requirements outside of Pennsylvania.

1880. Comment§ 78a.69(b)(1) -We support a requirement that the applicant conduct a study demonstrating that their proposed pass by flow meets the aquatic life needs of organisms and biological communities downstream of their water withdrawal site.

We also support measures being specified to minimize the impingement and entrainment of aquatic species at water intakes, such as the Pennsylvania Fish and Boat Commission's recommendations that shallow water intakes have appropriate mesh size of the grate covering the water intake structure, and maximum water intake velocity. The grate size should be 3/32 inch, and the water intake velocity should be no more than 0.5 ft. /second, as specified in the Canadian Department of Fisheries and Oceans Freshwater Intake End-Of Pipe Fish Screen Guideline, to minimize the potential for entrainment of aquatic species.

Applicants should be required to develop practices and procedures and methods that will prevent the transport and introduction of invasive aquatic species from one drainage to another.

We believe that applicants should also be required to develop and implement a site specific Non-Point Source Pollution Control Plan (NPSPCP) for the proposed withdrawal locations. (200)

Response: Subsection 78a.69(c)(3)-(5) ensure protection of surface and groundwater quality.

Subsection 78a.69(c)(6)(ii) require operators to include measures to be taken to prevent the movement of invasive, harmful or nuisance species by vehicles, equipment or other facilities from on site to another.

Regarding the impingement and entrainment concerns, § 105 requires that intake structures must be screened or otherwise properly designed to prevent impingement and entrainment of fish.

Regarding the nonpoint source pollution control plan, under § 91.34 persons engaged in an activity which includes the impoundment, production, processing, transportation, storage, use, application or disposal of pollutants shall take necessary measures to prevent the substances from directly or indirectly reaching waters of this Commonwealth, through accident, carelessness, maliciousness, hazards of weather or from another cause. The Department believes this addresses the commenter's concern.

1881. Comment: 78a.69(c)(8) A reuse plan should consider other options beyond dilution to solve the issues of pollution from not only total dissolved solids but also other pollutants. (161)

Response: The Department acknowledges the comment. It is not the intent of the reuse plan to reduce TDS or pollutants but to efficiently use water.

1882. Comment: Commentator supports the Department's development of application requirements for a Water Management Plan. The application materials proposed by § 78a.69(c) will make it easier for the Department to determine whether the proposed water usage is consistent with section 3211(m) of Act 13 and the Department's antidegradation requirements. (231)

Response: The Department acknowledges the comment.

1883. Comment: Commentator supports the incorporation of signage, monitoring, reporting, and recordkeeping requirements directly into the text of § 78a.69(e), instead of referencing the Susquehanna River Basin Commission's regulations. This construct is clearer and easier to follow. It also ensures that the same basic requirements will apply to water withdrawals in any water basin across the Commonwealth, as opposed to limiting its application to the Susquehanna and Ohio River Basins. (231)

Response: The Department acknowledges the comment.

1884. Comment: § 78a.69 (c) The Department's current WMP application form and instructions (PADEP Doc. No. 8000-PM-OOGM0087) lists several water sources for which unconventional well operators are required to obtain approval, including surface water, groundwater, wastewater, cooling water, mine water discharge, and public water supplies. As proposed, subsection 78a.69(c) would require persons submitting a WMP application to include all of the items listed in 78a.69(c)(1) to (11). Subsection (1) is likely the only subsection relevant to all water sources that could be approved by the Department in the context of a WMP. For example, it would not be feasible to conduct a low flow analysis or a withdrawal and diversion impact analysis for some wastewater sources that could be approved as part of a WMP. In subsection (5), the authority – not the person purchasing the water – has the obligation to demonstrate that the sale of public water would not adversely affect the public water supply. Subsection 78a.69(c) should be amended to reflect that the items listed in 78a.69(c) shall be included in a person's WMP application "as applicable" depending on the water source requested for approval. (210)

Response: Withdrawals from wastewater discharges can impact surface water bodies during low flow conditions. Section 78a.69 requires all persons proposing to withdrawal water from water sources within this Commonwealth for the drilling or hydraulic fracture

of any natural gas well completed in an unconventional formation to obtain an approved water management plan.

1885. Comment: (c)(6) AN OPERATIONS PLAN THAT INCLUDES AN INTAKE DESIGN, A FLOW SCHEMATIC SHOWING HOW WATER IS TO BE WITHDRAWN, A SITE LAYOUT AND A FOOTPRINT FOR EACH SURFACE WATER WITHDRAWAL.

The Department should provide technical guidance illustrating the details that are required as part of the referenced operations plan. This guidance should be shared as part of this regulatory review. (213)

Response: Providing technical guidance illustrating details of an operations plan is not appropriate in the regulatory package. It is problematic to provide technical details in a regulatory package as technical details often change and guidance material allows for updates and flexibility.

1886. Comment: (c)(8) A REUSE PLAN FOR FLUIDS THAT WILL BE USED TO HYDRAULICALLY FRACTURE WELLS. A WASTEWATER SOURCE REDUCTION STRATEGY IN COMPLIANCE WITH § 95.10(b) (RELATING TO TREATMENT REQUIREMENTS FOR NEW AND EXPANDING MASS LOADINGS OF TOTAL DISSOLVED SOLIDS (TDS)) WILL SATISFY THE REUSE PLAN REQUIREMENT.

The Department should provide technical guidance illustrating the details that are required as part of the referenced reuse plan. This guidance should be shared as part of this regulatory review. (213)

Response: Providing technical guidance illustrating details of an operations plan is not appropriate in the regulatory package. It is problematic to provide technical details in a regulatory package as technical details often change and guidance material allows for updates and flexibility.

1887. Comment: § 78a.69 (c)(11) Operators have an independent obligation to ensure no impacts to known historical or archaeological sites and a WMP application does not trigger a federal nexus, therefore the proof of consultation with the PHMC should not be required. This should not be a requirement for a WMP. A desktop review of the GIS database should be sufficient. (210)

Response: Proof of consultation with the PHMC will ensure that the independent obligation to make sure no impacts to known historical or archaeological sites will occur at a water withdraw location.

1888. Comment: 78a.69(d)(1) The most stringent requirements of the SRBC, DRBC or Great Lakes Commission should be consistently applied to all water management plans. (161)

Response: The Department must be able to make the determination that a proposed water withdrawal will meet the terms and conditions of the 2012 Oil and Gas Act, 58 P.S. § 3211(m)(2). It is not appropriate for the Department to implement regulations of other agencies when reviewing proposals.

1889. Comment: § 78a.69 (d)(2) The “requirements” that the Department would impose under this section for water sources located in the Ohio and Potomac River Basins are completely omitted as written, and the Department has not provided any clarification to the public regarding its alleged

“guidance” referenced in this proposed provision. Just to clarify, this provision omits requirements for WMP requirements and application requirements for water sources located in parts or all of the following Western Pennsylvania counties: Greene, Fayette, Somerset, Bedford, Fulton, Franklin, Adams, Washington, Westmoreland, Cambria, Indiana, Armstrong, Allegheny, Beaver, Lawrence, Butler, Armstrong, Jefferson, Clarion, Venango, Mercer, Forest, Elk, Clearfield, Cameron, Potter, McKean, Warren, Crawford, and Erie Counties (30 counties). In other words, 30 of the 67 Pennsylvania counties would be covered by the implicated guidance, with the caveat that many of Eastern Pennsylvania’s counties do not provide water sources for the oil and gas industry. Additionally, the Department has not made clear if it intends to issue one or multiple guidance documents, and it is unclear as to what the timeframe is for issuance of draft guidance(s) referenced in this provision. The absence of explicit regulation for water sources in these 30 counties is a glaring omission from this proposed ANFR and therefore this provision cannot be implemented as written and should be deleted.

The commentator’s suggested regulatory language:

Delete subsection (2). (210)

Response: The Department disagrees that Section 78a.69(d)(2) should be deleted. The intent of Water Management Plans is to protect all water sources within the Commonwealth. All of the counties identified in the comment are covered by the Water Management Plan requirements. Guidance documents will be provided by the Department as necessary.

1890. Comment: § 78a.69 (e)(3) - This requirement to provide quarterly reports of daily withdrawal volumes, in-stream flow measurements and/or water source purchases is duplicative of information already provided to the SRBC and the Department on other forms and is administratively over burdensome. (187, 209)

Response: The Department believes that the reporting requirements are appropriate and necessary to ensure compliance with water management plans.

1891. Comment: 78a.69(d)(4): Specify What Constitutes Additional Requirements for a Water Management Plan. This section currently allows the DEP to establish additional requirements as necessary to comply with the laws of the Commonwealth. A regulation is the best mechanism for an agency to document the requirements for implementing Act 13 and for codifying the DEP’s policy on what is required. Given the very nature of a water management plan (i.e., forward planning and transparency), Commenter asks that the DEP remove 78a.69(d)(4) and add any specific plan requirements to the provision itself. (383)

Response: The Department disagrees with the comment. WMPs are developed to address specific water requirements of the operator. Based on the availability of water sources and the needs of the project(s) each WMP will be different. In order to address the potential variability of the WMPs the Department needs to retain flexibility to establish additional requirements as necessary pursuant to Section 3211(m)(3)(ii) of the 2012 Oil and Gas Act.

1892. Comment: § 78a.69 (d)(4) The commentator understands that the Department has the responsibility to ensure that WMP issued to unconventional well operators comply with the applicable laws of the Commonwealth. However, this is a broad statement that does not clarify “what” additional requirements (and if the requirements are to be established by future rulemaking), nor does it specify “applicable” laws of the Commonwealth. No other provision of this ANFR includes such a reservation. The need for this reservation of rights in the section is

unclear as 58 P.S. § 3211(m)(3)(ii) already states that the Department may establish additional requirements as necessary to comply with the laws of the Commonwealth. As such, the proposed subsection (d)(4) is duplicative of Section 3211(m)(3)(ii) of the Act and is unnecessary for the Department to also include in this rulemaking.

The commentator's suggested amendatory language:

Delete subsection (d)(4). (210)

Response: See response to comment 1891.

1893. Comment: (e)(2) MEASURE WATER WITHDRAWALS AND PURCHASES USING CONTINUOUS- RECORDING DEVICES OR FLOW METERS. WATER SOURCES HAVING PASSBY FLOW CONDITIONS SHALL CONDUCT INSTREAM FLOW MONITORING AND MEASURING USING METHODS ACCEPTABLE TO THE DEPARTMENT (Suggested language) THAT DO NOT CAUSE UNDUE BURDEN TO THE OPERATOR.

The Department has been continually vague with this and existing language regarding instream flow monitoring and establishing pass by requirements. It is suggested that simple, brief technical guidance is established here for operators to understand acceptable techniques and for Department representatives to have clarity and consistency to this section of the regulation. (213)

Response: The Department disagrees with the proposed revision as it is vague and unenforceable.

1894. Comment: 78.69(e) (3) SUBMIT QUARTERLY REPORTS TO THE DEPARTMENT BY ELECTRONIC MEANS CONSISTING OF PERIODIC WITHDRAWAL VOLUMES, IN-STREAM FLOW MEASUREMENTS AND/OR WATER SOURCE PURCHASES.

Due to the proposed changes, the Department will be issuing a new report form. It is appropriate for the Department to share a draft of this form as part of this regulatory review process. (213)

Response: The Department intends to develop any new forms with input from the operators.

1895. Comment: (e) (4) RETAIN WITHDRAWAL DATA AND PERIODIC INSTREAM FLOW MEASUREMENTS AND PURCHASES FOR A PERIOD OF AT LEAST FIVE YEARS. THESE RECORDS SHALL BE AVAILABLE FOR REVIEW BY THE DEPARTMENT UPON REQUEST

Dependent on the frequency of usage of the water source, it is undue burden on the operator to collect daily instream flow measurements once the flow rating curve has been established. (213)

Response: The Department disagrees with the comment. Daily instream flow measurements are only required on the days that water is being withdrawn from the source.

1896. Comment: § 78a.69 (e)(4) Subsections 78a.69(e)(3) and (4) appear to contradict each other. If unconventional well operators submit complete quarterly reports electronically to the Department per subsection (3), it is not clear why operators need to maintain records to make available for the Department's review as the Department will already have the records. (210)

Response: The Department disagrees with the comment. It is not the intent of the Department to maintain the Water Management Plan records for the industry.

1897. Comment: 78a.69(e)(3) Records should be provided to the Department annually of withdrawal data and in-stream flow measurements. (161)

Response: The Department believes that the reporting requirements are appropriate and necessary to protect the water sources. Annual reporting of withdrawal and in-stream flow measurement data does not allow the Department to conduct timely review and analysis to identify trends that may require Water Management Plan modification.

1898. Comment: 78a.69(f)(1) Approvals for water sources within a WMP are renewed every two years based on records sent regarding withdrawal data and in-stream flow measurements. (161)

Response: The Department disagrees with the comment. Section 78a.69(f)(1) states “Approvals for individual water sources within a WMP are valid for five years”.

1899. Comment: § 78a.69 (f)(1) Proposed Subsections 78a.69(f)(1) and (2) should be revised to allow for the administrative extension of individual water sources within a WMP where the operator has submitted a timely renewal application, in the event that the Department does not act in a manner to renew the individual water source before the 5 year expiration date.

Additionally, a phase-in period of 6 months from the effective date of the final regulation should be added to the proposed renewal subsection (f) for water sources approved under a WMP.

The commentator’s suggested regulatory language:

(1) Expiration. Individual water sources within a WMP are valid for 5 years, unless the approval to use the individual water source is administratively extended or renewed.

(2) Renewal and Extension. A renewal application for individual water sources within a WMP shall be submitted at least 6 months prior to the expiration of the 5 year term for withdrawal or use of the individual water source. If the Department does not act upon a timely submittal of a renewal application by the WMP holder within the 5 year term, the approval of the individual water source is deemed to be administratively extended until such time as the Department acts on the unconventional well operator’s renewal application for that individual water source. This subsection shall go into effect 6 months after the effective date of the final regulation. (210)

Response: The Department requires renewal application submittal 6 months prior to the 5 year expiration date to ensure the Department has sufficient time to review the renewal application relative to other renewal applications and will not administratively extend a renewal application. It is the intent of the Department to provide an effective date for the final rulemaking that will allow time to “phase-in” new requirements.

1900. Comment: 78a.69(f)(2) WMP renewals should be submitted 6 months prior to expiration. (161)

Response: The department acknowledges the comment.

1901. Comment: § 78a.69 (f)(2) - This requirement should be exempt if a source is located in the SRBC as you cannot submit for WMP renewal until you have received your approved SRBC

docket. An extension to the expiration of the WMP should be added to allow for appropriate time for SRBC approval and subsequent WMP submittal. (187, 209)

Response: See response to comment 1899

1902. Comment: § 78a.69 (f)(3) Suspending or revoking an approved water source for what could be minor noncompliance with the WMP is an excessive action, and could have negative financial impacts on a municipal water purveyor. The Department should consider tailoring this provision to account for minor noncompliance matters that shouldn't result in suspension or revocation of an approved water source. (210)

Response: The Department exercises enforcement discretion as appropriate to ensure compliance.

1903. Comment: § 78a.69 (f)(4) A process for amending WMPs should be added to this section.

The commentator's suggested amendatory language:

NEW (g) Amendments. Amendments to an approved water source in a WMP may be submitted during the 5 year term for withdrawal or use of the approved water source, on forms provided by the Department. Such amendments will be considered valid if no response from the Department is received within 30 days of receipt of submission of the form requesting the amendment. (210)

Response: The Department acknowledges the comment but does not believe that any changes to the regulatory language are necessary to accommodate amendments to WMPs or individual sources.

1904. Comment: § 78a.69 (g)(2) According to the Department's statements at its March 20, 2015 OGTAB meeting, Section 78a.69 was reorganized for clarity. However the Department's proposed changes in this ANFR to Section 78a.69, particularly subsections (b) and (g) are contrary to the Department's statement. With respect to this "Denial" subsection 78a.69(g), the Department's proposed rulemaking reversed or removed the language from 58 P.S. § 3211(m)(2) set by the Legislature that requires approval when water management plans meet the listed criteria:

- (2) The department *shall review and approve* water management plans based upon a determination that the proposed withdrawal, when operated in accordance with the proposed withdrawal operating conditions set forth in the plan, including conditions relating to quantity, withdrawal rate and timing and any passby flow conditions, will:
 - (i) not adversely affect the quantity or quality of water available to other users of the same water sources;
 - (ii) protect and maintain the designated and existing uses of water sources;
 - (iii) not cause adverse impact to water quality in the watershed considered as a whole;
and
 - (iv) include a reuse plan for fluids that will be used to hydraulically fracture wells.

The current ANFR has moved and paraphrased language of 58 P.S. § 3211(m)(2) from subsection 78a.69(g) to proposed subsection 78a.69(b). The proposed language in 78a.69(b) should, but does not, accurately track the Legislature’s language in 58 P.S. § 3211(m)(2) so that the burden is not shifted inappropriately. For instance, the Department has proposed to add a new criterion in subsection 78a.69(b)(5) – “Protect groundwater resources including nearby water wells.” The proposed addition of this criterion is confusing because 58 P.S. § 3211(m)(2)(i) does not allow WMP that will “adversely affect the quantity or quality of water available to other users of the same water sources”, whereby “water sources” is proposed to be defined to include “waters of the Commonwealth” which includes groundwater. As such, this new criterion in subsection 78a.69(b)(5) is duplicative and could lead to confusion, and therefore should be deleted. Additionally, we recommend that the Department should be obligated to notify an unconventional operator if it denies an operator’s application to withdraw or use a water source.

The commentator’s suggested amendatory language:

- (g) The Department shall review and approve water management plans based upon a determination that the proposed withdrawal, when operated in accordance with the proposed withdrawal operating conditions set forth in the plan, including conditions relating to quantity, withdrawal rate and timing and any pass by flow conditions, will:
 - (1) Not adversely affect the quantity or quality of water available to other users of the same water sources;
 - (2) Protect and maintain the designated and existing uses of water sources;
 - (3) Not cause adverse impact to water quality in the watershed considered as a whole; and
 - (4) Include a reuse plan for fluids that will be used to hydraulically fracture wells.

The Department shall notify an operator in writing if it has denied an operator’s application for the withdrawal or use of a water source for inclusion in the operator’s WMP. (210)

Response: Section 78a.69(b) does not alter the meaning or intent of 58 P.S. § 3211(m)(2), but breaks down the statutory criteria into simpler components for purposes of clarity. Currently, the Department notifies a Water Management Plan applicant, in writing, if it denies an application for the withdrawal or use of a water source.

1905. Comment: §78.69 and definitions. Water management plans.

We object to the deletion of references and requirements for water management plans (WMPs). The omission of WMP requirements appears to contradict requirements in §78.122(6)(vii), which stipulates that conventional operators need to provide information on sources and volumes of water used “under an approved water management plan” when filing a well record and completion report.

Conventional operators should be required to submit WMPs based on the same set of standards (e.g., implementation, recordkeeping, reuse, and suspension) as those in place for unconventional operators. Even if the volume of water used for each conventional well is less, water management plans are key to documenting the water required for site construction and restoration, drilling, hydraulic fracturing, and other purposes. WMPs can also ensure that DEP knows where and when water resources are being used, as well as providing enforcement authority should negative environmental impacts or unauthorized withdrawals occur.

It is also important that conventional drillers heed restrictions established by the Susquehanna River Basin Commission, for example the suspension of withdrawals when drought conditions exist—something that the provision in §78.69 currently proposed for deletion would require. (188)

Comment: §78a.69 We find the language changes reasonable and necessary. We recommend the revisions as presented for adoption. (170)

Response: See response to comment 1867. Information regarding the amount of water used for well construction and stimulation is provided in the well completion report, submitted to the Department after the well is completed.

1906. Comment: We Support a Number of Recommendations in the Draft Changes to Chapter 78 of the Pennsylvania Code Proposed in March 2015. We are pleased to have the opportunity to comment on the revised proposed changes to Chapter 78, which are now bifurcated into Chapter 78 – Conventional Oil and Gas Wells, and Chapter 78a – Unconventional Oil and Gas Wells. Overall, We are pleased with the bifurcation of the rules and with the additional proposed changes set forth in the March 2015 version of the proposed rules. Specifically, we would like to commend the Wolf Administration for making the following improvements in the rules proposed in March 2015: Strengthened water management plan requirements; are important steps toward preventing the contamination of Pennsylvania’s waters, including the Delaware River. We support these additions to the proposed rules. (175)

Response: The Department acknowledges the comment.

1907. Comment: Water Management Plans are not required for conventional wells but should be since the water used for drilling and extraction is depleted. Even if less water is used for conventional drilling than unconventional drilling, there can be substantial impacts and diminishment of water resources on sub-watersheds or cumulatively on large watersheds by the water withdrawals and the consumptive use. It is unclear how drought and low rainfall periods (such as is being experienced currently in Pennsylvania) will apply to drilling, including conventional drilling. A real-time “water ledger” and map of all water in the state being withdrawn, used, discharged or injected for disposal should be kept by DEP and made public through easily available web platform.

The acute and long term depletion of Pennsylvania’s water resources is an issue that is not well understood and is poorly tracked for the benefit of the public and water users. This lack of transparency and understanding has led to a poor regulatory system that lacks state-based planning and essential protections. This proposed rulemaking takes a step forward in requiring nominal water management plans - particularly because two of Pennsylvania’s watersheds are not regulated by a commission or compact - but does not begin to address comprehensively these critical issues

The State Review of Oil and Natural Gas Environmental Regulations Inc. (STRONGER) recommended in its most recent state review of DEP oil and gas regulations (September 2013): “The review recommends that the State clearly indicate what is required in a water management plan and make those plans available to the public”. (182)

Response: See response to comment 1867. Information regarding the amount of water used for well construction and stimulation is provided in the well completion report, submitted to the Department after the well is completed. Regarding clearly indicating what is required in

a water management plan, providing technical guidance illustrating details of an operations plan is not appropriate in the regulatory package. It is problematic to provide technical details in a regulatory package as technical details often change and guidance material allows for updates and flexibility.

Water management plans submitted to the Department are made available to the public in the same manner as other records.

1908. Comment: § 78a.69 The Department has not provided an adequate statement of need or estimate of cost to the regulated community pursuant to the requirements of Pennsylvania’s Regulatory Review Act. The ANFR is not a substitute for an agency to fulfill any of the formal steps of the Regulatory Review Act or the accompanying requirements imposed on the promulgating agency. Accordingly the Department should not proceed to finalize this totally rewritten provision regarding centralized impoundments WMP, but should withdraw Section 78a.69 and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA. (210)

Response: The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. Please see the final regulatory analysis for further explanation and the Department’s analysis on the economic impact of this provision.

1909. Comment: Conventional well operators should develop water management plans that specify the source and volume of the water used in site construction, drilling, hydraulic fracturing, and site restoration. This is only required for unconventional but not conventional operators. All gas development requires large volumes of water and withdrawals can harm streams, rivers, and aquifers. (382)

Response: See response to comment 1867.

§§ 78.70 and 78a.70 Road-spreading of brine for dust control and road stabilization

1910. Comment: Outlaw the practice of allowing oil and gas operators to spread waste from drilling operations on public and private roads for dust control. (13)

Response: Unconventional brines may not be spread on roads for any reason. Conventional brine may be spread on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and sets limits on the application location, rate, and duration.

1911. Comment: Prohibit the road-spreading of brine/gas wastewater. DEP would continue to prohibit the use of wastewater (brine) from unconventional wells as a deicer and dust suppressant, but continue to allow waste from conventional wells to be used for these purposes. Brine contains chemicals, hydrocarbons, and concentrated salts regardless of the type of well it come from. DEP has set limits on contaminant levels in the brine, but does not require testing for all contaminants that could be present, requires minimal testing and monitoring, and has not provided scientific evidence that road-spreading is safe for water, vegetation, and wildlife—especially over large areas for prolonged periods of time. (84, 111, 218, 130 294, 299)

Response: Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1912. Comment: We support the Department's proposal to prohibit the road spreading of brine from unconventional wells. Allowing the road-spreading of brine would have created a program that would have violated the Department's beneficial use regulations set forth at 25 Pa. Code Chapter 287. We are pleased to see that this use is being prohibited for brines from unconventional wells. We encourage the Department to revise its Chapter 78 regulations to prohibit the road spreading of brines from conventional wells as well. (231)

Response: The Department acknowledges the comment regarding unconventional well brines. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1913. Comment: Very much against fracking and the reckless methods that are allowed. The amount of toxic, cancer causing chemicals, 80,000 lbs. per well in a million gallons of pristine water from our streams is outrageous: the regulated methods of eliminating are pitiful as are the bandits that dump wastewater on the road. (84)

Response: Unconventional brines may not be spread on roads for any reason. Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1914. Comment: DEP must prohibit the use of wastewater (brine) from both conventional and unconventional wells as a deicer or dust suppressant. The practice has not been proven safe and the cumulative effects are unknown. (85, 128, 179)

Response: The Department disagrees with the comment. Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1915. Comment: The DEP's definition of "freshwater" as used in the drilling process needs to be clarified. Brine is composed of salt and contaminants that should not be permitted as a viable option to treat dust. The topical application of this brine leads to runoff which contaminates streams and ground water areas where animals forage and children play/fish. These chemicals eventually end up in our drinking water. The topical application of pit/tophole water, dredged materials, and fill should be prohibited. (104)

Response: Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration. Application of pit/tophole water, dredged and fill material are not permitted for road application.

1916. Comment: Disposal of brine, drill cuttings, and residual waste (Sections 78.60, 78.61, 78.62, and 78.63, and 78.70) Prohibit the land application of top hole water, pit water, fill, or dredged

material. These substances can contain chemicals and sediments bound with pollutants that pose risks to water, air and soil. (130)

Response: Only uncontaminated tophole water, pit water, fill, or dredged material may be land applied.

1917. Comment: Ban the use of brine on our roads to further protect our water and soil as well as animal and agricultural food sources. (144)

Response: Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1918. Comment: DEP should also prohibit the road-spreading of brine as a deicer and dust suppressant. DEP has never issued a permit for this practice, not provided evidence that road-spreading is safe for water, vegetation, and wildlife. (2848-3056)

Response: Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1919. Comment: Prohibit the road-spreading of brine. (241, 345, 250, 3057-3093)

Response: Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1920. Comment: Use of wastewater (brine) as a road deicer or dust suppressant should be prohibited. (155)

Response: Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1921. Comment: DEP needs to end the practice of allowing PA DOT from using the brine to treat roads and prohibit the road-spreading of brine. (151)

Response: Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1922. Comment: The DEP NORM Report of 1992 demonstrates that conventional produced water is radioactive. Despite that finding over 20 years ago, DEP has been complicit in allowing brine spraying on secondary roads for de-icing and dust control. The 2015 DEP TENORM Report found that unconventional produced water is 25 times more radioactive than conventional produced water. It found that occasional recreational users of conventional brine-sprayed roads

are exposed to radiation; more study is needed to see how the brine migrates off the roadway and continuing this practice was questioned. People who live along these roads 24/7 and crops and livestock raised along them are being exposed to radiation and yet DEP continues to permit it. (147)

Response: The Department's 2015 TENORM Study Report observed that there is little potential for members of the public to exceed the public dose limit from exposure to Radium in brine-treated roads and recommended that the Department perform further study of brine-treated roads. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report.

Conventional operators are only permitted to spread brine on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain chemical parameters for use and limit the application location, rate and duration.

1923. Comment: Section 78.70 should be revised to prohibit road spreading of brine from conventional oil and gas wells. It is not sufficient to impose contaminant limits without clear evidence that widespread and long-term use of brine for de-icing or dust suppression is safe for water, vegetation, and wildlife. (211)

Response: Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1924. Comment: DEP should also prohibit the road-spreading of brine as a deicer and dust suppressant. DEP has never issued a permit for this practice, not provided evidence that road-spreading is safe for water, vegetation, and wildlife. Please reflect this in *Separation of unconventional and conventional regulations* (198)

Response: Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1925. Comment: Section 78.70(c), Reports should be submitted on a six (6) month basis to be able to effectively monitor the rates, application, slope limitations, determine compliance, review locations, etc. In addition, this section does not reference compliance history impacts to being able to spread road brine. If an applicant has past compliance problems or issues with regulations or developed pollution problems by spreading brine fluids, they should not be able to spread brine until they can demonstrate a history of compliance.

Response: Section 78.70(l) of the proposed regulation requires monthly submission of the brine spreading activity. If an applicant is not permitted to spread brine fluids because of past compliance issues, it will be impossible for the applicant to demonstrate a history of compliance.

1926. Comment: § 78.70. Road spreading of brine for dust control and road stabilization.

We object to the continued allowance of road spreading of brine. We support the decision to not allow brine from unconventional wells to be used as a road stabilizer, deicer, and dust suppressant. However, to prevent potential harm to water, vegetation, and wildlife and to ensure

regulatory consistency and enforceability, the same prohibition should be extended to brine from conventional wells.

Brine contains chemicals, hydrocarbons, and salts regardless of the type of well it come from. DEP has set limits on contaminant levels in the brine, but has never provided scientific evidence that road spreading is environmentally safe, especially over large areas for prolonged periods of time. Until DEP can demonstrate that brine spreading treatments in use meet federal and state drinking water standards, it cannot be considered safe.

Nor has DEP demonstrated that brine from conventional wells is similar or analogous to the fluid it is intended to replace (e.g., other types of deicers or dust suppressants) and that the new product will not harm the environment or human health—both of which are requirements under the state’s Beneficial Use Determination (BUD) program. In fact, DEP has yet to legally approve of road spreading as a beneficial use. In 2011, DEP issued a notice for public comment on a beneficial use general permit (known as WMGR064) to allow gas well brines to be used both for dust suppression and deicing; however, following challenges to the permit, DEP withdrew it. Because of this, inclusion of road spreading of brine in Chapter 78 may be an illegal circumvention of the state’s permitting and rulemaking procedures for residual waste management. (188)

Response: Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

With respect to the beneficial use of brine for dust suppression and road stabilization, the Board is not constrained by the residual waste beneficial use regulations. Chapters 78 and 78a are being promulgated under the authority of the Solid Waste Management Act, and therefore additional regulations related specifically to the beneficial use of brine may be included within these Chapters. Section 105(a) of SWMA provides the Environmental Quality Board with the broad authority to adopt rules, regulations, criteria and standards of the Department to carry out the provisions of SWMA, including those relating to the protection of safety, health, welfare and property of the public and the air, water and other natural resources of the Commonwealth. These regulations may be contained in several chapters. Chapter 287 and more specifically, § 287.2(g) do not limit the Board’s broad statutory authority to promulgate regulations affecting the management of waste outside of this Chapter.

The Department disputes the commenter’s characterization of the decision not to renew WMGR064. That general permit was originally issued on September 22, 2000 (30 Pa.B. 5159). The Department decided not to renew WMGR064 on November 24, 2012 (42 Pa.B. 7175). Between September 2000 and November 2012, only three registrations for coverage under the general permit were approved by the Department (two other registrations were denied – one in 2001 and one in 2003). Residual waste general permits are issued on a regional or statewide basis for a category of processing and/or beneficial use of residual waste. Wastes must be similar physically and chemically and must be used and processed in a similar fashion in order for a general permit to be appropriate. Given the paucity of applications for registration under WMGR064 (five in twelve years), there did not appear to be regional or statewide interest in beneficial use of production brine for prewetting, anti-icing and de-icing operations at the time renewal was being considered.

1927. Comment: The inclusion of sampling requirements (78.70(5)(n)) is a regulatory improvement, but remains too vague to be enforceable. Should DEP decide to continue to allow road spreading

of brine, at minimum this section should be amended to define “representative sample” (e.g., volume of the sample and that it must represent brine from each well); and to include radionuclides in the list of required testing parameters in §78.70a(e). (188)

Response: The Department disagrees with the comment. A “representative sample” from each well does not necessarily produce a representative sample of the volume to be applied. The “representative sample” that represents the brine to be applied is the important metric.

1928. Comment: §78a.70 We find the language changes reasonable and necessary. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1929. Comment: The spreading of brine or fluids produced by extraction on roadways as deicer or dust suppressant will continue to result in pollutants being released with adverse environmental impacts. Ground water, surface water, vegetation, habitats and drinking water supplies are all being harmed by this practice, which has inadequate regulation, oversight and tracking.

It is essential that brine spreading be codified as recommended by the State Review of Oil and Natural Gas Environmental Regulations Inc. (STRONGER) recommended in its most recent state review of DEP oil and gas regulations (September 2013): “There are currently over 200,000 barrels of brine from conventional wells that are spread annually from 84 facilities in Pennsylvania. The DEP’s regulations do not contain specific road spreading criteria, but the department has developed guidelines that address the spreading of brine on unpaved roads. The guidelines specify the need for a permit, the testing criteria for wastes proposed for road spreading, the application rates and any buffer zones required. Flowback and fluids from unconventional wells are not allowed to be road spread”. STRONGER makes this recommendation: “The review team recommends that the DEP consider codifying the current road spreading guidelines in the department’s E&P regulations”.

Even if tightly regulated this practice is a likely pollution pathway due to the largely unpredictable variability of these fluids from well to well and geologic formation. All fluids that result from drilling or fracking - conventional or unconventional, above or below surface casing seat - should be disposed of in a facility designed and permitted for this purpose. (182)

Response: The Department disagrees with the comment. Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1930. Comment: §78a.70 The commentator objects to the outright prohibition of unconventional production brines, as the quality – and not the source – of the production brines should be the determining factor as to whether the production brines can be used for dust control and road stabilization. (210)

Response: The Department disagrees with the comment. Production brines from conventional wells have a history of use for road spreading of brine for dust control and road stabilization. Produced water from unconventional wells does not have this history and the Department believes it is prudent to err on the side of protection of public health and safety and the environment.

1931. Comment: 78.70 and 78.70.a should include a notification to the water supplier if any brine application is proposed within a SWPZ, as defined by a DEP-approved SWPP and the brine application must prevent impact to any drinking water sources. (237, 246, 249)

Response: Regarding use of source water protection zone and source water protection plans instead of wellhead protection areas, see response to comment 2336. Subsections 78.70(e), 78.70a(a) and 78.70a(j) prohibit brine infiltration into groundwater and brine from entering into bodies of water or water courses which provides protection for drinking water supplies.

1932. Comment: We applaud PADEP’s proposal to prohibit the use of production brines from unconventional wells for dust suppression or road stabilization. (211)

Response: The Department acknowledges the comment.

1933. Comment: Section 78.70: allows the use of brine from oil and gas wells for dust suppression and road stabilization. We understand that the proposed regulations only allows for “conventional well” brine to be use for this purpose and we have no issue with that determination at this time. Our concerns are the following:

- Is this material to be used on unpaved public roads, state and local or just private roads?
- Are these regulations any different from the requirements of the PA Department of Transportation pertaining to the application of brine on state or municipal unpaved roads?
- If allowed to be used on public roads is the “plan applicant” the governing body or someone else?
- If allowed to be used on public roads does the municipality or the state have to authorize the use of the brine? No individual has authority to perform any work on any municipal or state road without their prior approval.
- If the state or municipality is spreading the brine do they have to comply with the signage requirements since their trucks are already marked?
- What is the purpose of the notification to the department when the spreading of the brine is to take place?
- Some of the provisions of subsection (c) contradict with subsection (e) and (f). An example is (c) (6) states “the proposed rate ...” while (f) states “the road shall initially be spread ... the road shall subsequently be spread ...” (253)

Response: The brine is to be used only on unpaved roads that meet the requirements for application (i.e. slope, distance from surface water, etc.). To the extent that the PA Department of Transportation supervises brine spreading on their roads the regulations are the same. A Department approved plan is supervised by the owner of the road. The vehicle spreading the brine must have signs that meet the requirements of Section 78a.70(h). The Department approves the plan and the person that owns or maintains the roads where spreading will be conducted authorizes its use and supervises the frequency of the road spreading. Notifications to the Department allows for the scheduling of the inspection by the Department of the spreading activity. The brine is spread at different rates. The initial application to a road is at a lesser rate the subsequent applications.

1934. Comment: PA DEP must prohibit the land application or surface spraying of brine or other oil and gas production wastes. (299)

Response: The final rulemaking permits the spreading of brine from conventional operations on unsurfaced roads. Land application and surface spraying of brine and other oil and gas production wastes is prohibited.

1935. Comment: The Huge Waste Issue. This industry has no plan for getting rid of the 1.3 barrels of toxic waste they generate for every foot of each well bore they drill (Call me if you want documentation on that number.) Some treatment plants not able to handle the waste still receive it because they were “grandfathered in.” Well, grandpa is dead, probably from drinking polluted water, and we must have no more flowback water going into our rivers, period. And disposal wells in the middle of communities that depend on well water are no solution, either. If EPA does not ban those, DEP should.

DEP must prohibit the use of wastewater (brine) from both conventional and unconventional wells as a deicer or dust suppressant. The practice has not been proven safe and the cumulative effects are unknown. (354)

Response: The Department disagrees with the comment. Wastewater from drilling operations is no longer taken to municipal wastewater treatment facilities. There is no grandfathering of treatment plants that cannot process the waste. Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1936. Comment: As I read 78a.70, the use of drilling brine waste on dirt and gravel roads for dust control and road stabilization would now be illegal. Bravo!! The idea that you could safely apply this chemically laden, toxic and radioactive wastewater to our roadways was always simply ridiculous. (303)

Response: The Department acknowledges the comment. The final rulemaking permits the spreading of brine from conventional operations on unsurfaced roads.

1937. Comment: Prohibit the road spreading of brine/gas wastewater from conventional wells. The standards would continue to prohibit the use of wastewater (brine) from unconventional wells as a de-icer and dust suppressant, but continue to allow waste from conventional wells to be used for these purposes. Brine contains chemicals, hydrocarbons, and concentrated salts regardless of the type of well it from which it was taken. Limits have been established on contaminant. Levels in the brine, but there is not a requirement for testing for all contaminants that could be present, requires minimal testing and monitoring, and has not provided scientific evidence that road-spreading is safe for water, vegetation, and wildlife---especially over large areas for prolonged periods of time. (382)

Response: Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

1938. Comment: The DEP should prohibit the road-spreading of brine from conventional wells. Brine contains chemicals, hydrocarbons, and salts regardless of the type of well it comes from. The DEP has set limits on contaminant levels in the brine, but has not provided scientific evidence that road-spreading is safe for water, vegetation, and wildlife- especially over large areas for prolonged periods of time. (377)

Response: Conventional operators have spread brine on roads for dust control and road stabilization for many years under controlled conditions that limit the application location, rate and duration.

§§ 78.70a and 78a.70a Pre-wetting, anti-icing and de-icing

1939. Comment: -I was unable to find this in the documentation, but it is possible I just missed it. However, I would like to state that I strongly suggest that brine and produced water NOT be used for deicing roads in PA. There is little doubt that this water would pollute our streams and rivers by way of runoff. (160)

Response: The Department disagrees with the comment. Application rates, location of application sites relative to water bodies, site characteristics are designed/selected to prevent runoff from reaching waters of the Commonwealth.

1940. Comment: §78a.70a. We find the language changes reasonable and necessary. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

1941. Comment: Prohibit the use of wastewater and/or brine as deicer or dust suppressant. These substances contain toxic liquids plus VOCs that evaporate easily. They must not be sprayed for any reason. (131)

Response: The Department disagrees with the comment. Only brine from production activity that meets specific requirements may be use for pre-wetting, anti-icing and de-icing. The use of wastewater for these purposes is prohibited.

1942. Comment: We support a number of recommendations in the Draft Changes to Chapter 78 of the Pennsylvania Code Proposed in March. We are pleased to have the opportunity to comment on the revised proposed changes to Chapter 78, which are now bifurcated into Chapter 78 – Conventional Oil and Gas Wells, and Chapter 78a – Unconventional Oil and Gas Wells. Overall, we are pleased with the bifurcation of the rules and with the additional proposed changes set forth in the March 2015 version of the proposed rules. Specifically, we would like to commend the Wolf Administration for making the following improvements in the rules proposed in March 2015: Prohibiting the use of production brines for pre-wetting, anti-icing, and de-icing are important steps toward preventing the contamination of Pennsylvania’s waters, including the Delaware River. We support these additions to the proposed rules. (175)

Response: The Department acknowledges the comment. Chapter 78 allows the use of production brines from conventional operations for pre-wetting, anti-icing, and de-icing.

1943. Comment: **78a.70a(a) and 78.70a(a)** – DEP/EQB provides no scientific basis for why it proposes to preclude the use of brines from unconventional wells but will allow the use of brine from conventional wells. An analytic standard would make more regulatory sense than simply presuming that brines from an unconventional well are always bad. This is an arbitrary and unreasonable distinction that needs to be corrected. (190)

Response: The Department disagrees with the comment. Production brines from conventional wells have a history of use as pre-wetting, anti-icing and de-icing agents. Production water from unconventional wells does not have this same history and the

Department believes it is prudent to err on the side of protection of public health and safety and the environment until it can be demonstrated otherwise.

1944. Comment: §78a.70a. The commentator objects to the outright prohibition of unconventional production brines, as the quality – and not the source – of the production brines should be the determining factor as to whether the production brines can be used for dust control and road stabilization. (210)

Response: The Department disagrees with the comment. Production brines from conventional wells have a history of use as a pre-wetting, anti-icing and de-icing agent. Production water from unconventional wells does not have this history and the Department believes it is prudent to err on the side of protection of public health and safety and the environment.

1945. Comment: We commend PADEP for clearly prohibiting the use of production brines from unconventional wells for pre-wetting, anti-icing, and de-icing. (211)

Response: The Department acknowledges the comment.

1946. Comment: We are pleased to see that road-spreading of brine for dust control, road stabilization, pre-wetting, anti-icing and de-icing will no longer be allowed for unconventional wells. We believe this change from past versions of the regulations will better protect Commonwealth resources and allow us to better protect NPS lands.

We do appreciate the inclusion of regulation subsections which addressed our concerns about over-application of brine in specific locations over time. However, we still have some concerns about the spreading of brine from conventional wells.

The NPS does own (and maintains) some roads in the Commonwealth. NPS 9B regulations prohibit the spreading of brine (36 CFR 9.45). We also ask that under § 78.70a(c)(9), that NPS be informed when such plans are submitted to the PA Department of Transportation. State Highway 191 is located within the boundary of the NPS's Upper Delaware Scenic and Recreational River (UPDE). The highway runs quite close to the river, which the NPS is charged with protecting. (200)

Response: The Department acknowledges the comment. No changes to the rule are necessary to address the commenter's concerns.

1947. Comment: Section 78.70a: allows for the use of brine from oil and gas wells for pre-wetting anti-icing and de-icing. Again we understand that the proposed regulations only allows for “conventional well” brine to be use for this purpose and we have no issue with that determination at this time. Our concerns are the following:

- This section seems to imply that this material may be used on paved roads, both public and private. Since local governments have more roads than PennDOT, why is PennDOT to be notified if this material is to be used on their roads and not a municipality? A better question would be why is PennDOT to be notified since no individual may perform any function on their roads without their prior approval.
- Are these regulations any different from the requirements of the PA Department of Transportation pertaining to the application of brine on state or municipal unpaved roads?
- If this material is going to be used on state and public roads, does the state and municipality have to be the plan applicant?

- Are the application rates of subsection (f) sufficient for the purposes intended, and do they correspond with those established by PennDOT?
- Does the state or municipality have to comply with the signage requirements since their trucks are already marked?
- Subsection (j) indicates that brine may not enter bodies of water. If a paved road is in proximity of a water body, how is the applicant to keep out brine residue when the snow and ice melts? (253)

Response: The brine is to be used only on paved roads that meet the requirements for application (i.e. slope, distance from surface water, etc.). When production brine is to be spread on a road, the owner of the road is to be notified. PennDOT is notified as to when and where the spreading is to take place. To the extent that the PennDOT supervises brine spreading on their roads the regulations are the same. The person wishing to spread production brine is the plan applicant not the municipality or the state. A Department approved plan is supervised by the owner of the road. The application rates are sufficient for the intended purpose. The vehicle spreading the brine must have signs that meet the requirements of Section 78.70(o). The Department approves the plan and the person that owns or maintains the roads where spreading will be conducted authorizes its use and supervises the frequency of the road spreading. Notifications to the Department allows for the scheduling of the inspection by the Department of the spreading activity. When a road is in proximity (150 feet or less) of a waterbody precautions should be taken to ensure runoff does not enter the water course.

1948. Comment: We are encouraged by the Department’s wording in:

§ 78.70a (e) (3), which states that brines applied to roads for pre-wetting, anti-icing, and de-icing shall not infiltrate directly to groundwater.

We also ask that the Department be more rigorous in its treatment of brine spreading. For instance, the term “Brine” is not defined for either unconventional or conventional wells. A definition for this term would help drinking water providers understand what is being spread on roads in their source water protection zones and potentially entering their water supplies. In addition, water suppliers would benefit from notices that applications for brine spreading in their service area have been submitted to the DEP. If any of the roads are in a SWPZ, the affiliated water system should be notified and provided with a copy of the brine’s chemical analysis. The water system should also be given the opportunity to submit a comment to DEP to be considered during the Department’s review of the plan.

We respectfully request that the terms Source Water Protection Zone (SWPZ) and Source Water Protection Plan (SWPP) should be substituted everywhere in the proposed changes for wellhead protection zone and wellhead protection plan, respectively, thereby giving the Commonwealth laws that are more protective of all drinking water sources.

We also recommend that the amended text be changed as follows:

§ 78.70a.e.3, should state “THE ROAD-SPREADING MUST PREVENT impact to drinking water sources by avoiding SWPZs defined by DEP-approved SWPPs.” (163)

Response: Regarding use of source water protection zone and source water protection plans instead of wellhead protection areas, see response to comment 2336. Subsections 78.70(e), 78.70a(a) and 78.70a(j) prohibit brine infiltration into groundwater and brine from

entering into bodies of water or water courses which provides protection for drinking water supplies. The definition of brine is the common English definition.

1949. Comment: **78.70a(e)(3)** – This rule provides that “road-spreading must prevent direct infiltration to groundwater.” How exactly is this to be accomplished? Every road in the Commonwealth experiences runoff that drains into a storm drainage pipe or ditch that ultimately drains directly into tributaries, streams or other waters of the Commonwealth. Notably, the thousands of tons of road salt utilized every winter by municipalities, counties and the Commonwealth drains in the same manner but is not subjected to special regulations. (190)

Response: The Department endeavors to accomplish this by controlling the rate of application, location of the spreading activity and application frequency so that there is a natural attenuation of the brine prior to reaching surface or groundwater.

1950. Comment: There should be no land spreading, spraying for dust suppression or de-icing using brine and post-production fluids at all. All you are doing is providing a legal way to justify getting rid of toxic wastes by dumping them in the environment. They still get into the land and watersheds. (337)

Response: The Department agrees with the comment. Road spreading of wastewater or brine from unconventional operations for deicing and/or dust suppressant is prohibited in Chapter 78a. However, the final rulemaking permits the spreading of brine from conventional operations on unsurfaced roads for dust suppression and road stabilization and on surfaced roads for pre-wetting, anti-icing and deicing.

1951. Comment: Prohibit the road-spreading of wastewater (brine) as a deicer and/or dust suppressant. (345)

Response: The Department agrees with the comment. Road spreading of wastewater or brine from unconventional operations for deicing and/or dust suppressant is prohibited in Chapter 78a. However, the final rulemaking permits the spreading of brine from conventional operations on unsurfaced roads for dust suppression and road stabilization and on surfaced roads for pre-wetting, anti-icing and deicing.

§ 78a.71 Use of safety devices – well casing

1952. Comment: 78a.71(b)(1)(2). The section should contain specific requirements on cement thickness, casing requirements, cement mixtures instead of relying on successful local practices for similar wells and suspected surface pressures. A strict requirement of 2 inches of cement grout, Type I or II Portland cement mixed to specific maximum strength requirements for each casing should be required. (239)

Response: Revisions to well construction standards are beyond the scope of this rulemaking.

§§ 78.72 and 78a.72 Use of safety devices – blow-out prevention equipment

1953. Comment: The section should be deleted as to prevent buildup of surface pressures the entire intermediate casing should be grouted into place. Several thousand feet of ungrouted borehole will allow for movement of gas and/or other contaminants from deep zones up to the surface casings seats. The surface casings will prevent further movement of up the borehole, but will not

prevent migration of fugitive gas into shallow fractured rock. The overburden pressure at this depth is far less than from several thousand feet deep. The shallow rock may fracture further under the pressures from deep gas sources (shales above the Marcellus and shales in the Pennsylvanian Formations) moving and then migrate horizontally and vertically until the gas reaches shallow potable water zones. All well casings should be cemented into place as insurance against short term and long term migration of fugitive gases and other contaminants into shallow zones. The cost of the cement is relatively small compared to the expense of contamination of shallow ground water for hundreds, even thousands, of feet away from a well. Proper grouting of the intermediate casing should prevent the following issues noted in the regulations from occurring:

[(c)] (e) After a well has been completed, recompleted, reconditioned or altered the operator shall prevent surface shut-in pressure and surface producing back pressure inside the surface casing or coal protective casing from exceeding the following pressure: 80% multiplied by 0.433psi per foot multiplied by the casing length (in feet) of the applicable casing.

[(d)] (f) After a well has been completed, recompleted, reconditioned or altered, if the surface shut-in pressure or surface producing back pressure exceeds the pressure as calculated in subsection [(c)] (e), the operator shall take action to prevent the migration of gas and other fluids from lower formations into fresh groundwater. To meet this standard the operator may cement or install on a packer sufficient intermediate or production casing or take other actions approved by the Department. This section does not apply during testing for mechanical integrity in accordance with State or Federal requirements.(239)

Response: Revisions to well construction standards are beyond the scope of this rulemaking.

1954. Comment: We request that PADEP address our technical recommendations for improving the blowout prevention equipment requirements at (§ 78a.72), which appear in the 2014 Comments, and either include our recommendations or explain why they were not included. (211)

Response: The Department made substantive changes to Subchapter D, including changes relevant to the use of BOPs, as part of its February 5, 2011 rulemaking. Current changes to the section are not substantive: a cross-references to the section on control and disposal plans and ERP for unconventional sites has been added. Comments provided may be relevant in the context of a broader discussion on Subchapter D, which will take place at a later date.

§§ 78.73 and 78a.73 General provisions for well construction and operation

1955. Comment: § 78a.73 General provision for well construction and operation. Finally, the electronic notification process is excessive and impractical, given the remote locations of these monitoring locations. (213)

Response: The Department disagrees that “immediate” notification is excessive in instances where hydraulic fracturing results in communication with a nearby well. However, the Department acknowledges that clarification is needed with regard to this matter and will develop guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

1956. Comment: §78a.73 We find the language changes reasonable and necessary. The language

changes will better provide for environmental protection concerning communication between existing, abandoned and orphaned wells. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges this comment.

1957. Comment: § 78a.73(c): For the purposes of notifying the operators of active and inactive wells identified through the review process required in § 78a.52a, it is recommended that the threshold for notification be changed from the currently proposed "...1500 feet measured vertically..." to "...500 feet measured vertically...". The use of "1500 feet" appears to be arbitrary since there is an apparent lack of data that supports the Department's proposal and no additional justification has been provided.

Additionally, the requirement to notify the Department of "...any treatment pressure changes indicative of abnormal fracture propagation..." is similarly arbitrary. That is, the proposed requirement is far-reaching and ambiguous without any supporting technical data either defines what is meant by abnormal fracture propagation or quantifies the delta between treating pressures-design and treating pressures-actual necessary to trigger a cessation in operations and immediate notification to the Department. It is recommended that the following be removed from consideration: "or of any treatment pressure changes indicative of abnormal fracture propagation at the wellbeing stimulated". (195)

Response: The Department disagrees with this recommendation. Out-of-zone fracture growth has been observed and there are implications for the rule that have been considered. Available studies were referenced to develop the final language.

The Department disagrees that treatment pressure monitoring is not a valuable tool to assess for potential communications, especially in instances where access for monitoring adjacent well sites is denied. However, the Department acknowledges that clarification is needed with regard to this matter and will develop guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

1958. Comment: § 78a.73 General provision for well construction and operation. The newly proposed presumption about the true vertical depth of wells where such TVD is unknown presents an unreasonable burden on unconventional operators to monitor wells that are unlikely to penetrate within 1500 feet from the formation to be stimulated. Shallow wells in Pennsylvania, which are much more numerous and much more difficult to inventory, do not present any risk of communication from the stimulation of unconventional formations. The presumption, if any, must be rebuttable by other types of information that may be relevant to the well depth while not actually confirming TVD. (213)

Response: The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing the components of a suitable monitoring plan. The Department believes that it may be possible to make a reasonable estimate of true vertical depth even in the absence of a well record or direct measurement of depth.

1959. Comment: § 78a.73 General provision for well construction and operation. Changes in stimulation treatment pressures that may be indicative of "abnormal fracture propagation" should not require reporting to DEP. The terminology "abnormal fracture propagation" is far too

subjective to be a proper basis for triggering an immediate notification to DEP, and would generally be indicative of situations having no probable relevance to impacting another well. For example, if a stimulation plan calls for fracture propagation to approximately 300 ft., and treatment pressure indicates that fractures may only be extending 100 ft., or may be extending to 500 ft., both of those situations could be considered “abnormal” by the operator but would have no relevance to impacting a well that may be 1000 ft. away. (213)

Response: For matters related to treatment pressure monitoring, please see response to comment 1957.

1960. Comment: § 78a.73. General provision for well construction and operation -The newly proposed requirement in the ANFR that all wells with an unknown true vertical depth be presumed to penetrate within 1,500 feet vertically of the formation to be stimulated is unreasonable and should be deleted. In most cases historical knowledge of drilling in an area will be sufficient to conclude that wells were either shallow or may likely extend to within 1,500 feet of the target formation, even when the actual depth of an individual well isn't precisely known. (193)

Response: For matters related to acceptable monitoring protocols, please see response to comment 1958.

1961. Comment: § 78a.73 (c) - It is unclear the meaning of “treatment pressure changes indicative of abnormal fracture propagation”. This language is vague and without further quantitative metrics cannot be applied impartially across operators for well stimulation evaluation and subsequent action. This language is subjective and should be removed in its current form. (187)

Response: For matters related to treatment pressure monitoring, please see response to comment 1957.

1962. Comment: Comment: § 78a.73 (c)

The meaning of “treatment pressure changes indicative of abnormal fracture propagation” is unclear. This language is vague and, without further quantitative metrics, cannot be applied impartially across operators for well stimulation evaluation and subsequent action. This language is subjective and should be removed in its current form. (209)

Response: For matters related to treatment pressure monitoring, please see response to comment 1957.

1963. Comment: Comment: The proposed regulation does not recognize landowner rights. For example, in § 78a.73(c) and (d) it is presumed that the landowner will grant access to the well operator to monitor orphaned and abandoned wells during stimulation and to plug the orphaned and abandoned well if it is altered by the stimulation. The landowner is not required to grant the operator access, so the operator might not be able to comply through no fault of its own. It is recommended that in these instances, the operator should be allowed to certify the lack of cooperation by the landowner, or upon certification, the operator be relieved of the duty to comply. (193)

Response: The Department will develop clarifying guidance related to site access prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing the area of review requirements and the components of a suitable monitoring plan.

1964. Comment: In addition, the newly proposed requirement in the ANFR that any treatment pressure changes indicative of abnormal fracture propagation at the wellbeing stimulated be reported to DEP immediately should also be deleted. The terminology “abnormal fracture propagation” is far too subjective to be a proper basis for triggering an immediate notification to DEP, and would generally be indicative of situations having no probable relevance to impacting another well. For example, if a stimulation plan calls for horizontal fracture propagation to approximately 300 ft., and treatment pressure indicates that fractures may only be laterally extending 100 ft., or may be laterally extending to 500 ft., both of those situations could be considered “abnormal” by the operator but would have no relevance to impacting a well that may be 1000 ft. away. (193)

Response: For matters related to treatment pressure monitoring, please see response to comment 1957.

1965. Comment: General Provision for Well Construction and Operation (§ 78.73 and § 78a.73) Commenter suggests that a definition of “visually monitored” is needed in this section and the required interval for visual monitoring should be clearly defined in the language with regards to “orphaned or “abandoned wells. “Visually monitored” should be defined as “visual observation of the abandoned or orphaned well identified as part of the area of review survey at the start of stimulation activities and once daily until the conclusion of those activities. (205)

Response: For matters related to acceptable monitoring protocols, please see response to comment 1958.

1966. Comment: General Provision for Well Construction and Operation (§ 78.73 and § 78a.73) If attempts are made to contact and notify operators of active and inactive wells and the operator does not respond or confirm that they have been notified, Commenter feels there should be an avenue to continue with well stimulation after the prescribed 72-hour period has elapsed. (205)

Response: The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

1967. Comment: § 78a.73(c) The obligation to notify other active or inactive well operators identified under proposed Section 78a.52a in advance of hydraulic fracturing must be a reasonable efforts standard. The operator should only be required to obtain and use information in current Department records for the active or inactive well operator, and notice should be via certified mail or other reasonable method to confirm notice was provided.

The commentator objects to the Department’s proposal that all wells in the area of review with an unknown true vertical depth (no well record) are presumed to penetrate within 1,500 feet measured vertically of the formation intended to be stimulated. This proposal is untenable and illogical for reasons more fully described below.

As the state where oil was originally discovered in 1859, Pennsylvania has a long history of oil and gas drilling. During the first 100 years of the industry, there were no requirements set by Pennsylvania for well permitting or registration. Estimates have been made that several hundred thousand undocumented wells might exist in Pennsylvania from this early and unregulated period. There are, however, numerous published reports and other private records of such early drilling, that describe technologies employed, depths drilled and commercially developed fields during this time period. Many of these reports were compiled by the Pennsylvania Geological Survey and US Geological Survey working with oil and gas companies at the time such reports

were compiled. These reports confirm that early exploration and field development was conducted at depths generally less than 3,000 feet, with very minor exception. The first significant “deep” drilling in Pennsylvania occurred in 1930-1950, targeting the Oriskany sandstone located just beneath the Marcellus Shale. Initial “deep” wells were very expensive by 1930’s standards, and quite prolific, so there was great interest in documenting that activity. There are numerous detailed reports that document this early deep drilling in Tioga, Potter, and surrounding counties elsewhere in the state. The Pennsylvania Geologic Survey, as the agency that compiled many of these deep drilling reports, constructed a database of deep well records that we understand to be quite complete. Later drilling (1960’s and later) required permitting, so is well-chronicled in DEP records for wells of all depths.

In several areas of Pennsylvania, it is possible that abandoned wells with no depth record may be found. However, it is a near certainty that these wells are less than 3,000 feet deep, and not a possible conduit for fluids during hydraulic fracturing operations for an unconventional well. As an example, one operator has a proposed well pad in Washington County that falls within the McDonald Oilfield, a very prolific oilfield that was discovered in the 1880’s. Based on old, published reports, there are over 100 wells that fall within the proposed area of review around the proposed lateral wellbores planned at this location. None of these wells has an original well record, although it is well known that the zones that were targeted for drilling and that produced from this field were found at depths less than 2,500 feet. To assume that all of these wells have total depths within 1,500 feet of the Marcellus Shale (approximately 6,500 feet in this area), and to try and monitor them as described in the proposed regulation is nonsensical, an unnecessary expense, and would provide no environmental protection. There have been a series of important technical papers in the past several years concluding that the vertical extent of induced fractures is finite, and rarely exceed 1,500 feet. We understand that there has been no case where hydraulic fracturing fluids have migrated vertically from an induced fracture in the Marcellus shale into wells with total depth more than 1,500 feet above the shale.

The commentator recommends that the Department’s proposal be amended to allow operators to demonstrate – through the presentation of data or other evidence (see proposed subsection 78a.52a(b)) – to the Department that wells in the area of review with an unknown true vertical depth are not likely to penetrate within 1,500 feet measured vertically of the formation intended to be stimulated. As described above, there is other data available that could be presented to demonstrate likely depth of well; for instance, the Pennsylvania Geologic Survey historical reports about oil and gas development in certain localities of evidence.

The requirement to visually monitor identified wells during hydraulic fracturing is subjective and therefore not a clear standard, and may not be possible in certain cases where surface access is prohibited by landowners. It is not practical to continuously monitor wells over long periods of time, and it is not clear to the us whether the proposed language would require 24 hour/7 days a week monitoring.

Locating a well in the field that has been identified from the Department’s database or an old map or geologic report is not assured for a variety of reasons and access to private lands to conduct a search may not be possible for an operator. A reasonable efforts standard should apply to both the obligation to locate and the obligation to monitor wells.

Changes in stimulation treatment pressures that may be indicative of “abnormal fracture propagation” should not require reporting to the Department. The terminology “abnormal fracture propagation” is far too subjective to be a proper basis for triggering an immediate notification to the Department, and would generally be indicative of situations having no probable relevance to

impacting another well. For example, if a stimulation plan calls for fracture propagation to approximately 300 feet, and treatment pressure indicates that fractures may only be extending 100 feet or may be extending to 500 feet, both of those situations could be considered “abnormal” by the operator but would have no relevance to impacting a well that may be 1000 feet away.

It is not reasonable for the Department to require “immediate” notifications to be done “electronically” given the remoteness of some of these visual monitoring activities, nor is it necessary. The commentator suggests that the Department either change the notification requirement to within 24 hours, in which case electronic notification would be acceptable, or remove the electronic requirement from the immediate notification provision.

The commentator’s suggested amendatory language:

(c) The operators of active and inactive wells identified as part of an area of review survey conducted under § 78a.52a (relating to area of review) that likely penetrate within 1500 feet measured vertically of a formation intended to be stimulated shall be notified at least 72 hours prior to commencement of hydraulic fracturing. Orphaned and abandoned wells identified as part of an area of review survey conducted under § 78a.52a (relating to area of review) likely penetrate within 1500 feet measured vertically of a formation intended to be stimulated shall be visually monitored during stimulation activities, provided that surface access can be obtained. The operator shall immediately notify the Department of any change to an orphaned or abandoned well being monitored. In such an event the operator shall cease stimulating the well that is the subject of the area of review survey and take action to prevent pollution of waters of the Commonwealth or discharges to the surface. The operator may not resume stimulation of the well that is the subject of the area of review survey without Department approval. (210)

Response: For matters related to notification of surrounding operators, please see response to comment 1966.

For matters related to acceptable monitoring protocols, please see response to comment 1958.

For matters related to well site access, please see response to comment 1963.

The Department acknowledges the existence of uncertainty related to well location and surficial evidence of legacy well sites. The landowner survey is one mechanism that may be beneficial for resolving such uncertainties, as landowners may be aware of the location of such sites on their property. Further, there is no additional expectation for operators to attempt to find and monitor sites that are not in the general vicinity of mapped locations.

For matters related to treatment pressure monitoring, please see response to comment 1957.

The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

1968. Comment: The new provisions to monitor orphaned and abandoned wells may create access issues for monitoring on property that is not owned or leased by an operator. In addition, there is no objective standard or definition for what is “abnormal propagation at the well being stimulated” or what “alters” an orphaned or abandoned well. To the extent that this proposed provision would require an operator to plug an orphaned or abandoned well that it did not

currently or formerly own, we believe that is contrary to Section 3220 of Act 13, which allows the DEP to plug the well or requires an owner or operator to plug the well. (232)

Response: For matters related to well site access, please see response to comment 1963.

For matters related to treatment pressure monitoring, please see response to comment 1957.

“Alteration” is currently defined in Act 13 and in this case the physical characteristics of the wellbore communicated with are modified though the establishment of a hydraulic connection with a different portion of the reservoir/a new reservoir.

Under the Clean Streams Law, it is considered unlawful for any person or municipality to put or place into any of the waters of the Commonwealth, or allow or permit to be discharged from property owned or occupied by such person or municipality into any of the waters of the Commonwealth, any substance of any kind or character resulting in pollution as herein defined. Any such discharge is hereby declared to be a nuisance. Oil and gas wells must be constructed, completed, and operated in a way that does not violate the Clean Streams Law.

1969. Comment: § 78a.73(d) The requirement that an operator who alters an orphaned or abandoned well must plug the well may require assistance from the Department, particularly with respect to police powers to gain access to a site on private property. (210)

Response: For matters related to well site access, please see response to comment 1963.

1970. Comment: **Section 78a-73** The latest proposal for this section would allow an operator to convert an abandoned or orphaned well into a producing well rather than being required to properly plug and abandon(P&A)the well. The Earth Justice comments oppose this approach and would require that such a well be P&Ad. We strongly agree with the Earth Justice comments, but would like to add a few thoughts. First and foremost, by virtue of the fact that the well in question has be abandoned or orphaned, there is essentially no information available about how the well was drilled, whether it was placed in production, how it was operated, and how it was closed if anything was done other than walking away. Consequently, there is no information available about the condition of the casings, cementing, and well bore. It is known from peer-reviewed scientific papers such as Ingraffea, et al. Assessment and Risk Analysis of Casing and Cement Impairment in Oil and Gas Wells in Pennsylvania 200-2012” (PNAS 2014) and by the Society of Petroleum Engineers such as Dusseault’s “Why Oil Wells Leak: Cement Behavior and Long Term Consequences” (SPE #64733, 2000) and “Casing Shear: Causes, Cases, Cures” (SPE June 2001) that oil and gas wells will eventually all leak. Therefore, the only way to minimize the environmental risk posed by these orphaned and abandoned wells is to properly plug them in accordance with approved P&A procedures. (223)

Response: Plugging an identified well is a potential risk mitigation strategy available to an operator and this practice has been applied historically. However, assuming that all identified wells in the survey have not been plugged or pose equivalent risks, and mobilizing plugging equipment to each site to re-enter wells is beyond the scope of a reasonable regulation aimed at suitably addressing risk. By monitoring well sites appropriately as in the regulation, an assessment can be made regarding the potential for environmental impact and corrective actions employed should an unanticipated communication event occur.

1971. Comment: § 78a.73(c) THE OPERATORS OF ACTIVE AND INACTIVE WELLS IDENTIFIED AS PART OF AN AREA OF REVIEW SURVEY CONDUCTED UNDER § 78a.52a (RELATING TO AREA OF REVIEW) THAT LIKELY PENETRATE WITHIN 1500 FEET MEASURED VERTICALLY OF A FORMATION INTENDED TO BE STIMULATED SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF HYDRAULIC FRACTURING. Orphaned [or] AND abandoned wells identified AS PART OF AN AREA OF REVIEW SURVEY CONDUCTED under § 78a.52a (relating to AREA OF REVIEW [abandoned and orphaned well identification]) that likely penetrate WITHIN 1500 FEET MEASURED VERTICALLY OF a formation intended to be stimulated shall be visually monitored during stimulation activities. ALL WELLS WITH AN UNKNOWN TRUE VERTICAL DEPTH SHALL BE PRESUMED TO PENETRATE WITHIN 1500 FEET MEASURED VERTICALLY OF THE FORMATION INTENDED TO BE STIMULATED. The operator shall immediately notify the Department ELECTRONICALLY THROUGH THE DEPARTMENT'S WEB SITE of any change to [the] AN orphaned or abandoned well being monitored OR OF ANY TREATMENT PRESSURE CHANGES INDICATIVE OF ABNORMAL FRACTURE PROPAGATION AT THE WELL BEING STIMULATED. IN SUCH AN EVENT THE OPERATOR SHALL CEASE STIMULATING THE WELL THAT IS THE SUBJECT OF THE AREA OF REVIEW SURVEY and take action to prevent pollution of waters of the Commonwealth or discharges to the surface. THE OPERATOR MAY NOT RESUME STIMULATION OF THE WELL THAT IS THE SUBJECT OF THE AREA OF REVIEW SURVEY WITHOUT DEPARTMENT APPROVAL.

The obligation to notify other active or inactive well operators identified under proposed Section 78a.52a in advance of hydraulic fracturing must be a reasonable efforts standard. The location coordinates for many wells that may exist in the Department's database are likely derived from sources other than field GPS coordinates. Some coordinates may have been derived from old maps and few if any would include vertical depth. For a variety of reasons, a well with lat/long coordinates in the Department's database may not be visible on the ground, perhaps because the coordinates are inaccurate, or possibly because the well does not exist. The operator should only be required to obtain and use information in current Department records for the active or inactive well operator, and notice should be via certified mail or other reasonable method to confirm notice was provided. Commenter is concerned that the Department's proposal that all wells in the area of review with an unknown true vertical depth (no well record) be presumed to penetrate within 1,500 feet measured vertically of the formation intended to be stimulated is untenable and illogical. The state has a long history of oil and gas drilling, however numerous published reports and other private records of early drilling describe depths typically of less than 3,000. In contrast, Marcellus wells are much deeper, closer to 6,500 feet, thus significantly farther than 1,500 feet. As such, we support recommendation that the Department's proposal be amended to allow operators to demonstrate – through the presentation of data or other evidence (see proposed subsection 78a.52a(b)) – to the Department that wells in the area of review with an unknown true vertical depth are not likely to penetrate within 1,500 feet measured vertically of the formation intended to be stimulated. As described in detail in other's comments, there is other data available that could be presented to demonstrate likely depth of well; for instance, the Pennsylvania Geologic Survey historical reports about oil and gas development in certain localities of evidence. Additionally, the obligation to visually monitor wells is subjective and it may not be possible to get permission to access the surface near an abandoned well. Locating a well in the field that has been identified from the Department's database or an old map or geologic report is not assured for a variety of reasons and access to private lands to conduct a search may not be possible for an operator. A reasonable efforts standard should apply to both the obligation to locate and the obligation to monitor wells. We support the suggested language for this section below:

“§ 78a.73. General provision for well construction and operation. “(c) The operators of active and inactive wells identified as part of an area of review survey conducted under § 78a.52a (relating to area of review) that likely penetrate within 1500 feet measured vertically of a formation intended to be stimulated shall be notified at least 72 hours prior to commencement of hydraulic fracturing. Orphaned and abandoned wells identified as part of an area of review survey conducted under § 78a.52a (relating to area of review) likely penetrate within 1500 feet measured vertically of a formation intended to be stimulated shall be visually monitored during stimulation activities, provided that surface access can be obtained. The operator shall immediately notify the Department of any change to an orphaned or abandoned well being monitored. In such an event the operator shall cease stimulating the well that is the subject of the area of review survey and take action to prevent pollution of waters of the Commonwealth or discharges to the surface. The operator may not resume stimulation of the well that is the subject of the area of review survey without Department approval.”(199)

Response: For matters related to notification of surrounding operators, please see response to comment 1966.

For matters related to acceptable monitoring protocols, please see response to comment 1958.

1972. Comment: As a related measure, the Department should establish the following requirement: “Improperly constructed wells, improperly abandoned wells, or orphaned wells, must be remedied or properly plugged and abandoned if there is a risk that the hydraulic fracture treatment may communicate with these wells and result in protected water contamination or pose other environmental, health or safety risks.” This requirement could be inserted in between §78a.73(c) and §78a.73(d). While §78a.73(d) requires that offset wells impacted by hydraulic fracturing be properly plugged after the incident, this new requirement would help prevent such incidents from happening in the first place. (225)

Response: For matters related to well plugging prior to hydraulic fracturing, please see response to comment 1970.

1973. Comment: In addition to the requirement in §78a.73(c) that operators terminate hydraulic fracturing operations if monitoring of orphaned or abandoned wells indicates abnormal fracture propagation, the Department should also require termination if operators of offset active and inactive wells provide indication of abnormal fracture propagation, through annular pressure changes or other indicators. (225)

Response: The Department agrees with this comment and has proposed a change to the regulation that allows for other means of notification related to confirmed communication incidents.

1974. Comment: Section 78a.73(d) - General provision for well construction and operation. It appears that this rule is attempting to create a new liability structure that requires one operator to plug another operator's improperly abandoned well. Liabilities should only be established by the Legislature - not by regulation. Please provide the statutory basis for this rule and if there is not one, we encourage the Department to delete this rule and to defer to the Legislature to create any liability framework deemed necessary. Alternatively, if the Department decides to retain this rule, Talisman makes the following recommendations.

Please clarify whether the Act 13 definitions of “orphaned”, “abandoned” and “altered” will apply to Chapter 78a.

The term “alteration” is defined in Section 3203 of Act 13 as “an operation which changes the physical characteristics of a well bore.” However, hydraulic fracturing does not typically change the physical characteristics of a well and therefore does not fall within the scope of “altering” as defined by Act 13. Talisman recommends the Department provide a definition or clarifying language that explains what type of “alteration” would lead to the liability described here.

The law should first look to the former owner, operator or their successors to plug a well - not an operator who inadvertently “alters” the well through their lawfully conducted activities. Although Talisman suggests deleting this rule, if the Department retains it, please revise the rule to require that the (1) last known owners or operators of abandoned and orphaned wells should be sought first to plug their wells; and (2) include a process by which the Department would deem a well to have been altered and the timelines within which plugging would be expected; and (3) provide a means by which the Department will ensure access to privately-owned property to allow for plugging operations. (222)

Response: First, section 3202 of Act 13 expresses the General Assembly’s intent to permit development of oil and gas resources “consistent with protection of the health, safety, environment, and property of Pennsylvania citizens.” Secondly, the EQB has authority to impose the requirements in section 78.52a. Such authority can be found throughout Act 13. For example, section 3215 (relating to well location restrictions) provides for the regulatory authority to develop criteria to protect public resources, which includes but is not limited to sources used for public drinking water supplies. Additionally, under section 3217 (relating to protection of fresh groundwater and casing requirements), a well operator must control brines produced from drilling to aid in protection of fresh groundwater. This section is also concerned with preventing the migration of gas or fluids into sources of fresh groundwater. Section 3259 (relating to unlawful conduct) states that it shall be unlawful for any person to conduct an activity related to drilling for, or production of, oil and gas in any manner as to adversely affect public health, safety, welfare or the environment. Finally, section 3274 provides the authority for the EQB to promulgate regulations to implement this chapter. As stated above, this section is concerned with the communication between improperly abandoned wells and their potential to pollute sources of fresh groundwater, resulting in possible exposure and risk to public health and safety and the environment.

For matters related to the definition of alteration, please see response to comment 1968.

For matters related to the Department's legal authority to require plugging following a communication incident, please see response to comment 1968.

The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

For matters related to well site access, please see response to comment 1970.

1975. Comment: Landowner Rights and Contractual Obligations: Chapter 78a fails to consider the ongoing relationship between the operator and landowner and the contractual agreements to perform or not perform certain activities on a landowner's property. The relationships between operators and private landowners are governed by the terms of lease, easement, and right-of-way

agreements that are negotiated between the private parties. Some of the proposed requirements do not appear to accommodate such contractual constraints. For example, without the right to enter a landowner's property, an operator cannot carry out the requirements to visually monitor an abandoned or orphaned well as required by the proposed §78a.73(c). (191)

Response: For matters related to well site access, please see response to comment 1963.

1976. Comment: In 2013, the EQB proposed to add requirements to the existing regulation at § 78.73 requiring orphaned/abandoned well monitoring during stimulation activities at a nearby well. The proposed regulation would require the operator to plug the orphaned/abandoned well after it confirms that the stimulation job altered the well.

In 2015, PADEP proposed amendments to § 78a.73(c) and (d), which require that an operator planning to conduct a hydraulic fracture stimulation treatment in an unconventional well give 72 hours' notice to operators of active and inactive wells identified in an Area of Review study (§ 78a.52a). PADEP also proposed that the operator conducting a hydraulic fracture stimulation treatment in an unconventional well be required to visually monitor abandoned and orphaned wells at the surface during the hydraulic fracture stimulation treatment and report any observed problems. PADEP provides a new option for an operator (who alters an orphaned or abandoned well by conducting a nearby hydraulic fracture stimulation treatment) to place the orphaned or abandoned well on production rather than plugging it.

Response: The Department acknowledges this comment.

1977. Comment: Area of Review for Other Wells: It seems appropriate that any wells which appear on the Department's database should be identified, provided their total depth extends below the interval that could reasonably be influenced by hydraulic fracturing as provided for in §78a.52. A vertical isolation distance of 1,500 feet above wellbore perforations in an unconventional well and 500 feet above wellbore perforations in any other well is a reasonable isolation distance that exceeds the normally expected vertical growth of induced fractures. Operators, do their best to obtain all information regarding potential orphaned and abandoned wells in the vicinity of a planned unconventional well. However, a requirement to review "HISTORICAL SOURCES OF INFORMATION, SUCH AS applicable farm line maps, where accessible" in order to identify wells lacks clarity required for a regulation. There are many sources of information on old wells in Pennsylvania, including many reports by state agencies, as well as privately owned maps and records maintained by various operators. Rather than promulgating a rule that utilizes such a broad scope of review, we ask that the DEP make all available data easily accessible to the industry from one comprehensive source or that the DEP create a specific list of sources to be consulted to establish the standard required for identifying abandoned and orphaned wells. If the Department's database could be sufficiently enhanced, a review of the database should be an adequate obligation for well identification. A partnership effort between industry and state government seems an appropriate method of compiling available data on historical oil and gas wells. We encourage prompt digitization and accessibility of identification resources prior to the implementation of Chapter 78a. If a comprehensive source cannot be established by the DEP, we ask that the DEP consider removing terms such as "other available well databases" and "historical sources of information such as . . ." Both of these phrases are arbitrary depending on the well or operator at issue; thus, making the successful development and implementation of this project difficult. Identifying abandoned and orphaned wells before hydraulic fracturing is good standard practice; however, the rule as currently proposed does not provide operators with enough clarity and flexibility to properly identify and plan operations where such abandoned and orphaned wells may be present. (191)

Response: The Department currently maintains and makes available a list of orphaned and abandoned sites that have not been plugged. The location of plugged wells are available in PA*IRIS/WIS. Existing databases are being expanded upon by the Department as historical analog source maps become available and as time permits. Companies in possession of such maps may share them with the Department, if they so choose, in order to facilitate development of a more comprehensive reference database over time. It should also be noted that the Department has modified the regulatory language to broaden the historical maps and database sources that could be referenced during the area of review survey. However, the revised language recognizes that not all operators may have access to the same sources.

1978. Comment: The 2014 Comments provided extensive comments on the need to ensure that all wells in the Area of Review have been properly constructed or properly plugged and abandoned to ensure that they do not create a pathway for drinking water contamination during a nearby hydraulic fracture treatment. We appreciate PADEP’s attempt to remedy this concern, although the full extent of our concern has not been addressed by the proposed regulation.

PADEP’s proposal does not explain how an inactive well will be monitored by the well owner, nor is there any requirement that the operator of an active or inactive well report a problem that occurs during the nearby hydraulic fracture treatment. PADEP does not explain how visual monitoring of an abandoned and orphaned well would detect a subsurface leak and corresponding contamination event. It is also unclear how PADEP is proposing to meet the standard of “visual monitoring of an orphaned or abandoned well.” Does this mean posting a staff member on watch at the surface of each orphaned or abandoned to see if the well leaks to surface during the entire stimulation process at the nearby well? Even such a measure would be insufficient, because such monitoring could detect flow to surface, which would certainly be a catastrophic failure, but aboveground visual observation would not detect subsurface contamination. The proposed method appears to place both the public and ecosystems at unnecessary risk and to give precedence to operator convenience over environmental protection.

The proposed language in § 78a.73(c) includes distances already covered in the proposed regulation for Area of Review study (§ 78a.52a). The proposed regulation (§ 78a.73(c)) simply needs to state that a well involved in the Area of Review study must meet these requirements.

As is explained in our comments on proposed regulation § 78a.52a, we recommend that all improperly abandoned and orphaned wells be identified and properly P&A’d before an operator pursues site development for new wells or conducts a stimulation in a nearby well. We do not support a regulation that would intentionally risk damage to existing wells – possibly causing groundwater contamination through the migration of methane and other contaminating substances – and then require that the operator to plug the well after the damage already has been done. Furthermore, there is no proposed requirement that the operator identify whether groundwater has been contaminated or to remediate any contamination.

We do not support PADEP’s new proposal to allow an operator (who alters an orphaned or abandoned well by conducting a nearby hydraulic fracture stimulation treatment) to place the orphaned or abandoned well on production rather than determining whether damage has occurred that may result in environmental harm. The prudent course of action would be to complete a technical and scientific review of the orphaned or abandoned well to confirm whether harm has been done and, if so, to remedy that problem. If groundwater contamination has not occurred, the condition of the well should be evaluated to determine whether it meets the new regulatory

standards for well construction; if not, the well should be upgraded to meet those standards or plugged and abandoned.

As explained in our comments on proposed regulations §§ 78a.56, 78a.57 and 78a.58, we recommend that systems be installed to capture air pollution and route vapors to be sold or used for power (preferably), or alternatively to an incinerator or flare. The operator should be required to examine the technical and economic feasibility of feasibility of using vapors for power, and only incinerate or flare when use as power is not feasible. Direct venting should be prohibited. The 2014 Comments proposed these changes, but PADEP did not address them at all or provide an explanation why they were not adopted.

Therefore, we recommend that § 78a.73 be modified as follows:

§ 78a.73. General provision for well construction and operation.

(a) The operator shall construct and operate the well in accordance with this chapter and ensure that the integrity of the well is maintained and health, safety, environment, and property are protected.

(b) The operator shall prevent gas, oil, brine, completion and servicing fluids, and any other fluids or materials from below the casing seat from entering fresh groundwater, and shall otherwise prevent pollution or diminution of fresh groundwater.

(c) THE OPERATORS OF ACTIVE AND INACTIVE WELLS IDENTIFIED AS PART OF AN AREA OF REVIEW SURVEY CONDUCTED UNDER § 78a.52a (RELATING TO AREA OF REVIEW) THAT LIKELY PENETRATE WITHIN 1500 FEET MEASURED VERTICALLY OF A FORMATION INTENDED TO BE STIMULATED SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF HYDRAULIC FRACTURING. Orphaned [or] AND abandoned wells identified AS PART OF AN AREA OF REVIEW SURVEY CONDUCTED under § 78a.52a (relating to AREA OF REVIEW [abandoned and orphaned well identification]) that likely penetrate WITHIN 1500 FEET MEASURED VERTICALLY OF a formation intended to be stimulated shall be VERIFIED TO BE PROPERLY PLUGGED AND ABANDONED, OR SHALL BE PROPERLY PLUGGED AND ABANDONED PRIOR TO CONDUCTING THE OFFSET HYDRAULIC FRACTURE TREATMENT. ~~visually monitored during stimulation activities. ALL WELLS WITH AN UNKNOWN TRUE VERTICAL DEPTH SHALL BE PRESUMED TO PENETRATE WITHIN 1500 FEET MEASURED VERTICALLY OF THE FORMATION INTENDED TO BE STIMULATED.~~ The operator CONDUCTING THE HYDRAULIC FRACTURE TREATMENT, OR OPERATING A NEARBY WELL shall immediately notify the Department ELECTRONICALLY THROUGH THE DEPARTMENT'S WEB SITE of any change to ~~[the] AN orphaned or abandoned well being monitored~~ OR OF ANY TREATMENT PRESSURE CHANGES INDICATIVE OF ABNORMAL FRACTURE PROPAGATION AT THE WELL BEING STIMULATED. IN SUCH AN EVENT, THE OPERATOR SHALL IMMEDIATELY CEASE STIMULATING THE WELL THAT IS THE SUBJECT OF THE AREA OF REVIEW SURVEY, and take action to prevent pollution of waters of the Commonwealth or discharges to the surface, AND REMEDIATE ANY DAMAGE THAT HAS OCCURRED. THE OPERATOR MAY NOT RESUME STIMULATION OF THE WELL THAT IS THE SUBJECT OF THE AREA OF REVIEW SURVEY WITHOUT DEPARTMENT APPROVAL.

~~(d) An operator that alters an orphaned or improperly abandoned well by hydraulic fracturing shall plug the orphaned or abandoned well. IN ACCORDANCE WITH THIS CHAPTER, OR THE OPERATOR MAY ADOPT THE ALTERED WELL AND PLACE IT INTO PRODUCTION.~~

[(c)] (e) After a well has been completed, recompleted, reconditioned or altered the operator shall prevent surface shut-in pressure and surface producing back pressure inside the surface casing or coal protective casing from exceeding the following pressure: 80% multiplied by 0.433 psi per foot multiplied by the casing length (in feet) of the applicable casing.

[(d)] (f) After a well has been completed, recompleted, reconditioned or altered, if the surface shut-in pressure or surface producing back pressure exceeds the pressure as calculated in subsection [(c)] (e), the operator shall **IMMEDIATELY NOTIFY THE DEPARTMENT** and take **IMMEDIATE** action to prevent the migration of gas and other fluids from lower formations into fresh groundwater. To meet this standard the operator may cement or install on a packer sufficient intermediate or production casing or take other actions approved by the Department. This section does not apply during testing for mechanical integrity in accordance with State or Federal requirements.

[(e)] (g) Excess gas encountered during drilling, completion or stimulation shall be **USED FOR FUEL, WHERE TECHNICALLY FEASIBLE, AND OTHERWISE** flared, captured or diverted away from the drilling rig in a manner that does not create a hazard to the public health or safety. **NOTWITHSTANDING THE PROVISIONS OF § 78A.102(3), DIRECT VENTING IS PROHIBITED. THE OPERATOR MUST EXAMINE THE TECHNICAL AND ECONOMIC FEASIBILITY OF USING VAPORS FOR POWER OR SALE AS FUEL AND MAY INCINERATE OR FLARE ONLY WHEN USE FOR POWER OR SALE AS FUEL IS NOT FEASIBLE. IF INCINERATION OR FLARING IS THE ONLY FEASIBLE OPTION, AN INCINERATOR OR FLARE EFFICIENCY OF 98% IS REQUIRED. THE INCINERATOR AND FLARE SYSTEMS SHALL BE DESIGNED IN A MANNER THAT OPTIMIZES RELIABILITY, SAFETY, AND COMBUSTION EFFICIENCY. REQUIREMENTS INCLUDE: MINIMIZING THE RISK OF PILOT BLOWOUT BY INSTALLING A RELIABLE SYSTEM; ENSURING SUFFICIENT EXIT VELOCITY OR PROVIDE WIND GUARDS FOR LOW/INTERMITTENT VELOCITY STREAMS; ENSURING USE OF A RELIABLE IGNITION SYSTEM; MINIMIZING LIQUID CARRY OVER AND ENTRAINMENT IN THE GAS STREAM BY ENSURING A SUITABLE LIQUID SEPARATION SYSTEM IS IN PLACE; AND MAXIMIZING COMBUSTION EFFICIENCY BY PROPER CONTROL AND OPTIMIZATION OF FUEL/AIR/STEAM FLOW RATES.**

[(f)] (h) Except for gas storage wells, the well must be equipped with a check valve to prevent backflow from the pipelines into the well. (211)

Response: For matters related to acceptable monitoring protocols, please see response to comment 1958.

For matters related to adjacent operators reporting a communication incident, please see response to comment 1973.

The distances referenced in Section 78.52a./78a.52a. correspond to horizontal distances referencing the wellbore path, whereas the distances referenced in Section 78.73/78a.73

refer to vertical offsets between the perforation or notch elevation at the stimulated well and the depth of adjacent wellbores identified in the AOR. The latter distances determine which wells must be monitored during stimulation activities.

For matters related to well plugging prior to hydraulic fracturing, please see response to comment 1970.

All violations of the Clean Streams Law must be addressed and appropriate remediation standards demonstrated.

The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations related to well adoption. Wells that are incapable of being operated without fundamental integrity standards will not be eligible for adoption.

This comment is referring to the need to divert excess gas encountered away from operations during completion or stimulation. The Conservation Law currently addresses wasting of hydrocarbons. These provisions do not apply to reservoirs above the Onondaga Limestone where it occurs at depths of 3,800 feet or deeper. Options for venting are permitted and drilling, stimulation, and completion represent a small portion of the well's life-cycle. Controlled venting is permissible and addresses the priority of ensuring safety above all other potential concerns.

1979. Comment: Section 78a.73(c), requires monitoring of identified wells, which is something that operators already do. However, as drafted it presents several difficulties. First, it does not address possible issues of operator inaccessibility to the abandoned and orphaned wells. Proposed subsections (c) and (d) require operators to physically inspect orphaned and abandoned wells identified under proposed §78a.52a during hydraulic fracturing activities that likely penetrate a formation intended to be stimulated during hydraulic fracturing. However, access may be denied to the property on which abandoned and orphaned wells are located making it impossible for operators to comply with the provision. We ask the DEP to rewrite this section to address an alternative for operators when surface access is not achievable. Further, §78a.73(c) proposes to require operators to notify the Department of “any changes” to those wells, to “take action to prevent pollution of waters of the Commonwealth or discharges to the surface,” and to “visually monitor” orphaned and abandoned wells during stimulation activities. These phrases are ambiguous. Without specification as to what constitutes a “change” and appropriate “action” to “prevent,” and to “visually monitor” in terms of scope and timing, We are concerned that the proposal will likely result in the unintended consequence of further causing unreasonable burdens and distracting from the shared objective of the DEP and the regulated community of mitigating impacts from the existing landscape of oil and gas wells in Pennsylvania. Lastly, §78a.73(c) proposes to require operators to presume that all wells with an unknown true vertical depth within a given area of review be presumed to penetrate within 1,500 feet of the formation intended to be stimulated. We request that the presumption language be removed from this section, and it be rewritten to state: “Orphaned and abandoned wells identified as part of an area of review survey conducted under §78a.52a (relating to area of review) that likely penetrate within 1,500 feet measured vertically of a formation intended to be stimulated . . .” We request this amendment because there are numerous published reports and other private records of such early drilling that describe technologies employed and depths drilled of wells in the commercially developed fields over time. Many of these reports were compiled by the PA Geological Survey and US Geological Survey that worked with the oil and gas operators at various points in time. These reports confirm

that early exploration and field development was conducted at depths generally less than 3,000 feet, with very few exceptions. The first significant “deep” drilling in Pennsylvania occurred between 1930 and 1950, targeting the Oriskany sandstone, located just beneath the Marcellus Shale. For example, there are numerous detailed reports that document this early deep drilling in Tioga, Potter, and surrounding counties. The PA Geologic Survey, the agency that compiled many of these deep drilling reports, constructed a database of deep well records that is quite complete. That information could be relied upon and given sufficient weight in determining that the prior well was not likely to penetrate within 1500 feet of the target formation. (191)

Response: For matters related to well site access, please see response to comment 1963. For matters related to acceptable monitoring protocols, please see response to comment 1958.

1980. Comment: § 78.73 General provision for well construction and operation. This subsection has been revised to be impractical and unduly burdensome, without compelling justification. While the addition of defining the maximum vertical separation distance between the true vertical depth of the well identified as part of the Area of Review survey and the top of the formation proposed for stimulation is a good detail added to this regulation, other parts of § 78.73 could use significant detail added through the regulation or technical guidance that have not been included as part of this proposed rulemaking package. (213)

Response: The Department will develop clarifying guidance related to the area of review requirements prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing process and expectations.

1981. Comment: § 78.73 General provision for well construction and operation. The commenter strongly recommends the removal of a presumption about vertical depth because the prior language already created an obligation to provide reasons for a conclusion that the other identified wells “likely penetrate” the same formation to be stimulated. Where such conclusions are justified, monitoring makes sense but no presumption is necessary or appropriate. (213)

Response: For matters related to acceptable monitoring protocols, please see response to comment 1958.

1982. Comment: § 78.73 General provision for well construction and operation. In addition, the obligations in this section, as well as § 78.52a, can be frustrated by the lack of access to identify or monitor other wells. As stated in the commenter’s prior comments, “visual monitoring” during stimulation activities is not well defined from the standpoint of details or required time period. The monitoring activities being proposed in this section needs further definition, which should be part of technical guidance that should be included as part of this rulemaking proposal. (213)

Response: For matters related to well site access, please see response to comment 1963.

For matters related to acceptable monitoring protocols, please see response to comment 1958.

1983. Comment: § 78.73 General provision for well construction and operation. Finally, the “immediate” notice obligation is unrealistic in remote areas where oil and gas operations often occur, and would usually be unnecessary where “any treatment pressure change” at the well being stimulated is observed. “Any” change is entirely too broad to trigger such an obligation. Operators conducting stimulation activities monitor and adjust stimulation activities in

accordance with standard industry practices. Requiring department approval to continue such operations is excessive and unnecessary. (213)

Response: For matters related to Department notification, please see response to comment 1955.

1984. Comment: § 78a.73 General provision for well construction and operation. In addition, the commenter members have concern that if an operator can't identify the operator of an active or inactive well, how will this type of well be treated and to what extent does the operator need to reach out to the owner of an active or inactive well? This is not well defined in the regulation, which creates potential logistical issues in contacting the owners within 72 hours of stimulation activities. This scenario needs to be considered by the Department, as this type of case will be reality in the future. (213)

Response: For matters related to notification of surrounding operators, please see response to comment 1966.

1985. Comment: § 78a.73 (c) General provision for well construction and operation. As stated in the commenter's prior comments, "visual monitoring" during stimulation activities is not well defined from the standpoint of details or required time period. The monitoring activities being proposed in this section needs further definition, which should be part of technical guidance that should be included as part of this rulemaking proposal. (213)

Response: For matters related to acceptable monitoring protocols, please see response to comment 1958.

1986. Comment: If an Operator cannot identify the Operator of the inactive well then what? (367)

Response: For matters related to notification of surrounding operators, please see response to comment 1966.

1987. Comment: 78a.73: Clarify Requirements by Deleting or Defining Ambiguous Language and Address Significant Research Indicating the Depth of Existing Wells within a Given Area of Review. The proposed subsection does not address possible issues of operator inaccessibility to the abandoned and orphaned wells. Proposed subsections (c) and (d) require operators to physically inspect orphaned and abandoned wells identified under proposed § 78a.52a during hydraulic fracturing activities that likely penetrate a formation intended to be stimulated during hydraulic fracturing. However, access may be denied to the property on which abandoned and orphaned wells are located- making it impossible for operators to comply with the provision. We ask the DEP to rewrite this section to address an alternative for operators when surface access is not achievable.

Further, § 78a.73(c) proposes to require operators to notify the Department of "any changes" to those wells, to "take action to prevent pollution of waters of the Commonwealth or discharges to the surface," and to "visually monitor" orphaned and abandoned wells during stimulation activities. These phrases are ambiguous. Without specification as to what constitutes a "change" and appropriate "action" to "prevent," and to "visually monitor" in terms of scope and timing, we are concerned that the proposal will likely result in the unintended consequence of further causing unreasonable burdens and distracting from the shared objective of the DEP and the regulated community of mitigating impacts from the existing landscape of oil and gas wells in Pennsylvania.

Lastly, § 78a.73(c) proposes to require operators to presume that all wells with an unknown true vertical depth within a given area of review be presumed to penetrate within 1,500 feet of the formation intended to be stimulated. We request that the presumption language be removed from this section, and it be rewritten to state: “Orphaned and abandoned wells identified as part of an area of review survey conducted under § 78a.52a (relating to area of review) that likely penetrate within 1,500 feet measured vertically of a formation intended to be stimulated...”

We request this amendment because there are numerous published reports and other private records of such early drilling that describe technologies employed and depths drilled of wells in the commercially developed fields over time. Many of these reports were compiled by the PA Geological Survey and US Geological Survey that worked with the oil and gas operators at various points in time. These reports confirm that early exploration and field development was conducted at depths generally less than 3,000 feet, with very few exceptions. The first significant “deep” drilling in Pennsylvania occurred between 1930-1950, targeting the Oriskany sandstone, located just beneath the Marcellus Shale. For example, there are numerous detailed reports that document this early deep drilling in Tioga, Potter, and surrounding counties. The PA Geologic Survey, the agency that compiled many of these deep drilling reports, constructed a database of deep well records that is quite complete. That database could be relied upon and given sufficient consideration in weighing the need for the presumption language within this provision. (383)

Response: For matters related to well site access, please see response to comment 1963.

For matters related to acceptable monitoring protocols, please see response to comment 1958.

§ 78a.74 Venting of gas.

1988. Comment: Section 78a.74. applies to the venting of gas. As a green-house gas, natural gas should not be vented to the atmosphere without some controls. I recommend it be required to be captured or at the very least burned. (295)

Response: This comment is beyond the scope of the rulemaking. Section 78a.74 is not proposed to be changed by the rulemaking in any way. It is only included in the final-form rulemaking as part of the bifurcation of the regulations to provide a section addressing this topic for unconventional wells.

§ 78a.83 Surface and coal protective casing and cementing procedure

1989. Comment: 78a.83. Under no circumstances should a surface casing or any casing functioning as a water protection casing be utilized as production casing. IN addition, 1 inch of grout is inadequate and should be increased to 2 inches. (239)

Response: This comment is beyond the scope of the rulemaking. Section 78a.83 is not proposed to be changed by the rulemaking in any way. It is only included in the final-form rulemaking as part of the bifurcation of the regulations to provide a section addressing this topic for unconventional wells.

§ 78a.121 Production reporting

1990. Comment: § 78a.121. Production reporting. More complete record keeping of waste disposal should be required. (196)

Response: The Department acknowledges the comment, and is requiring more frequent and detailed waste reporting in the final-form rulemaking.

1991. Comment: § 78a.121 (b) Act 173 of 2014, known as the Unconventional Well Report Act, effective March 31, 2014, repealed 58 P.S. § 3222a.1 of the Oil and Gas Act of 2012 and required unconventional oil and gas well operators to file a monthly well production report with the Department. Act 173 does not address waste production reporting, and the proposed revisions to § 78.121(b) are contrary to the intent of Act 173. Moreover, the proposed revisions are well in exceedance of Pennsylvania's Solid Waste Management Act and its implementing regulations. Pursuant 25 Pa.Code § 287.52, persons or municipalities that generate more than an average of 2,200 pounds of residual waste per generating location per month based on generation in the previous year are required to submit a biennial report by March 1 of each odd numbered year. Pursuant to the current 25 Pa.Code § 78.121, unconventional oil and gas well operators are required to submit waste production data on February 14 and August 14 of each year (the current rule still reflects annual waste production reporting, which is not consistent with current Department requirements for unconventional oil and gas well operators). This is already four times more frequent than what is required by 25 Pa.Code § 287.52 for every other industry entities, as well as municipalities, that meet the threshold generation amount. The proposed revisions, which are outside the intent of Act 173 and beyond the scope of Pennsylvania's Solid Waste Management Act, propose to unduly expand the reporting requirement for unconventional oil and gas well operators to twelve times a year. This would be 24 times more frequent than what is required by 25 Pa.Code § 287.52 for every other industry.

Presently, the Department's waste reporting portion of the production report requires that the specific waste processing or disposal facility, or other method of waste management, be selected from a pre-populated drop down list, and does not allow the user to enter other information, such as a well site name. Since the Department has not provided industry with a proposed form revision for us to review that would accommodate this change, the requirement to specify a "well site where the waste was managed" should be removed.

According to the commentator's member unconventional oil and gas well operators, preparation of the waste data would take at least 20-30 hours per month, and could potentially take much longer depending on the number of unconventional wells owned by the operator and the number of specific facilities or wells sites where the waste produced was managed. The proposed increase in frequency and data requested to monthly reporting places significant costs on operators without providing a commensurate benefit to the public or PADEP. Pulling, sorting and filtering data on a monthly basis is not a feasible or cost effective exercise, nor will it provide the Department with any additional information that is not already provided in the current semiannual reporting structure. As such, the commentator suggests that subsection 78.121(b) be modified to reflect the Department's current requirements for unconventional oil and gas well operators to submit the amount and type of waste produced and the method of waste disposal or reuse semiannually on February 14 and August 14 of each year.

The commentator's suggested amendatory language:

(b) The production report due on or before February 14 and August 14 of each year must include information on the amount and type of waste produced and the method of waste disposal or reuse. Waste information submitted to the Department in accordance with this

subsection is deemed to satisfy the residual waste biennial reporting requirements of § 287.52 (relating to biennial report). (210)

Response: The Department disagrees and has retained the monthly reporting requirement in the final-form rulemaking. The monthly waste reporting requirement under Section 78a.121(b) is not reliant on Act 173, therefore the legislative intent of that act is not relevant to the subsection. The statutory authority for subsection (b) is found under provisions of the Solid Waste Management Act, particularly Section 608(2) (The Department shall: “Require any person or municipality engaged in the storage, transportation, processing, treatment, beneficial use or disposal of any solid waste to establish and maintain such records and make such reports and furnish such information as the department may prescribe.”).

The Department also disagrees with the characterization of extra burden posed by more frequent reporting. While the data must be gathered more frequently, the current data reporting requirements would still require the operator to compile and report the same data at the end of the six-month period. Operators must account for and report all wastes generated in the six-month period already, the only end difference in terms of overall reporting should be that the Department would possess data segregated by month after the effective date of the rulemaking. The end totals of waste generated and facilities where that waste was managed should be exactly the same at the end of the term as it is today.

Data analyses conducted by the Department, which compared 2013 and 2014 calendar year records from facilities that receive oil and gas waste for processing or disposal and from data reported by oil and gas operators in the Department’s oil and gas electronic reporting (OGER) database, revealed that there are significant discrepancies in both the quantities of waste reported by oil and gas operators and also in the way the wastes are classified. More recent analyses have indicated that oil and gas operator reporting is improving; however, the same issues still exist. The current bi-annual reporting requirement is not conducive to correcting reporting discrepancies because the Department does not become aware of a reporting issue until a substantial amount of time has passed from when the waste was originally sent for processing or disposal. Monthly reporting promotes quicker recognition of reporting inaccuracies that can be rectified in a more reasonable timeframe.

The Department believes that the monthly timeframe with reporting due 45 days after the end of the month, is clearly feasible for operators. Because the six-month reporting window includes data from June in the August report and December in the February report, operators are already compiling two months reporting data in that 45-day or they are out of compliance with the current regulation.

The Department believes that responsible operators are aware of and track their waste generation, transportation, treatment, storage, and disposal and operating without such awareness is not a best management practice and is unacceptable in the Commonwealth. As a final note, the Department believes that the monthly reporting requirement strikes the appropriate balance between burden and benefit compared to other regulatory alternatives, such as keeping the current flawed six-month reporting system or imposing a load-by-load manifest system as is currently required for hazardous wastes.

1992. Comment: We appreciate PADEP addressing our recommended improvements. We request the monthly reporting data be made publically available within 30 days of receipt on the PADEP website. (211)

Response: The Department acknowledges the comment. The production reports are typically available the next business day after the monthly production reporting deadline.

1993. Comment: § 78a.121 (b) - Monthly waste reporting is unduly burdensome, does not provide information that increases protection of the environment and singles out the Oil and Gas industry unfairly as no other industry is required to provide this information. This provision should be remanded to the semi-annual reporting currently in effect, which in itself is still more restrictive than reporting requirements for other industries. (187, 209)

Response: See response to comment 1991.

1994. Comment: § 78a.121. Production Reporting -The frequency for reporting waste information should remain twice per year, and not be changed to monthly, as newly proposed in the ANFR. There was no legislative intent in Act 173 of 2014 (HB 2278) to have waste data included in the monthly production reports, nor has DEP demonstrated, or even articulated, the need to have oil and gas waste reported more frequently than any other waste from any other industry, which is on an annual basis for all other industries. Oil & gas waste from unconventional well sites is currently reported to DEP in the production reports twice per year (already double the frequency of any other industry), and for typical operator may take approximately 20-30 hours per reporting period, regardless of the frequency of reporting. This waste data is available to DEP inspectors throughout the year if a need arises for DEP to review it, but there is simply no demonstrated need for operators to incur the administrative burden and expense to report it on a monthly basis. (193)

Response: See response to comment 1991.

1995. Comment: Section 78a.121- Production Reporting

The proposed revision would require monthly reporting of waste production. It is unclear what benefit would be derived from this substantial additional reporting burden. An operator's receipt of this information is typically delayed in that waste manifests/scale tickets may not be received for several weeks following disposal – consequently, more frequent reporting to the Department would not necessarily reveal the kind of real time waste information as might be sought through the proposed revision to this rule. We recommend removing the requirement to report waste information on a monthly basis as there is no apparent public or environmental benefit to requiring operators to report more often than is currently required and on any more frequent of a basis than is required for other industries regulated by the Department. (222)

Response: Monthly waste reporting is not due until 45 days after the end of the month in which waste was generated and managed. This should provide sufficient time for operators to receive and compile the information necessary to provide a monthly waste production report to the Department.

Data analyses conducted by the Department, which compared 2013 and 2014 calendar year records from facilities that receive oil and gas waste for processing or disposal and from data reported by oil and gas operators in the Department's oil and gas electronic reporting (OGER) database, revealed that there are significant discrepancies in both the quantities of waste reported by oil and gas operators and also in the way the wastes are classified. More recent analyses have indicated that oil and gas operator reporting is improving; however, the same issues still exist. The current bi-annual reporting requirement is not conducive to correcting reporting discrepancies because the Department does not become aware of a

reporting issue until a substantial amount of time has passed from when the waste was originally sent for processing or disposal. Monthly reporting promotes quicker recognition of reporting inaccuracies that can be rectified in a more reasonable timeframe.

1996. Comment: § 78.121 Annual reporting The 2015 Proposal adds to the annual production report the information of where the waste was managed. Our members retain and can provide such information when necessary. However, the complication of adding that information to the report is proposed by the DEP in association with two dozen other new forms and electronic reporting. The cumulative impact of the new reporting requirements is in direct conflict with the intent expressed by the legislature in the RRA. The RRA requires the regulatory body to provide “an explanation of measures which have been taken to minimize. [the] recordkeeping or other paperwork, including copies of forms or reports which will be required for implementation.” No such explanation or measures have been proffered by the DEP.

As to small businesses, the regulatory agency is directed to take the additional step of conducting a regulatory flexibility analysis wherein it specifically considers “the consolidation or simplification of compliance or reporting requirements for small businesses.” Again, no such analysis was performed by the DEP as to the new requirement. Without such analyses, the requirement should be stricken.

Electronic Reporting and Forms

As noted in prior comments that electronic reporting can be burdensome and unnecessary for small businesses in this industry. The Department not only ignored the request for relief and alternatives, but expanded the number of new forms and electronic reporting obligations in the Draft Final Rule. Under the Regulatory Review Act, the Department was to provide ALL forms to the EQB and IRRC with submission of the proposed rulemaking in 2013. The Department has failed to comply with the express requirements of the statute to submit such forms, has failed to accommodate small businesses with reasonable alternatives, and has expanded the number of NEW forms to more than two dozen. This rule cannot be finalized until all forms are provided for review and comment.

And, as noted above, the legislature has expressed the intention that the regulatory process be “reformed” to enhance efficiency for all businesses, with special considerations for small businesses. In launching this plethora of new forms, the DEP has failed to follow the procedural steps required to test the necessity of the forms' new burdens. The sheer number of forms points to the DEP's failure to achieve the substantive reform desired by the legislature.

The new reporting requirements should be stricken from the proposed rules because they have not been properly explained by the DEP and because no alternatives have been examined for the small businesses that will be most adversely affected by the substantial new burdens. (121)

Response: Conventional operators are only required to report waste production from wells on an annual basis, not on a monthly basis as is required for unconventional well operators. (small business)

Electronic reporting of production data for all operators was established by the 2011 Subsurface Activities final rulemaking and is not a new requirement established by this final-form rulemaking. Therefore, the requirement to consider small business flexibility in this final-form rulemaking is not applicable to electronic reporting of production.

The primary new requirement in § 78.121 is for the operator to report the specific facility or well site where the waste was managed. Providing such information to the Department is a standard practice in all waste management programs and does not single out the oil and gas industry.

The Department believes that the monthly reporting requirement strikes the appropriate balance between burden and benefit compared to other regulatory alternatives, such as keeping the current flawed six-month reporting system or imposing a load-by-load manifest system as is currently required for hazardous wastes.

1997. Comment: Production Reporting (§ 78.121 and § 78a .121) Produced fluids and flowback fluids that are re-used or recycled for well development should not be defined as waste until the point at which they are no longer used for well development and are transported to a treatment or disposal facility. Total volumes of produced fluids that are re-used or recycled for well development should only be reported in a single report. In part, this information is again requested in § 78a.122 as part of the Well Record and Completion Report. (205)

Response: The well completion report only captures waste generated at the well site up to the point in time when the completion report must be filed, or “within 30 calendar days after completion of the well, when the well is capable of production.” The waste reporting requirements in §§ 78.121 and 78a.121 are intended to capture data relating to waste production from the well until the well is plugged. Moreover, fluids will be defined as a “waste” in a manner consistent with the definition of waste in the Solid Waste Management Act and its implementing regulations.

1998. Comment: Production Reporting (§ 78.121 and § 78a.121) The requirement to include information on the amount and type of waste produced and the method of waste disposal or reuse is duplicative and should not be required. This information is already reported to the Department through Form U and Form 26R submittals. (205)

Response: Data analyses conducted by the Department, which compared 2013 and 2014 calendar year records from facilities that receive oil and gas waste for processing or disposal and from data reported by oil and gas operators in the Department’s oil and gas electronic reporting database, revealed that there are significant discrepancies in both the quantities of waste reported by oil and gas operators and also in the way the wastes are classified. More recent analyses have indicated that oil and gas operator reporting is improving; however, the same issues still exist. The current bi-annual reporting requirement is not conducive to correcting reporting discrepancies because the Department does not become aware of a reporting issue until a substantial amount of time has passed from when the waste was originally sent for processing or disposal. Monthly reporting promotes quicker recognition of reporting inaccuracies that can be rectified in a more reasonable timeframe.

1999. Comment: § 78a.121. We find the language changes reasonable and necessary, responding to the recent legislative action. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

2000. Comment: Operators will need time to set up systems and time to collect the information to meet the monthly turn-around time for reporting at the proposed frequency. Additionally the expectation appears to be that reuse water would be included in the requirement. That will result

in an over calculation of water that is utilized in stimulation of the well. A portion of the reuse water utilized in stimulation of a well will return with flowback. Chemical concentrations and volume of said reuse water will vary. Basically you could be reporting the same molecules more than once giving the appearance of higher water use. Not to mention that reuse is not a “waste”. Please see the justification below based on current regulation.

Further, 25 PA Code 287.1 provides the following definition of “waste”, in pertinent part:

(i) Discarded material which is recycled or abandoned. A waste is abandoned by being disposed of, burned or incinerated or accumulated, stored or processed before or in lieu of being abandoned by being disposed of, burned or incinerated. A discarded material includes contaminated soil, contaminated water, contaminated dredge material, spent material or by-product recycled in accordance with subparagraph (iii), processed or disposed.

(ii) Materials that are not waste when recycled include materials when they can be shown to be recycled by being:

(A) Used or reused as ingredients in an industrial process to make a product or employed in a particular function or application as an effective substitute for a commercial product, provided the materials are not being reclaimed. This includes materials from the slaughter and preparation of animals that are used as raw materials in the production or manufacture of products. Steel slag is not waste if used onsite as a waste processing liming agent in acid neutralization or onsite in place of aggregate. Sizing, shaping or sorting of the material will not be considered processing for the purpose of this sub clause of the definition.

(B) Coproducts.

(C) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material shall be returned as a substitute for feedstock materials. When the original process to which the material is returned is a secondary process, the materials shall be managed so that there is no placement on the land and the secondary process takes place onsite.

The definition of “waste” does not apply to reuse water because it is not discarded. Further, though not necessary to the analysis, reuse water is recycled and not reclaimed, and therefore is clearly not a “waste” under the applicable regulations. (232)

Response: The Department acknowledges the comment. However, the definition of the term “waste” is established by the Solid Waste Management Act and the implementing regulations. The final-form rulemaking is not intended to make any changes to those authorities, their interpretation or implementation.

2001. Comment: § 78.121 Production Reporting - The Waste reporting portion of the Production report requires that the specific waste processing or disposal facility, or other method of waste management, be selected from a pre-populated drop down list, and does not allow the user to enter other information, such as a well site name. Since DEP has not provided a proposed Form revision for us to review that would accommodate this change, as required by Section (5)(a)(5) of the Regulatory Review Act, the requirement to specify a “well site where the waste was managed” should be removed, and revised as shown above, consistent with the current Production reporting instructions and functionality. (213)

Response: The Department does not believe that the ability to enter additional information such as well site name into the waste report is necessary at this time. The Department already has developed the processes and the functionality to add a new facility to the pre-populated drop down list for the existing biannual waste production reporting obligation (“Request to Add a Waste Facility to DEP Production Reporting Application,” 8000-FM-OOGM0117, 1/2013). This same form and process will be used for the monthly waste production reporting obligation.

2002. Comment: § 78a.121 Production Reporting - The Waste Reporting portion of the Production Report requires that the specific waste processing or disposal facility, or other method of waste management, be selected from a pre- populated drop down list and does not allow the user to enter other information, such as a well site name. Since DEP has not provided a proposed form revision for us to review that would accommodate this change, the requirement to specify a “well site where the waste was managed” should be removed. (213)

Response: The Department does not believe that the ability to enter additional information such as well site name into the waste report is necessary at this time. The Department already has developed the processes and the functionality to add a new facility to the pre-populated drop down list for the existing biannual waste production reporting obligation (“Request to Add a Waste Facility to DEP Production Reporting Application,” 8000-FM-OOGM0117, 1/2013). This same form and process will be used for the monthly waste production reporting obligation.

2003. Comment: Commentator supports the changes throughout § 78a.121 requiring more frequent production reporting. (231)

Response: The Department acknowledges the comment.

§§ 78.122 and 78a.122 Well record and completion report.

2004. Comment: §78a.122. We find the language changes reasonable and necessary especially regarding the certification regarding the Area of Review. We recommend the revisions as presented for adoption. (170)

Response: The Department acknowledges the comment.

2005. Comment: Well Record and Completion Report (§ 78a.122) The requirement to include information on the amount and type of waste produced and the method of waste disposal or reuse is duplicative and should not be required under § 78a.121. Total volume of reused/recycled fluids can be reported as part of the Well Record and Completion Report, but should be eliminated from other waste, production reports (§ 78.121 and § 78a.121) to eliminate duplicative reporting. (205)

Response: The Department disagrees with the comment. The Well Record and/or Completion Report are not the appropriate forms to capture this information. Waste streams are most appropriately tracked from the point of generation. The production/waste report is the appropriate form to capture this information.

2006. Comment: Request clarification of what the certification process is. Would this be a check box? Certification by notary? Recommend this section be removed. (232)

Response: The certification is a statement contained on the form itself, certifying that the information contained in the form is true to the knowledge, information and belief of the individual providing the certification.

2007. Comment: What are the Department’s definition / interpretation of when a well is capable of production? Recommendations to the Department are as follows:

1. Turned in Line Or
2. When the last mechanical barrier in the well is drilled out or dissolved allowing the potential for gas or fluids to move vertically up the well bore. (232)

Response: A well is “capable of production” after “completion of the well”. The 2012 Oil and Gas Act defines “completion of a well” as: “The date after treatment, if any, that the well is properly equipped for production of oil or gas, or, if the well is dry, the date that the well is abandoned.” The Department considers a well to be “properly equipped for production of oil or gas” under the following circumstances:

For wells not intended to have the producing interval cased or stimulated prior to production (i.e., natural wells), the well is properly equipped for production when the well has been drilled to total depth.

For wells intended to have the producing interval cased, but not stimulated, prior to production, the well is properly equipped for production when the last perforation is placed.

For wells intended to be stimulated prior to production, the well is properly equipped for production upon commencement of flow back.

2008. Comment: Since several operators are shutting in wells and waiting for facilities to be built it is suggested that language is added to clarify that completion means after a well is turned in line. (232)

Response: The 2012 Oil and Gas Act defines “completion of a well” as: “The date after treatment, if any, that the well is properly equipped for production of oil or gas, or, if the well is dry, the date that the well is abandoned.” The Department considers a well to be “properly equipped for production of oil or gas” under the following circumstances:

For wells not intended to have the producing interval cased or stimulated prior to production (i.e., natural wells), the well is properly equipped for production when the well has been drilled to total depth.

For wells intended to have the producing interval cased, but not stimulated, prior to production, the well is properly equipped for production when the last perforation is placed.

For wells intended to be stimulated prior to production, the well is properly equipped for production upon commencement of flow back.

2009. Comment: Operators should not have to identify borrow pits or impoundments on their well records. There is no statutory authority or environmental justification for this requirement in completion records. (213)

Response: Sections 78.122(a) and 78a.122(a) requires information about borrow pits in the well record. This information is necessary to ensure compliance with the borrow pit restoration requirements. Sections 78.122(b) and 78a.122(b) require information about well development impoundments. This information is necessary to ensure compliance with the well development restoration requirements.

2010. Comment: The 2014 Comments recommended a number of improvements to § 78a.122, including submission of: a complete description of the sequence of events during all required blow-out prevention tests and copies of test results, the grade and weight of each casing, the final cementing report, a driller's log (including the results of coring, electric log, mud-logging, or testing completed), an as-built well construction drawing, a directional survey, and test data. The 2014 Comments also recommended that the operator (who holds the permit) be required to gather the data and ensure that the terms of its permit are met.

We request that PADEP incorporate the changes to § 78a.122 recommended in the 2014 Comments or explain why they were not incorporated. (211)

Response: The Department considered this comment and declines to make the suggested amendment to this rulemaking. If the Department finds that additional information is needed in the well record, the Department may make amendments to the well record forms and instructions.

2011. Comment: § 78a.122. Well record and completion report. (a) For each well that is drilled or altered, the operator shall keep a detailed drillers log at the well site available for inspection until drilling is completed. Within 30 calendar days of cessation of drilling or altering a well, the well operator shall submit a well record to the Department on a form provided by the Department that includes the following information: The amount and detail of information required on the forms have increased significantly over the years, though the timeframe to collect and report this information has not. It is unclear how much of the information requested provides an environmental or public benefit, particularly as the information is already submitted in the required Frac Focus submittal. Commentator contends that 30 days from "cessation of drilling" is a confusing trigger and an insufficient time frame for a multi-well site. The information required in the report was challenging but possible for a conventional single-well location, however, it is extremely difficult to accomplish this for a multi-well site. For example, on a multi-well pad more than 30 days may have transpired between the first and the last wells drilled, thus flowback may not have commenced at the time the report is due. Nonetheless, flowback information is required on the forms and currently no sundry process exists where an operator could amend a form once this information is acquired nor is there a process for obtaining a variance. Lastly, requirements to report recycled water versus the freshwater breakdown used in a hydraulic fracturing operation presents a significant challenge unless you are trucking water, which typically has more environmental impacts than piping water. Commentator suggests the language be modified to require reports "90 days from rig release" or "90 days from the end of a completion of a well." Commentator also suggests the Department remove the requirement to report recycled water. (199)

Response: The Department disagrees with this comment. There are different reporting deadlines for the Well Record and the Completion Report. The Well Record is due 30 days after cessation of drilling or altering a well. A Completion Report is due 30 days after completion of the well. All of the data elements required to be reported in the Well Record should be readily available to the operator shortly after cessation of drilling. All of the data elements required to be reported in the Completion Report should be readily available to

the operator shortly after completion of the well. Additionally, the 30 day reporting deadlines for both the Well Record and Completion Report are consistent with those required by the 2012 Oil and Gas Act.

2012. Comment: §78a.122 (a) The driller log references in subsections (a) and (a)(9) are vague and could be confusing to industry. If intended to be the same drillers log in both subsections, the drilling personnel on the rig are not the appropriate parties to provide the name and depth of formations from the surface to total depth, depth of oil and gas producing zone, depth of fresh water and brines. This is a post-well process for other personnel to evaluate and prepare, and it is not appropriate to require industry to have this information be available at the rig site while drilling. (210)

Response: The Department disagrees with this comment and believes the information in § 78a.122(a) should be available at each well being drilled. This requirement references the formation and gas, oil and water show logging that must be maintained by site personnel at the well site for comparison to later logging tool analyses. The current regulations require that all whole sections of the well, starting at the surface, be characterized and reported. If no logging tools will be run, the information collected during drilling serves as the permanent record required under § 78a.122(a)(9). When logging tools are run, § 78a.122(a)(9) refers to the post-well drilling process described in this comment.

2013. Comment: §78a.122 (a)(11) This requirement is vague and very broad, as there is no limit to the location. This requirement should be clarified to better identify the location(s) where methane may be encountered. (210)

Response: The Department disagrees with this comment. The Well Record form contains a log of formations that readily allows operators to report the depth at which any gas shows are encountered. This information is particularly important when it comes to determining the appropriate depth intervals for the placement of cement plugs during final plugging and abandonment activities.

2014. Comment: § 78a.122 (a)(12) - It is unclear the necessity of reporting the country of origin of the tubular steel products used in the construction of a well. This could unfairly limit competition between tubular steel product manufacturers and unfairly increase price constraints on operators. This section should be amended to state that products used by operators will meet current API specifications. (187, 209)

Response: Reporting country of origin of tubular steel products used at unconventional well sites in the well completion report is required by section 3222(b.1)(2)(ii) of the 2012 Oil and Gas Act and so must be included in this section of the final-form rulemaking.

2015. Comment: § 78a.122(a)(12) Commentator recommends that the Department strike the requirement to report country of origin and manufacture of tubular steel products used in the construction of the well. This requirement serves no protective environmental purpose and is difficult for operators to obtain and costly to attempt to track. Requiring this information after a well is drilled adds burden while providing no environmental nor public benefit.(199)

Response: Reporting country of origin of tubular steel products used at unconventional well sites in the well completion report is required by section 3222(b.1)(2)(ii) of the 2012 Oil and Gas Act and so must be included in this section or the final-form rulemaking.

2016. Comment: §78a.122(a)(14) The commentator recommends that this section, which appears for the first time in the ANFR, be deleted. The § 78a.52a monitoring plan requirements are just one of many requirements that operators must adhere to, and there is no reason to single this requirement out as one that must be certified in the well record report. The § 78a.52a monitoring plan will have to be submitted to PADEP, per 78a.52a(d), which is adequate proof that the monitoring plan was developed. In addition, the monitoring plan will not actually be “conducted” per § 78a.73(c) until the well is stimulated, which may be long after the well record is due, so certification in the well record that the monitoring plan was actually “conducted” would not be possible in those cases. (210)

Response: It appears that this comment pertains to 78a.122(b)(10) rather than 78a.122(a)(14) as cited. The Department disagrees with this comment. Section 78a.52a requires that a monitoring plan be developed and a report be submitted to the Department. Section 78a.122(b)(10) simply requires the operator to certify that they conducted the monitoring plan as outlined in the report. The Department does not believe that such a certification is overly burdensome. Additionally, the certification would be a component of the Completion Report, not the Well Record as noted by the commentator. The Completion Report is due within 30 days after completion of the well. Therefore, implementation of the monitoring plan would have occurred by the required time of submission.

2017. Comment: §78a.122 (b) This language for completion reports states that submissions shall be made “when the well capable of production”. This wording is unclear and should be clarified to account for the time between completion and the initial turn in line date of the well.

The commentator’s suggested amendatory language:

(b) Within 30 calendar days after completion of the well, when the well is capable of production and turned in line, the well operator shall arrange for the submission of a completion report to the Department on a form provided by the Department that includes the following information:
(210)

Response: The Department disagrees with the comment. By adding the phrase “turned in line” could add months if not years for the submission of a completion report if the well is not service by a gathering pipeline. A well is “capable of production” after “completion of the well”. The 2012 Oil and Gas Act defines “completion of a well” as: “The date after treatment, if any, that the well is properly equipped for production of oil or gas, or, if the well is dry, the date that the well is abandoned.” The Department considers a well to be “properly equipped for production of oil or gas” under the following circumstances:

For wells not intended to have the producing interval cased or stimulated prior to production (i.e., natural wells), the well is properly equipped for production when the well has been drilled to total depth.

For wells intended to have the producing interval cased, but not stimulated, prior to production, the well is properly equipped for production when the last perforation is placed.

For wells intended to be stimulated prior to production, the well is properly equipped for production upon commencement of flow back.

2018. Comment: § 78a.122(b) Commentator requests that the Department clarify what is acceptable as an “arrangement” for the submission of a completion report. Commentator also suggests that the

Department clarify for Sections 78a.122(b)(6)(iii)-(v) whether submission to Frac Focus meets the reporting requirement. (199)

Response: The operator may arrange for the service company or manufacturer to provide the necessary information directly to the Department, which may be useful where those entities are reluctant to disclose information to the operator for trade secret reasons. Submission of the well completion report to the Department and submission of information to FracFocus are separate requirements in sections 3222 and 3222.1 of the 2012 Oil and Gas Act.

2019. Comment: 78.122(b)(6)(iii) Replace the added sentence that includes trade names of chemicals with the original sentence regarding a list of chemicals by name and chemical abstract service number. (161)

Response: The language in §78.122(b)(6)(iii) in the final draft rulemaking is consistent with the language in §3222(b.1)(1)(ii) of the 2012 Oil and Gas Act.

2020. Comment: 78.122(b)(6)(iv) Include the volume of each chemical listed on the Material Safety Data Sheet as well as the trade name. (161)

Response: The Department believes that “the maximum concentration, in percent mass, of each chemical intentionally added to the stimulation fluid” as required to be reported by §78.122(b)(6)(v) of the final draft rulemaking, as well as §3222(b.1)(1)(iv) of the 2012 Oil and Gas Act, is sufficient information to determine the quantity chemical added to the stimulation fluid.

2021. Comment: 78.122(b)(6)(v) Include the maximum concentration in percent volume of each chemical intentionally added to the stimulation fluid. (161)

Response: The language in §78.122(b)(6)(v) in the final draft rulemaking is consistent with the language in §3222(b.1)(1)(iv) of the 2012 Oil and Gas Act.

2022. Comment: § 78a.122 (b)(9) - Language should be added stating that if an operator only stores freshwater from one source in an impoundment that they be exempt from such reporting requirement. (187)

Response: The Department disagrees with this comment. The purpose of this provision is not only to identify the direct source of water used in the development of a well, but to also monitor the usage of well development impoundments to determine compliance with well site restoration requirements.

2023. Comment: § 78a.122(b)(9) “The freshwater [and centralized] impoundment, if any, used in the development of the well.” The withdrawal of freshwater is already required to be reported on a quarterly basis under PA Chapter 110 reporting (25 Pa Code 110.301). As such, this requirement is duplicative and unnecessary. This provision should be stricken.(199)

Response: The Department disagrees with this comment. See response to comment 2022.

2024. Comment: § 78a.122 (b)(9) Language should be added stating that, if an operator only stores freshwater from one source in an impoundment, that they be exempt from such reporting requirement. (209)

Response: The Department disagrees with this comment. See response to comment 2022.

2025. Comment: Regarding Well Record and Completion Report (§ 78.122), because the primary purpose of the monitoring plan is to avoid communication with existing wells proximate to the location of a vertical well or the path of a horizontal well during the hydraulic fracturing phase of completion, the logical place for this certification is on the Completion Report [(b) (10)] rather than the Well Record [(a) (14)]. (245)

Response: The Department agrees and has made the suggested change in the final-form rulemaking.

2026. Comment: §78a.122 (c) Section 78a.122 sets forth requirements relating to well records and completion reports. With respect to the proposed revisions to Section 78a.122(b) related to well completion reports, the revisions recognize the fact that vendors and service providers hired by well operators do not disclose to the operators certain information about the chemicals added to the stimulation fluid because that information is considered by the vendor or service provider to be a trade secret or confidential proprietary information. This dynamic is reflected in the current oil and gas regulations at 25 Pa. Code § 78a.122(d), which recognizes the relationship among operators, vendors and service providers by allowing operators to arrange to have their vendors and service providers provide certain information directly to the Department when necessary. We appreciate that the Department has retained this concept in its proposed revisions to Chapter 78 and support those proposed changes to Section 78a.122(b).

In a scenario where a vendor or service provider is providing information directly to the Department in accordance with Section 78a.122(b), as proposed, it is the vendor or service provider that considers the information to be a trade secret or confidential proprietary information. Consistent with that framework, we believe that Section 78a.122(c), as proposed, should be revised slightly to recognize that the vendor or service provider (as opposed to the operator) may be the entity designating the information submitted directly to the Department as a trade secret or confidential proprietary information. These minor changes will harmonize the requirements in Section 78a.122(c), as proposed, with the structure reflected both in Section 78a.122(b), as proposed, and as currently exists in the oil and gas regulations.

The commentator's suggested amendatory language:

(c) When a stimulation record is submitted, specific portions of the stimulation record may be designated as containing a trade secret or confidential proprietary information. The Department will prevent disclosure of the designated confidential information to the extent permitted under the Right-to-Know Law (65 P. S. §§ 67.101—67.3103) or other applicable state law. (210)

Response: The Department agrees with the comment. Sections 78.122(c) and 78a.122(c) of the final-form rulemaking have been modified to reflect this response.

2027. Comment: This new requirement, which appears for the first time in the ANFR, to include a certification that the § 78a.52a monitoring plan was conducted should be deleted. The §78a.52a monitoring plan requirements are just one of many requirements that operators must adhere to, and there is no reason to single this requirement out as one that must be certified in the Well Record report. The § 78a.52a monitoring plan will have to be submitted to DEP, per § 78a.52a(d), which is adequate proof that the monitoring plan was developed. The monitoring plan will not actually be “conducted” per § 78a.73(c) under the well is stimulated, which may be long after the

Well Record is due, so certification in the Well Record that the monitoring plan was actually “conducted” would not be possible in those cases. (213)

Response: The Department disagrees with this comment. Section 78a.52a requires that a monitoring plan be developed and a report be submitted to the Department. Section 78a.122(b)(10) simply requires the operator to certify that they conducted the monitoring plan as outlined in the report. The Department does not believe that such a certification is overly burdensome. Additionally, the certification would be a component of the Completion Report, not the Well Record as noted by the commentator. The Completion Report is due within 30 days after completion of the well. Therefore, implementation of the monitoring plan would have occurred by the required time of submission.

§§ 78.123 and 78a.123 Logs and additional data.

2028. Comment: Clarify whether this requirement applies to pilot holes, development wells, exploration wells, appraisal wells, etc. (232)

Response: The data collection and submittal requirements in this section apply to all wells drilled that require a permit to be issued by the Oil and Gas Program.

2029. Comment: § 78a.123. Logs and additional data. (a) If requested by the Department within 90 calendar days after the completion [of drilling] or recompletion of drilling [of a well], the well operator shall submit to the Department a copy of the electrical, radioactive or other standard industry logs run on the well. To avoid confusion, the Department should strike “recompletion of drilling” and insert “recompletion of a well.” Additionally, Commentator supports the inclusion of a 2 year confidentiality clause to prevent the sharing of an operator’s logs and data, both of which represent a significant capital investment and competitive advantage.(199)

Response: The current language with regard completion and recompletion of drilling is consistent with the supporting statute.

The Department believes that data confidentiality is already preserved for an adequate period of time based on the existing language. The only type of information not falling under the provision are the standard logs which are currently requested for every drilling permit issued in the state.

2030. Comment: 78a.123(b) Paragraphs (a) and (b) paraphrase language from section 3222 of Act 13. Current Chapter 78 regulations provide that this information could be submitted up to 3 years after completion of a well, providing an effective 3 year confidentiality period for this data. The proposed paragraph (d) would eliminate the confidentiality period for log information described in paragraph (a), requiring that logs be submitted immediately upon request. We believe it is important to maintain a reasonable confidentiality period for all geologic data submitted to the Department in order to protect the enormous capital investment being committed to development of the Commonwealth’s oil and natural gas resources. We believe that a 3 year confidentiality period is adequate and is consistent with rules applied in other oil and gas producing states.

The commentator’s suggested amendatory language:

(a) If requested by the Department, the well operator shall, within 90 days of completion or recompletion of drilling, submit a copy of any electrical, radioactive or other standard industry logs which have been run. Any such data submitted under this subsection shall be held

confidential by the Department for a period of three years following completion of drilling or deepening. (210)

Response: The Department does not believe the suggested change is necessary. For matters related to data confidentiality, please see response to comment 2029.

2031. Comment: 78a.123(d) Data should be required to be collected within 18 months of the completion of the well with an extension no greater than 3 years. (161)

Response: The Department believes the language regarding data submission strikes a suitable balance between protection of proprietary information and the collection of data necessary for efficient and environmentally protective resource development.

2032. Comment: The proposed revision to subsection (d) below appears to eliminate a long-standing and necessary protection of logs submitted under subsection (a) without justification. The three-year protection should be restated as provided below.

(a) If requested by the Department within 90 calendar days after the completion [of drilling] or recompletion [of a well] of drilling, the well operator shall submit to the Department a copy of the electrical, radioactive or other standard industry logs run on the well. All such logs to be kept confidential by the Department for a minimum of three years.

(b) In addition, if requested by the Department within 1 year of the completion [of drilling] or recompletion [a well] of drilling, the well operator shall file with the Department a copy of the drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis and lithologic log or sample description or other similar data as compiled. No information will be required unless the operator has had the information described in this subsection compiled in the ordinary course of business. No interpretation of the data is to be filed.

[(b)] (c) Upon notification by the Department prior to drilling, the well operator shall collect additional data specified by the Department, such as representative drill cuttings and samples from cores taken, and other geological information that the operator can reasonably compile. Interpretation of the data is not required to be filed.

(d) Data required under subsections (b) and (c) shall be retained by the well operator and filed with the Department no more than 3 years after completion of the well. Upon request, the Department will extend the deadline up to 5 years from the date of completion of the well. (212)

Response: The required 3-year period for submittal of information has only been changed relative to the submission of electrical, radioactive, and other standard industry logs. The Department modified the language for consistency with Act 13 and codified an existing practice, as all logs are currently requested for every drilling permit issued.

2033. Comment: The proposed revisions to subsection (d) have removed the current three-year protection for logs generated under subpart (a) without providing a timeframe in which such information should be submitted to DEP. Revisions to Subpart (d) also refer to “required” data that would only be “required” if requested in a timely manner by DEP under subparts (a) through (c). (213)

Response: For matters related to the changing of timeframes for the submittal of data, please see response to comment 2032.

The Department agrees that the language related to “requested” and “required” information is unclear and has updated the final language for clarification.

Subchapter G, Bonding Requirements

2034. Comment: Section 78.303 Subchapter “G” under Bonding Requirements. The publicized dollar amounts placed on the well sites and activities required for well sites by the Oil and Gas industry are well known and can be easily investigated. The price tag, if there were such a thing, associated with the well site development is upwards of more than a million dollars per site. Why would the PADEP ONLY require a \$2,500 bond for a single well and allow a \$25,000 blanket bond on multiple well sites? If this bond is to be viable for any compliance, clean up, closure, remediation, clean up, stabilization wouldn’t it be intelligent to require a bond that would be based on a real life cost estimate to actually do the work that would be needed? Perhaps a tiered bond? The previous mining bonds barely cover the sins of the past, why would the Department enter into additional liability and inability to effectively bond oil and gas developments? (9)

Response: The relief requested by the commentator is beyond the scope of this rulemaking. The bonding section is only included in the rulemaking to correct a citation to the 1984 Oil and Gas Act and no substantive changes were proposed to this section.

2035. Comment: Cradle-to- Grave Financial Responsibility and Third Party Insurance: Groundwater contamination associated with hydraulic fracturing have been dramatically demonstrated in both Susquehanna and Bradford Counties of Pennsylvania. This is an inevitable and predictable cost of extracting fossil fuels. Just as vehicle drivers are required to have insurance, so too should every well developer. If natural gas extraction using high volume, slick water, hydraulic fracturing were as safe as the industry claims, then the premiums should be as insignificant as the risk potential it represents, a risk which the public is now being forced to absorb. New York State has chosen to reject fracking even though its revised SGEIS estimated the probability that groundwater contamination due to wellbore failure was estimated at 2×10^{-8} , or one in fifty million. If Pennsylvania’s insurance industry believes that figure, the premium for a liability policy for \$200,000,000 should be little more than four dollars. That might be a reasonable starting figure for each well in restoring the environment and compensating both the State and each citizen directly harmed by any event associated with the drilling and fracking of the well and the disposal of its byproducts. (17)

Response: The relief requested by the commentator is beyond the scope of this rulemaking. The bonding section is only included in the rulemaking to correct a citation to the 1984 Oil and Gas Act and no substantive changes were proposed to this section.

2036. Comment: Require a pre-occupation/construction deposit (similar to one imposed on a rental tenant in case of any incurred damage/s) which the said industry must pay ahead, in addition to post-exit fee for any further environmental damage, including brown soil and water, air damages, before their exit.

My rationale: An industry who comes to a region as an outsider does so because they may simply objectify “it/us” as a profitable resource to be exhausted. What we need is an environmental and economic partnership between them and any given region that would commit to collaboratively care for the region and its people and their natural resources (as in their commitment to sustain).

No matter how much industries may try to “prove” that it is safe prior to the installation, there is no guarantee to the community, as mistakes could happen; we don't want any great regrets. Thus by requiring them to put a good amount of deposit, they may be persuaded to reconsider, if not self-reflect on their environmental impacts. Of course, industries with clean environmental stewardship would rightfully reclaim their deposits all or in parts.

Long-term Plan: This should resonate into the process of education as well as parenting. For example, environmental ethics could be integrated automatically as a natural way of doing and thinking including practicing business, not just a fancy course name to be added on the resume. A child should learn that there is a contingency to his/her contaminating (i.e. littering) environment or over-consumption of resources. (105)

Response: The relief requested by the commentator is beyond the scope of this rulemaking. The bonding section is only included in the rulemaking to correct a citation to the 1984 Oil and Gas Act and no substantive changes were proposed to this section.

2037. Comment: 78a.309(a)(1)(ii) The schedule should be changed to increase the deposits and fees for additional wells. Annual deposits should be tripled with the price for each additional well tripled as well. The burden of failure to comply should not be at the taxpayers cost. Funds must be adequate to cap the wells once resources are depleted. (161)

Response: The relief requested by the commentator is beyond the scope of this rulemaking. The bonding section is only included in the rulemaking to correct a citation to the 1984 Oil and Gas Act and no substantive changes were proposed to this section.

2038. Comment: The commentator recommends that the reference to 72 P.S. § 1606-E be deleted. This provision applies only to conventional wells, and should not be referenced in Chapter 78a. (210)

Response: The Department agrees and has made the requested change to the final-form rulemaking.

2039. Comment: All operators involved in oil and gas exploration (including drilling and hydro-fracking) must be required to submit a bond before doing any work on any oil/gas well site in Pennsylvania, new or old. The bond must be sufficient to cover any damages the well operation may cause, including (but not limited to) property damages and water contamination. (226)

Response: The relief requested by the commentator is beyond the scope of this rulemaking. The bonding section is only included in the rulemaking to correct a citation to the 1984 Oil and Gas Act and no substantive changes were proposed to this section. The requirement to provide a bond (or not) as well as the amounts of the bonds are established by the 2012 Oil and Gas Act.

General Comments

2040. Comment: Ban Fracking Now; if you can't do this right away at least I want the rules to be amended to include a minimum one-mile separation between schools and oil and gas operations. But please try hard to Ban Fracking Now! (1)

Response: The Department acknowledges the comment. The Department does not have the statutory authority to ban hydraulic fracking within the Commonwealth. Banning hydraulic fracturing would require an act of the Legislature.

Well drilling can be done in a safe and environmentally sound way, provided applicable laws are adhered to. The regulatory changes included in Chapters 78 and 78a are intended to further strengthen these standards to ensure the Commonwealth's environment and the health of its citizens is properly protected. The DEP will continue to study the efficacy of its regulatory programs and make improvements to the rules as necessary.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2041. Comment: I am writing to express my concerns about the extraction of natural gas in Pennsylvania AKA fracking. The citizens are not being properly protected from the pollutants to the water, soil and air that this process brings. While burning natural gas may be 'clean energy' certainly the extraction process is not. Many people are unable to drink their water because of the process and the chemicals it produces. The industry frequently does not abide by safety regulations and creates abandoned wells. Medical doctors do not have access to records of the chemicals created in the process and cannot properly treat workers and people affected by the extraction process. People have been driven from their homes or suffer needlessly because of noise, explosions and foul smelling air.

I am opposed to the industry and encourage you to instead support clean energy such as wind and solar. (10)

Response: Well drilling can be done in a safe and environmentally sound way, provided applicable laws are adhered to. The regulatory changes included in Chapters 78 and 78a are intended to further strengthen these standards to ensure the Commonwealth's environment and the health of its citizens is properly protected. The DEP will continue to study the efficacy of its regulatory programs and make improvements to the rules as necessary.

Regarding noise concerns, see the Departments response to comments submitted on § 78a.41.

Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

2042. Comment: We must end unconventional shale gas development, more commonly known as fracking, now. It is the Department of Environmental Protection's responsibility to use the precautionary principle, meaning that if the proposed activity from the Drilling Industry has any unknown impacts to the environment or human health, the activity should not be permitted until those impacts are clearly understood. (381)

Response: See response to comment 2040.

2043. Comment: It is more than obvious that fracking obliterates and destroys topography, clean air, soil and water, the entire eco-system and human health. There is a growing body of peer-reviewed science that provides significant evidence of the public health risks of shale oil and gas development. There is also no scientifically definitive setback distance that would prevent health and safety impacts from oil and gas infrastructure. It merely should not exist in any capacity.

Given the accidents like explosions and fires that have occurred, and documented water and air pollution from oil and gas infrastructure, policy-makers should exercise the utmost precaution when making decisions that could impact humans and other vulnerable populations. Children, elderly, infirm and animals are especially vulnerable to environmental hazards and warrant greater protection from environmental risks.

I urge the Department of Environmental Protection to permanently shut down all oil and gas infrastructure in the revisions to Pennsylvania's regulations for above-ground oil and gas operations (Chapter 78). (15)

Response: See response to comment 2040.

2044. Comment: The first priority of government is to protect its citizens; all other functions being derivative of, subordinate to or ancillary to that priority. An important, albeit secondary, function is to promote economic development of within the Commonwealth. The rapid development of high volume, slick water, hydraulic fracturing to extract natural gas from the Marcellus Shale in Pennsylvania has brought substantial and rapid economic growth to a fortunate few, while spreading the long term costs across the larger society.

A balance between public protection and economic development is not being met under the existing regulation regime. The record of environmental insults continues to expand. Crucial policy components are either missing or not fully developed, including in-place methods to handle the industrial wastes, a peer reviewed risk assessment of long term impacts to public health, and a reasonable compensation to the public. It is only through taxes, fees and enforcement, along with the political will to revoke the corporate charters of offenders, that the state can control the natural gas industry and bring its benefits to those citizens for whom state governments were formed. (17)

Response: See response to comment 2041.

2045. Comment: Fracking in any level is a public unsentimental hazard. We depend on Safe drinking water that is being polluted with toxic waste as a daily occurrence. I have seen trucks bilage their loads right on a residential road, I have seen the trucks run a school bus off the road....what makes you think they will follow any type of so called pea regulation.....they won't ,have not and never will. Drink the water contaminated in butler pa....then think. (7)

Response: The Department acknowledges the comment. Any acknowledgement of wrongdoing should be reported to the proper authorities.

2046. Comment: We need to stop using all fossil fuels ASAP. They are a complete disaster. From the drilling, to the transporting, to the burning, they destroy the environment! Fossil Fuels = Death! (33)

Response: Broadly regulating the use of fossil fuels is beyond the scope of this rulemaking.

2047. Comment: Although the scientific information has been suppressed, fracking is dangerous for more than one reason. The introduction of unknown chemical compounds, under pressure into our groundwater sources can't be thought of as good science. Additionally, the anecdotal evidence coming out of states like Oklahoma regarding seismic activity point to this fracking process as the major cause of instability. This process should be terminated immediately and held in abeyance until better science comes along to remove natural gas without environmental destruction accompanying it. There's just too much anecdotal information about the negative impact on our water supplies nationally to allow this to proceed. (43)

Response: See response to comment 2040.

2048. Comment: The hazardous contaminants involved are not fully retrievable or reversible — an issue which has not been considered. Renewable energies are available if the extracting industries are not encouraged by weak regulations which fail to protect the public's health and economic interests. Environmental protection must be for those who live in the environment. (44)

Response: The Department acknowledges the comment.

2049. Comment: Climate change is the most pressing problem that we face and any laws that take every precaution before fossil fuels are taken from the ground are necessary. Please make these laws as stringent as possible, including a fracking ban if necessary to provide a full vesting of the methods used to frack. (49)

Response: The Department acknowledges the comment.

2050. Comment: Please end all drilling and fracking in this commonwealth as it looks terrible and is very bad for wildlife. (30)

Response: See response to comment 2040.

2051. Comment: We need to end fracking in our state, as a department of protection, this disgusting act against our biomes cannot continue. We all know this gas is for export and only benefits a few while it is detrimental to many. (23)

Response: See response to comment 2040. Broadly regulating the use of fossil fuels, including sale or export, is beyond the scope of this rulemaking.

2052. Comment: When the fracking industry comes to an area, their activities often completely disrupts the community in which they operate, while at the same time create a less healthy living condition for all Pennsylvanians. It is the state's responsibility to keep these disruptions and public harms to a minimum and therefore, the state should not be concerned with how the state's decisions affect the industry, but rather how their decisions affect its citizens. Any problems this

creates for the industry is their problem not ours, because if they cannot operate in a way that is not detrimental to the populations health we don't want them here, resulting in a forfeit of their leases. Also, if permitted to operate within Pennsylvania borders and show a consistency not to comply with our protective laws, they should lose all rights to operate within the state. (56)

Response: See response to comment 2040.

2053. Comment: I certainly would fully support any measures that can better protect, improve, and mitigate the damage this industry has already caused in areas that have already been drilled, however, I honestly cannot, in good conscience, comment on, or support regulations that will essentially allow the further expansion of this extreme dangerous and destructive practice that will ultimately put other people, and other communities at risk. By approving, or agreeing to establish more regulations is, in fact, a form of consent to allow more harm to the environment, the ecology, and to the people who live in the “sacrifice zones” of shale extraction. The risks are simply too great, too much damage has already been inflicted on too many people, and I believe it is irresponsible to attempt to regulate any activity when there is no remedy for the most predictable things that can go wrong. Many communities, and grassroots organizations are currently working tirelessly to end the practice of extreme fossil fuel extraction in PA, and beyond, and that is where I must focus my energy. I constantly hear our elected officials and regulatory agencies say that 'we must make our decisions based on science'. but they have failed to produce any scientific evidence that suggests this can be done safely, while they continue to ignore the mounting evidence that it can't. If someone could show me a regulatory model that has successfully worked anywhere, I may reconsider. However, to date, no one has been able to produce that model, and there is no indication that one exists. The gas isn't going anywhere. Therefore, the only prudent and responsible thing to do would be to enact a statewide moratorium on all permits until independent, comprehensive, environmental and public health studies could be completed, peer reviewed, publicly discussed, and then decide what regulations, if any, could be established to protect the environment and ensure public safety. (5)

Response: See response to comment 2040.

2054. Comment: I am originally from Baltimore, MD and worry about the Chesapeake Bay and rivers leading to the Bay. My husband, Vincent, is from DuBois, PA and worries about the rivers polluted for years from coal and now oil and gas well sites which will impact many fishing streams in Western PA. In Montgomery County we worry about the Juniata and Susquehanna Rivers, Schuylkill River and other streams leading to the Delaware River. We are also concerned about ruining the pristine Pennsylvania forests. (29)

Response: See response to comment 2040.

2055. Comment: Stop destroying our planet. (69)

Response: See response to comment 2040.

2056. Comment: Protect PA's natural wonders; stop PennEast Pipeline! (47)

Response: See response to comment 2040. Stopping PennEast Pipeline is beyond the scope of this rulemaking.

2057. Comment: I would simply comment, that as can be witnessed in the state of California. “The need for water is being realized.” We must not continue to contaminate our waters or someday

will find ourselves without usable water. The oil and gas industries must find a method other than using water for extraction. Thank You for allowing me to comment. (77)

Response: The Department acknowledges the comment.

2058. Comment: I will not be able to attend a hearing but I am submitting my comments to the DEP regarding revisions to the state's oil and gas regulations under Chapter 78 of the Pennsylvania Code. I am adding my voice to that of others who are concerned about drilling activities including water disposal, water storage and contamination, noise, and other aspects of natural gas extraction that could harm public health and the environment. I am in full support of strong standards to protect our air, drinking water and PA communities. Thank you for your consideration. (78)

Response: The Department acknowledges the comment.

2059. Comment: The future belongs to states with vision to implement solar and leave old technology behind. Having said that I believe in a no risk, 100% responsibility policy. No private citizen can get away with what corporations and politicians do. (83)

Response: The Department acknowledges the comment.

2060. Comment: My wife and I moved to the Mamont (Washington Twp.) area of Westmoreland County in 1973. Around 2004 or 2005 an independent driller put a shallow well approximately 1/4 mile north of us. Shortly after several families nearby lost their water wells. Westmoreland Water Authority installed an 8" water line in our area which cost \$5000/tap-in. Due to our elevation and distance to the line, we were not required to tap in.

We would have needed manholes (digging distance was 250' to 300') costing approximately an additional \$10,000. In 2007, XTO, a division of Exxon, drilled a shallow well and fracked it about 1/4 mile south. At the same time Consol Energy was drilling approximately 40 Marcellus wells 1 to 1 1/2 miles east of us. Prior to these wells our in-house Omni water filter required changing every 3 to 4 months. In 2008 began getting sand in our well, replaced the pump and changed water filters every 5 to 7 days. Our water began to spurt so we contacted the DEP. They did not come to our home but instead suggested that we vent our well. We vented the well and stopped drinking the water. We continued to wash clothes, bath and flush toilets. I developed rashes, a dry cough, headaches, sinus problems and elevated blood pressure and dizziness.

Additional issues we experienced when drilling occurred was from the night-time lights, flaring and noise. The dust from the trucks became an issue when we could wipe the kitchen counter in the morning before breakfast and need to wipe it again by lunch.

We moved two years ago and since my health is improving. I can compare where we now live in Irwin to heaven and our prior home in Mamont as hell. When we sold our Mamont home a radon test was conducted and the reading was "20" compared to our current home which tested for radon a "3". Seismic testing was conducted in Mamont which shook our home at least twice causing plaster cracks and doors to become misaligned.

Although our home in Mamont was not undermined, I am concerned that mines are under my home in Irwin. Seismic testing in areas that are undermined could cause serious damage and the companies performing these tests may not have the proper and adequate liability coverage to pay for and correct the damage that could occur.

Fracking creates many issues which include:

1. Deep well injections are being linked to recent earthquakes.
2. Liners that fail in frack ponds and air pollution created from their evaporation.
3. Radioactive drill cuttings being dumped in landfills.
4. Compressor station noise and pollution.
5. Flowback water has been transported to water treatment facilities that are not equipped to properly treat flowback waste.

Regarding transmission pipelines - Sunoco is installing a 12" dia. and a 30" dia. pipeline from Houston, Pa. to Delmont, Pa. and then to the Philadelphia area. The 12" line will transmit 70,000 barrels/day and the 30" line will transmit 275,000 barrels/day carrying ethane and propane which is heavier than the surrounding atmosphere. A pipe failure would create a gray cloud which would smother anyone caught in it if the cloud was ignited creating a horrific explosion. Sunoco plans to install 4 manual shut-off valves in the 12" line. Automatic shut-off valves with spark arresters should be installed to prevent unnecessary exposure of human life. The planned 4 manual valves are not sufficient to protect a 45 mile line. Our correspondence with Sunoco will be sent separately for your review.

Recent government statistics indicate that gas needs to be at \$6/tcf for drillers to break even. Today gas is approx. \$3.25/tcf. Oil needs to be at \$75/barrel to break even. Currently oil prices are approx. \$45/barrel. We need to be concerned that the oil and gas industry in attempting to sway public sentiment to install pipelines to ship overseas. Initial estimates from the federal government suggested gas energy would last 100 years. It is now estimated to be 40 years or less. Polar ice caps are melting and sea levels are rising. Countries with low elevations and island nations have cause for concern.

Why not put turbines on the river locks and dams to generate electrical power? It would be relatively inexpensive, and when I came home at night I could plug in my electric car and charge it for \$1.75.

Thank you for allowing me the opportunity to discuss my personal experience with fracking and share my thoughts on some of the issues this process creates. (90)

Response: See response to comment 2040.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Air emissions from oil and gas operations are regulated by the Department under Article III. Changes to Article III are beyond the scope of this rulemaking.

Regarding onsite pits and liners, see the comments and responses on temporary storage (§ 78.56 and 78a.56).

Landfills are regulated under Article IX and are beyond the scope of this rulemaking. ;

See response to comment 2415 regarding induced seismicity.

Regulation of transmission pipelines is beyond the scope of this rulemaking.

Broadly regulating the use of fossil fuels, including sale or export, is beyond the scope of this rulemaking.

2061. Comment: Protecting the fresh water and ecosystem in the Great Lakes region is a major concern for me and my family. I'm also going to try to speak for the wildlife and habitat that rely on good quality water & ecosystems too. Lots of folks leave them out of the conversation yet I don't think any of us would want to live in a world where the sounds of birds and the beauty of nature were gone. The cocktail of chemicals being injected into the ground for fracking is very scary. The numerous reports of earthquakes attributed to fracking compounds the concerns. I truly don't understand how permits continue to be issued when all the research has not even been completed to indicate that this is all safe. I give NY a lot of credit for banning fracking and I wish PA would too. Please keep in mind the needs of not only the humans of PA but all creation. Please keep in mind the long term affects not just the short term gains. Please remember that as a person of faith I try to live out the responsibility of being a good caretaker of God's garden and as our representatives I am asking for your help. Climate change is a reality we can't ignore - legislate recognizing that our laws are there to protect and defend all of us - not just those who want to make the most money. (100)

Response: The Department acknowledges the comment. See response to comment 2040.

2062. Comment: Fracking is a disaster since it can and does destroy our water and natural resources. Only a few individuals would profit from selling off these resources, which once are destroyed, cannot be restored. Please do your part to protect the public and our state's precious resources from these money-hungry, short-sighted fracketeers. (80)

Response: The Department believes that the revisions to Chapter 78 and 78a will establish responsible way to operate Oil and Gas industry and provide appropriate protections for public health and safety and the environment.

2063. Comment: We know that drilling and fracking cannot be made safe due to inherent and unavoidable dangers; read the science: <http://www.psehealthyenergy.org/LIBRARY>. (111)

Response: See response to comment 2040.

2064. Comment: There are now hundreds of research reports evaluating the environmental and health effects of fracking. Despite the fact that 96% of those studies indicate problems with health, 72% indicate pollution of water, and 95 % indicate pollution of the air, the DEP has done little to protect the public. Recommendations have been submitted numerous times during comment periods yet the following issues remain unresolved. In the meantime, Pennsylvania has become a Gasland with water contamination from spills, leaks, and migration; air pollution from toxic chemicals released during flaring and vapor emissions; and destruction of the beauty of our state through unlimited industrialization. (130)

Response: See response to comment 2040.

2065. Comment: As study after study provides more evidence that oil and gas drilling sites pollute our air and water with dangerous toxins, the arguments for strong regulations have become

impossible to deny. DEP can no longer ignore the concerns of Pennsylvania residents about water contamination and worsened air quality from drilling. Last year, DEP released information about 240 private water sources in Pennsylvania that were contaminated by oil and gas operations over the past seven years. This frequency of contamination is unacceptable. As DEP revises Chapter 78, I urge DEP to protect the health and wellbeing of Pennsylvania residents by adopting the strongest possible regulations for oil and gas drilling. (3057-3093)

Response: See response to comment 2040.

2066. Comment: Like my native American predecessors, who lived off the bounty of the land, water and air in Pennsylvania for the past 10,000 years, we should not be thinking only of our own needs and comfort in the present generation (i.e. “jobs now at all costs”) but we should be thinking of the welfare of humans and other creatures with whom we share this land in future generations. Benjamin Franklin, as US Ambassador to the Iroquois Nation, reported that Native American people thought ahead seven (7) generations and respected, preserved and protected the land which provided for all of their needs. In less than seven (7) generations of unregulated logging, coal mining, conventional oil & gas extraction, agriculture and development, our shortsighted American ancestors have already seriously impaired 39% of the streams in Cambria county and 43% of the streams in Westmoreland County (Chesapeake Bay Watershed report lists all counties in the watershed) and have added more CO₂ and other greenhouse gasses (like methane) to the atmosphere than has existed in all of human history. Now, thru unconventional hydraulic fracturing, we are further endangering our aquifers as well as our land and water thru toxic spills and run-off and our air and climate thru methane and other pollutant emissions. It’s difficult and very expensive to fix even one stream from AMD damages. It may be impossible to fix an aquifer that is 800 feet below the ground, like the Mauch Chunk aquifer which supplies drinking water to tens of thousands of citizens in Windber and the communities along the Allegheny Front as well as to wildlife and farm animals and crops.

The U.S. Department of Energy (DOE) has recently evaluated all the unconventional gas plays in the USA and has reported that all but two (the Marcellus and the Bakken) are not performing as well as anticipated. A recent DOE report anticipates that U.S. natural gas production will peak around 2025 and will decline after that. Natural gas was originally presented as a “Bridge” fuel between fossil fuels and renewables. Unfortunately, now it appears to be presented as the solution to our national energy security problems. It’s not! Like all fossil fuels, there is a limited supply that will run out before we know it. As a state and a nation, we should be preparing for that eventuality. That being said, Pennsylvania should not export ANY of its natural gas overseas. LNG terminals should not be built. Multibillion dollar infrastructures should not be built except to essential PA markets in near future. If the gas in the young Marcellus Shale Play is going to run out as it seems to be doing in the majority of the other US Gas plays, Pennsylvania’s gas should be saved and used as needed primarily for Pennsylvanians (and for the immediate region as needed) while we devote the majority of our financial capital resources to developing renewables like wind, solar, hydro and geothermal, rather than build infrastructure that may never be used thereby diverting valuable capital which should be used for developing renewables.

In the long term, I favor a BAN on all hydrofracking that pumps climate warming methane into atmosphere, adds pollutants to our water and air, endangers the health of our citizens, costs billions of dollars in unnecessary healthcare costs and environmental clean-ups, is a contributing factor in the accelerating extinction rate of many species, and is undermining the democratic foundations of Pennsylvania under the misguidance of ACT 13. In the short term, I favor a moratorium on all hydro-fracking until best practices can be established by law and strictly enforced by a well funded and adequately staffed DEP. However, until our lawmakers wake up

and start behaving prudently on behalf of the people of Pennsylvania rather than serving the interests of a few greedy and unscrupulous multinational corporations, and until they finally enact either a moratorium or an outright ban as has been successfully implemented in neighboring New York State, these comments on Chapter 78 Rulemaking will have to suffice.

Thank you for considering my comments. Governor Wolf, the PA Legislature, Secretary Quigley, and all the staff of DEP and DCNR are in my prayers that the Lord God, who created all this land, water and air for us and the rest of God's creatures to use daily to sustain our lives, will help us to treasure it, protect it and preserve it, for many generations to come. The Lord God, entrusted all this bounty into our care to "to till and to keep" (in biblical language). Let us be careful not to violate this trust, lest we lose the privilege of living here. (155)

Response: See response to comment 2040.

2067. Comment: For the past 6 years, RDA has been actively engaged in seeking the truth about the true costs and potential consequences of unconventional gas drilling. Current scientific data reveals that gas industry operations pose a threat to our air, water and ecological systems. We know this threat is impossible to remove from the equation. For this reason, potential damages must be minimized. (176)

Response: See response to comment 2040.

2068. Comment: Thank you for the opportunity to submit comments on Pennsylvania's draft changes to state regulations organized under Chapter 78: Oil and Gas Wells. The following comments are submitted on behalf of the one million members and supporters of the National Parks Conservation Association (NPCA) across the country, more than 37,000 of whom reside in Pennsylvania. The nonpartisan NPCA is the only national nonprofit advocacy organization dedicated to protecting and enhancing America's national parks for our children and grandchildren. Perhaps more than in any other state, the national parks in Pennsylvania represent the breadth and diversity of the national park system. Historic and cultural parks in Pennsylvania reflect a broad range of American history, including the French and Indian War, American Revolution, U.S. Civil War, World War II, and the terrorist attacks on September 11, 2001.¹ National parks in Pennsylvania protect natural beauty and ecological functioning as well, with three parks along the Delaware River – Upper Delaware Scenic and Recreational River, Middle Delaware National Recreational River, and Delaware Water Gap National Recreation Area. National parks in Pennsylvania provide important economic engines in the Commonwealth. In 2014, the more than 9 million visitors to national parks across Pennsylvania spent nearly \$400 million dollars and supported more than 6,600 jobs. This economic activity is not subject to the same "boom and bust" cycles as are other industries; moreover, the national parks cannot be moved overseas. However, the economies supported by these national treasures in Pennsylvania can be harmed by other activities. If not carefully managed, the boom in natural gas production sweeping across Pennsylvania could threaten the quality and visitor enjoyment of the national parks in Pennsylvania, and thereby their value and economic impact. Natural gas production must be managed to avoid harmful impacts on our remarkable history and heritage. The production of natural gas on nearby lands could harm Pennsylvania's national parks in two main ways. First are direct environmental impacts. The water quality in the parks – and especially in the three parks along the Delaware River – could be harmed if there are wastewater spills close to nearby waterways. Contamination of the Delaware River, in particular, would have far-reaching consequences that could degrade the drinking water supply for some 15 million citizens in the region.² Air quality at any one of Pennsylvania's parks can be degraded by fracking development, which emits methane, volatile organic compounds (VOCs) and other hazardous air

pollutants. Finally, increased development near parks fragments the habitats of park wildlife that move across park borders. The second type of impact centers on visitors' enjoyment of national parks. As with any tourism-based economy, visitation, and repeat visitation, depends on the quality of the experience. Where industrial development is allowed too close to parks, the visitor experience suffers. Visitors to parks near fracking activities may experience air and water pollution, industrial noise from compressors, trucks and other equipment, the visual intrusion of oil rigs and lighted equipment on scenic or historic view sheds, and traffic and congestion on otherwise rural roads. Industrialization of national park landscapes already is harming parks amid the drilling booms in the Rocky Mountain West. The experience of visiting North Dakota's rural Theodore Roosevelt National Park has been degraded significantly, and now visitors face heavy traffic, air quality warnings and nighttime gas flares. It's an experience Pennsylvania needs to prevent at the national parks in the Commonwealth. (175)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with applicable statutes. The Department believes that the revisions to Chapters 78 and 78a provide appropriate protections for public health and safety and the environment. Air emissions from oil and gas operations are regulated by the Department under Article III. Changes to Article III are beyond the scope of this rulemaking.

2069. Comment: Pennsylvania should enact a moratorium until it can be demonstrated that fracking, its disposal of waste, and all associated pipelines and compression stations are SAFE and will not harm human health. The New York State Department of Health, on December 17, 2014, recommended that high-volume hydraulic fracturing should not move forward in New York State. "I have considered all of the data and find significant questions and risks to public health which as of yet are unanswered," said Acting DOH Commissioner DR. Howard Zucker. "I think it would be reckless to proceed in New York until more authoritative research is done. I asked myself, 'would I let my family live in a community with fracking?' The answer is no. I therefore cannot recommend anyone else's family to live in such a community either." DOH's report concludes that it will be years until science and research provide sufficient information to determine the level of risk fracking poses to public health and whether those risks can be adequately mitigated. The entire report may be read at http://www.health.ny.gov/press/reports/docs/high_volume_hydraulic_fracturing.pdf Based on this report and the Department of Environmental Conservation's own work amassing data on environmental impacts, Governor Cuomo announced it would prohibit hydraulic fracturing in New York State. Why are we allowing Pennsylvanians to be guinea pigs in this experiment? It is time to make the prudent and safe decision, and enact a moratorium. Thank you for reading my comments. (207)

Response: See response to comment 2040.

2070. Comment: We are concerned about environmental, health, and safety issues related to current and future events that are a result of the natural gas industry in our area.(233)

Response: See response to comment 2040.

2071. Comment: I am saddened that PA's destiny is being steered by a fossil fuel industry. I would prefer to live in a state that is a leader of renewable energy and a safe, clean environment for our children. The reality is the gas industry will be here until the gas is gone. The "bridge fuel" does not create the journey to that safe, clean, Commonwealth. It allows a massive fragmentation of Penn's Woods, as well as a danger to our air, water, soil. I wish you success. We are depending on you to be the watch wolves of our home. (244)

Response: The Department acknowledges the comment.

2072. Comment: I live in pristine Snyder Co. I have lived there for 42 years. I am located approx. 20 miles, as the crow flies from the south border of Lycoming Co. I'm a health food nut, who used to work at Walnut Acres.

In January 2012, I smelled gas inside my home three times in the month. In February 2012 I smelled strong gas three times in the month. Each time, with-in an instant, puff/gas profusely filling my breathing space, I would search my home for the cause!!! I went to my old freezer in the pantry. Nothing!!! I checked my gas stove, again, nothing!!! I made sure to turn it off at the outside tank.

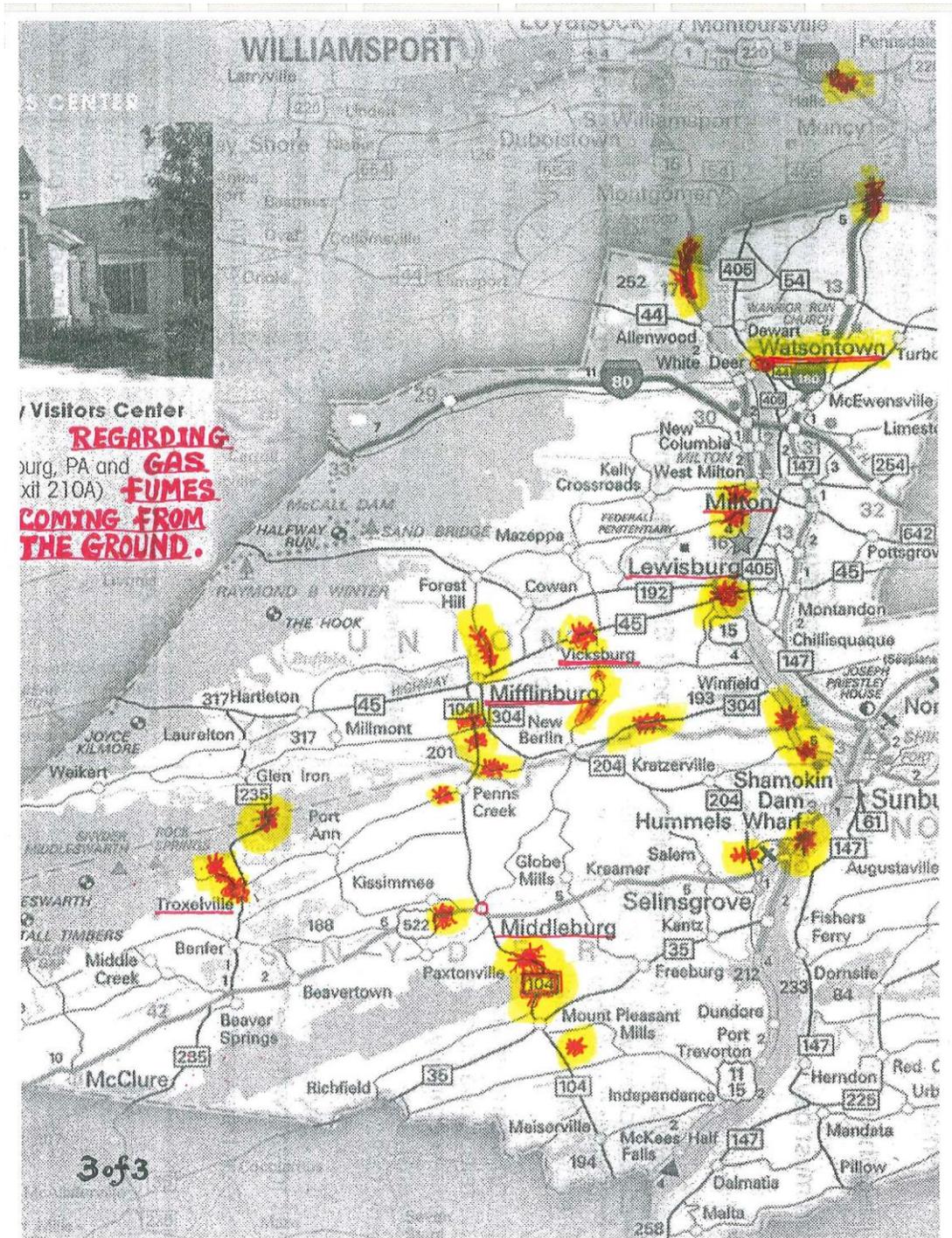
I thought it was just me!!! Then on the radio, I heard, in Bedford Co., there was a doctor that had two patients that had weird symptoms, she couldn't figure it out!! So she went to their home, and when they opened the door, she smelled gas!!! They couldn't smell it, because they were saturated!!!

In 2004 my hair analysis showed 0.036 which is in the normal range. In 2011 I had my water tested and it was fine. However my physical symptoms started to appear. In 2012, my next hair analysis showed an arsenic level of 0.32, dangerously off the chart!!!

I logged per instructions. Strength and type of smell. Time of day. Weather, temperature. Wind direction. Duration, as well as my physical symptoms.

Looking for help, I went to the PA Dep. Of Health three times, to no avail. In December 2012 I filed a complaint with D.E.P. My situation is far from unique!!!

I submit my comments as an individual PA citizen. Please, carefully consider this situation as a life changing issue. The health of our environment for allis at great risk!!!



(282)

Response: See response to comment 2040.

2073. Comment: This letter is a follow up to the Hearing at Washington & Jefferson College on 4/29/2015. I disagree with the speakers that said the waters in Pa are pristine. I live alongside of the Ohio River and my drinking water depends on a clean water source. Attached is a report that the EPA Reports Ohio River Most Contaminated Body of Water In The Country. Frack water

flowback has been allowed to enter the rivers and streams .In 2010 the Clairton Coke Works filed a complaint with the EPA that the Mon. River was not fit for industrial use. The people of Clairton used the municipal water to wash dishes. The dish washers clogged with salt. The Brine from the Marcellus wells were allowed to be ran through the Municipal sewerage systems into the river. Source, Fly Fisherman Magazine, May 2010. The Allegheny River in Warren Pa has been polluted with the radio-active waste from the Marcellus drilling. Studies have been taken above and below the sewerage treatment plants. Nothing above & high radio-activity below. All readings are above safe and federal limits. Rules against the discharge have to be enforced with Jail time. Paying a fine is business as usual and passed on to the public. No changes will happen without robust enforcement. (286)

Response: See response to comment 2040. See also the comments and the Department's responses to regarding waste handling and management in §§ 78.56-78.63a and 78a.56-78a.63a. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2074. Comment: We here in Lycoming and Clinton co.'s live in the heart of the Marcellus gas play and our members read practically every week, or see firsthand, some failure of this industry, and by extension, failure of the existing regulations, to protect us and the environment. A case in point is provided by this article from the local sun-gazette newspaper regarding the discovery of methane gas in sugar run near Hughesville. It turns out that Department has been aware for 3 years of gas migrating from a Range Resource's well and contaminating 5 nearby water wells. Three years later and Penn State and USGS find the same gas not only in the water wells but in sugar run. Methane is a flammable, explosive gas, and a potent greenhouse gas, present in our wells, in our creek water and in our atmosphere. 3 years, a worsening problem and no fix in sight! It really doesn't take an advanced degree to see that something is missing from this industry's practices and from our regulation of it. I believe that the new revisions will at least help the Department correct this sort of thing.

Again, this is just one of many, many local instances of environmental and public health problems that have occurred in recent months and years and which cannot continue if this industry is to thrive and we residents are to be properly protected. (303)

Response: The Department acknowledges the comment. Gas migration similar to the scenario described by the commenter generally result from improper or faulty well design or construction. Revisions to the well design and construction standards are beyond the scope of this rulemaking.

2075. Comment: Honestly though, these regulations won't work. Moving an industrial complex into agricultural areas and neighborhoods which can last for one year 24/7 keeping families awake is not the answer to our energy problems.

We hear from the industry representatives and our elected politicians that the process is safe. We hear fracking has been done for 60 years, that they'll drink the fracking fluids, that those who contest this are environmentalists, liberals, and anti-jobs.

We hear, but do we see?

We see Mr. Atwood of Warren call upon Senator Hutchinson for aid once his water well was contaminated to receive no help.

We see Mr. Chris Lauff testify of toxicology results of chemicals in his and his child's blood stream.

We see Mr. David Headley and family lose their health and enjoyment of property as released emissions from tanks in their front yard cause their children suffering.

We see George Nicklosevich of Pulaski Township, Lawrence County with ethane, butane, propane , and higher levels of methane in his well water he no longer drinks.

We see Mr. Duffala call upon the DEP for help as testing shows fishing streams in Washington and Greene Counties have radium far beyond safe drinking water limits.

We see Mr. Terry Greenwood of Daisy town, Washington County lose eight calves, his bull, his water well, and his life to a glioblastoma tumor.

The avenues provided to us as citizens in this Commonwealth are not working. Governor Wolfe has an opportunity to listen, to see the struggling reality of citizens in Dimock, Hickory, Salt Forks, Avella, Pleasant Township, Pulaski Township, the Woodlands.

Our children's health and future is primary. Health care providers have called for a moratorium since 2012. They were ignored by the previous administration. Exchanging our health and neighborly love for a windfall does not serve us.

We have heard enough promises, and yet see more brokenness. We ask that you follow the example of New York and Maryland, and create a moratorium. Our Lord said," Do you have eyes but fail to see, and ears but fail to hear? And don't you remember?" (Mark 8:18)

Jesus called his disciples to him and said, "I have compassion for these people." (Mark 8:2) Gentleman, where is our compassion for the citizens of Pennsylvania? **Please see Appendix 1 for attachments** (325)

Response: See response to comment 2040.

2076. Comment: I am a physician and Erie, PA, resident. I am extremely concerned about public health and environmental issues resulting from unconventional shale oil and gas development.

The proposed new oil and gas regulations state that the purpose of this update is four-fold. In my opinion: "1. Ensuring protection of public health, safety and the environment" is the first and foremost duty of the PADEP, EQB, legislators, state executive branch, PA Department of Health and the oil and gas companies. In my opinion, these are empty words as the actions (or lack of actions) of you as individuals or your groups speak much louder. Unconventional shale development has been on-going in Pennsylvania for over a decade now, and you ALL have done next to nothing to protect the citizens from the public health menace created by this industry. The current proposed OG revisions continue to perpetuate this pattern of irresponsibility and compromise your duty to the public.

In what ways?

1. Dumping of both conventional and unconventional residual frac waste into our rivers, streams, and on our lands needs to be stopped now! People who get their drinking water

and recreate downstream from the facility across the river would appreciate such actions. You really need to figure out ahead of time how, when and where to safely dispose of the billions of gallons of post-production waste fluids and radioactive drill cuttings before allowing any more development. Especially when future projection is 100,000 plus unconventional wells.

2. You need to mandate that all wastewater trucks be equipped with a GPS device and monitored from a central non-government computer location to assure that they are not dumping illegally into streams in the middle of the night or at POIWs.
3. Drillers should be mandated to use individualized non-toxic tracers in their drilling solutions, frac fluids and water (mine drainage, treated sewage effluent or freshwater) so there is no doubt who and where the pollution is originating from.
4. Air monitoring should be performed near all sites and inside homes for 2.5 and 10 micron particles at least. Volatile organics should be monitored specifically. Plumes of air pollution can travel a couple hundred miles and are a significant potential health threat.

Specific definitions of certain terms that need to be added in order to understand the regulations include: brine, flowback, produced waters, properly closing a pit, centralized impoundment and alternative waste management. What does the term “regulated substances” mean? Are unknown toxic proprietary chemicals exempt from this term?

Ultimately, I am an advocate of completely banning unconventional shale development and associated tracking for the many reasons our neighbors in New York State have so adequately and intelligently delineated. (337)

Response: See response to comment 2040. In addition, the Department notes that it is currently unlawful for oil and gas operators to dump wastewater into rivers, streams and on the land without authorization from the Department.

Regulation of waste haulers is beyond the scope of this rulemaking.

The Department does not believe that a requirement to include tracers in drilling solutions, frack fluids, and water is necessary to allow the Department to adequately enforce these regulations.

Air emissions from oil and gas operations are regulated by the Department under Article III. Changes to Article III are beyond the scope of this rulemaking.

Regulated substance is defined in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §6026.103).

The definition of the term “brine” is the common English definition. The term “centralized impoundment is defined in § 78.1 and 78a.1.

The terms alternative waste, properly closing a pit, flowback, and production fluid are defined through the context in which it is used in the regulation.

2077. Comment: I stand opposed to the entire fracking system. This system includes but is not limited to the following: land cleared of all vegetation, the daily drone of thousands of trucks,

drilling pads that emit noise and light pollution, fracking that uses toxic materials at weaponized pressure levels, thousands of miles of intrusive pipelines, leaking compressor stations and condensate tanks every 10 miles, the one-way use of millions of gallons of fresh water (a resource much of the world would fight to defend), and the injection of toxic waste into the ground causing unprecedented numbers of earthquakes in Oklahoma and Ohio. Peer-reviewed research documents everything I have said. The only so-called research that questions these findings is sponsored by the fracking industry and, as such, cannot be trusted.

Let me offer an analogy. A company is hired to build walls to protect a crowded population on one side from a lava flow on the other. It is proven that 10% of the walls will fail in the first year, quickly killing thousands of people. It is further proven that 50% of the walls will fail in 30 years wiping out tens of thousands of people who trusted the wall builders. With regard to fracking, 10% of the wells will fail in the first year and 50% in the following 30 years. If we compare these useless walls to the proven failure rates of fracked wells we see the only difference is that death by lava is quicker than death by pollution.

To continue my wall analogy let me say that regulations established to protect the citizen from deep-pocketed Frackers resemble a picket fence built to stop the tide. It cannot work. Frackers have hirelings whose sole task is to evade our protective fence. In service to their masters they provide a constant tidal-like pressure against the well-being of citizens.

I suggest whenever a fracker argues against protections with the line, "...it is just too expensive to ..." Stop them and say the following: "too expensive to protect the lives of American citizens." Then ask when it is too expensive to protect Americans? What profits for these multinational companies justify contaminating our air and water? We built the greatest military in the world to protect us from invasion. What about the invasion of private industry into our back yards and across fences from our schools? What about the intrusion of money from multinational companies into our local politics? What about the incursion of fracking waste into our drinking water? If North Korea had sent terrorists to do these vary things to our country we would attack North Korea in a second, but if the invaders wear business suits and carry hollow promises of personal profits we open the door and invite them in.

On the issue of jobs let me say not all jobs were created equal. No one should earn a living by making it impossible for others to breathe, drink clean water, or live free of radiation. If a person loses a job because it pollutes, then it was a bad job. Such is the job of Frackers. Their jobs worsen our lives. They get a wage and we get bad air and water, plus any risks anywhere in the fracking system lowers the value of our property. They get the wage and we get the risk. This is the very definition of a BAD JOB. It has been proven that we can do better on all scales through the job intensive renewable sector.

The difference between an accountant for a South American drug lord and an accountant for a hardware store is that the drug accountant enables an evil institution. A drug accountant is just as guilty of building the drug cartel as the thugs who break kneecaps. So too a Fracking accountant is as guilty of pollution as any drilling rig roustabout. Accountants just stay a little cleaner and can look the other way to pretend there is no pollution.

Not all jobs are created equal. Some help the community and others tear it apart. The DEP is responsible to hold people liable for the consequences of their jobs in order to protect all citizens all the time.

Gas-based energy independence is another Fracking myth. Realize private fracking companies own the gas and will sell it to the highest bidder. This is the reason they have built LNG processing plants. They will liquefy the gas to compact it and then sell it to China. This does not make our nation energy independent. It only makes a few multinational companies richer.

Some think fracking will bring our troops home. Nonsense! Multinational fracking companies owe allegiance to shareholders, not the American citizen. Supporting Fracking does not make you a patriot. If you support fracking it means you want a few rich companies to get richer, that's all. If you are an owner it's in your self-interest to sing the glories of fracking. But if you are not an owner why support fracking because it endangers your health and lowers your property values? Fracking now and in the future has nothing to do with war in the Middle East. They are two separate issues. We do not drive with fracked gas, so pump prices follow oil markets that have nothing to do with fracked gas. So to all those who want to wrap yourselves in the American flag because you support a private company, please wrap yourselves in something else, perhaps the fracking company's corporate logo.

Maybe we should follow New York who protected their citizens using American pragmatism to ban fracking. It is in their best interest to ban any industry that sickens and kills its citizens, that ruins its roads, that makes fresh water toxic, and that fills the air with constant noise and deadly pollution. New Yorkers are no better than us. If New Yorkers thought they could make a buck through fracking, they would jump on board ... as long as costs were acceptable. But here's the trouble: the costs are intolerable. They know, as we should know, that health costs will skyrocket, while property values plummet. The cancer of the fracking system will infect us long after the shale has played out and the frackers have invaded yet another area to ruin in the name of their corporate masters. (342)

Response: See response to comment 2040.

2078. Comment: In 2010 DPS Penn, who had partnered with Chesapeake Energy, asked me to sign a lease with them, so I met with them at their offices in the city of Washington. After their slick presentation, I asked them if there were any reasons why I shouldn't go ahead and sign their gas lease, and they said there was no good reason not to, since the drilling was so far underground. At this time, like most people, I knew nothing about unconventional gas drilling, but I left their office knowing little more than when I arrived. For instance, "fracking" wasn't even mentioned by the representative. I have here a brochure they gave me, and it does mention "fracturing" and shows a little illustration, but it says nothing about water being used. Nothing, that is, about the 2 to 5 million gallons it takes to frack a single well. Nothing about the toxic mix of chemicals they pump into the ground. Nothing about the 1,400 tanker truck trips. Nothing about the open wastewater pits.

So, my introduction to the gas drilling industry began with what I consider lies of omission. But what did I expect, right?

A few years later I looked out my living room window and noticed a fire burning on the horizon. Not only could I see it, but I could hear it, roaring out there like the Eye of Sauron. Later on I noticed another one. And for the past several months I've seen, through my living room window, along with the hills and fields and trees, a huge derrick, lit up like a NASA launch pad.

When I moved to the country, little did I expect that one day I would be seeing multiple gas wells from the front of my house and listening to the droning of a third from the rear. I've watched 100

trucks drive past my house in a single day. I've seen a half-dozen derricks just on my commute to work.

And I ask myself, who has allowed the beautiful rural neighborhood in which I live to become an industrial zone? I thought the government was supposed to protect the people from this sort of thing.

I can't believe there was such a desperate shortage of natural gas in this country to necessitate gas drilling companies coming into our very neighborhoods. Prior to this drilling frenzy, I never heard that America had a shortage of natural gas. And now I'm seeing headlines like, "Biggest Oil Glut in 85 Years" and "Half of U.S. Fracking Companies Will Be Dead or Sold This Year".

To me this whole thing was ill-considered, short-sighted and foolish. We now see that the reason we were given, that "America needs to become energy independent", was a lie, since Tim Murphy just voted to allow, in his words, "the United States to export our resources and compete with OPEC". It was all about money after all. Gee, what a surprise.

I hate to admit it, but New York was smarter than we were. They took a wait-and-see attitude, letting us be the guinea pig. And after seeing the results of natural gas drilling in Pennsylvania, decided to ban fracking throughout the entire state of New York.

I figure New York must've had some good reasons to make such a brave decision. I understand that at this point there are hundreds of legitimate, peer-reviewed scientific studies which indicate gas drilling and fracking pose significant public health and environmental risks and harms. But to me this isn't about science, it's about common sense.

For whom wants to live near a fracking well? Not the people who live near the well over at Trax Farms, who are suing not only EQT, but Trax Farms, as well. Not my neighbor, Terry Greenwood, who began his retirement by having his cattle poisoned, his well water poisoned, and then was carried off himself in a short three months with a rare form of brain cancer.

And then there's the environmental damage -the clear-cutting of woods, the disruption of animal habitats, the new roads and pipelines that cut up the landscape, the risks to our groundwater, the risks to our streams -to me it's just not worth it.

Like you, I've seen the headlines -- the flagrant violations and record fines. The accidents, leaks, and spills. The poisoned wells and polluted streams. The way these gas drilling companies seem to flout environmental laws and do whatever they want. The accusations that the DEP hasn't done its job of protecting us. From all this is it obvious to me that fracking cannot be done safely.

My position is, therefore, that we need to follow New York's lead and put an immediate stop to fracking gas in Pennsylvania. (322)

Response: See response to comment 2040.

2079. Comment: We support the drilling for domestic gas and oil to meet the nation's energy needs, but it needs to be done in a responsible manner. When we received the permit notice in the mail and the request to sample our well we were concerned that the wells would be drilled less than 650 feet from our living room and bedroom windows and the pad a little more than 500 feet from our home. We expected to be contacted by the drilling company and be advised of their schedule for their operations, a summary of the safety procedures implemented to protect our family's

safety and a contact person in the event there were any problems. No such contact was ever made. When I went to the site after being awakened that first Sunday morning at 6:30 by the sound of the earth moving equipment constructing the pad to ask if they could be a little more considerate of the neighbors trying to sleep after a full work week, it was explained to me that I was trespassing and that I should leave, and never come back, or that I would be arrested. Later that morning I called the phone number on the permit application. The gentleman answered and said I should have been contacted and he would check with Land Owner Relations. We were never contacted. We wrote a letter to the Corporate office attention of the owner, no answer. Because of my job I was able to finally make contact with the Engineer responsible for the site. He would return emails and was polite enough but never did much to address the problems we are going to list. His favorite reply was "I'm not happy that happened, I will check with the pad".

Before we list the issues that revisions to the Law need to address we want to use Act 54, which was passed to help property owners who did not own the coal under their homes and offered protection to the home owner to protect the investment they had in their homes, as a suggestion on how changes to the Oil and Gas laws need structured. People that own the coal and in this instance the oil and gas under their property can negotiate with the Oil and Gas operator to whatever extent they feel comfortable.

We also want to bring to the DEP's attention that before the change to the Oil and Gas laws, one well could be drilled, I believe 300 feet from a residence. The next closest well could be drilled 900 feet away from that well. The spacing requirements meant that a property owner would not have a large scale gas operation next to their home. One of these nonconventional wells produces many times that as the conventional vertical well. And with the ability to cluster these wells, I'm seeing pads permitted with over 20 wells on one pad; the energy being produced is such that a minor incident can produce dramatic issue with the safety of the people living next to the pad. I don't know what the safe distance needs to be, but 500 feet is woefully inadequate as seen by the incident at the Chevron pad near Bobtown and other accidents in the industry. Will we wait until someone is killed in their home because of an incident on the pad before the laws are changed to provide for the public's safety?

- During the construction of the pad the operator said they had a schedule which required them to work 7 days a week to construct the pad. On the weekends they would start work as early as 6 AM, but the crews would quit before 3 PM. I can only assume that was so their employees could have some time for the weekend. What that meant was that we were not able to get a decent nights rest after working all week. Why couldn't they adjust a schedule that struck a balance? I don't know what I would have done if I was still doing shift work in the mines. At times the Gas Engineer said they may have to offer me a room in at a hotel. When they finally did offer the room, 2 weeks prior to completing fracing and just before Christmas, it was in a block of rooms shared with their drill rig hands. Nothing against drill hands, but I do not wish to place my wife and daughter in that environment.
- During earthwork for the pad we were not able to stay in our home during the day over the weekends. The glass would vibrate in our windows. The operator for some reason seemed to have rock excavation scheduled as close to our home as possible during the weekends. The weekend I went over to complain about being inconsiderate, the equipment was later that day moved from the furthest distance from our home to as close as possible.
- During drilling operation work was done 24/7 on the pad. Again no concern for the residents living next to the pad. The workers on the pad would elect to load pipe in the racks at 4 AM. I could see if they had to load drill rods into the mast. But just to unload

pipe at a time when the locals are sleeping! This is when we got one of those “I’m not happy that happened”.

- The drilling involved two separate rigs. The Engineer knew the top hole rig was going to be noisy and after weeks of us getting no more than 6 hours of sleep and repeatedly asking him to make improvements to their operations, a CHEAP noise barrier was constructed on the pad. That comprised no more than canvas on some posts. Noise levels at our home were reduced by 5 decibels and even with that we had to run a fan in our bedroom to drown out the noise so we could sleep. Our township has no noise ordinance, so we had no grounds to protest. We could not open our windows to cool off our home at night and ran our air conditioning around the clock. That was a small cost but the real issues were us having to drive to work on I70 day in and day out with no more than 6 hours of sleep and during the fracing as little as 2 hours. That really didn’t seem to concern the Company. When I asked the Engineer how was it that it was Ok for them to deny us the right to be able to sleep in our own home which we paid for and pay our taxes on, he said he’d transfer our question to the Land Owner Relations Department. We never heard a word from anyone in that department until after the fracing operations were over and Senator Solobay wrote to their office. Even at that, we had to ask 2 times for someone to talk to us.
- The schedule for the drilling operations seemed to be nonexistent. The Engineer gave us a schedule early in the drilling operations and we scheduled our vacation to miss as much of it as possible. Unfortunately the schedule changed and that was never communicated to us; so that effort was wasted. We were told that the process from pad construction to fracing was 6 months and after that we’d hardly notice the pad was there. Operations on this pad are now over 2 years since this location is in the heart of their field. After completion of the wells, the site was used for transferring frac water from the pads. The pad is being used as a site for staging equipment and also as what we call a trailer park. The Company has sleeping trailers on the pad, 6 at one point, for their drill hands. This comes with open storage of sewage in tanks. Very appetizing as we travel home from work and plan for dinner. The sewage main is only 700 feet from the trailers but like everything that has occurred on this pad, if it cost a few extra dollars, the Company has no interest in doing it.
- The Engineer did give us a schedule for fracing operation. He said it would start at 6 AM and finish at 10 PM. We felt we could work with that but again the schedule was never kept. When awakened repeatedly at 4:30 AM the Engineer informed us “they were not going down the hole only cold idling the equipment.” We couldn’t tell any difference in the noise. Quitting time was also a moving target. It was not unusual for operations to extend well past midnight. Again no schedule was provided so at times we would be given a few days with no activity and then it would start again with no notice. They did take Thanksgiving off and did finish a few days before Christmas. Right before Christmas is when we were offered the accommodations with their drill hands. I’m not sure what a family would do if they had small school age children.
- Before we get into Health and Safety issues, we’d like to express to the DEP what this has done to the value of our home we have worked decades to own and on which we consistently have paid the taxes levied on it. After the first year of this activity and the effect it has had on our lives we offered to sell our home to the Company after Senator Solobay was able to arrange a meeting. The Company declined, but then they opened a trailer park on the pad. We aren’t sure what our property is now worth. The Well Operator did everything they could to limit what they spent. There is no access road off the township

road to the pad. You pull off the road, you are on the pad. The highwall that was created remains unprotected for the local kids to ride their motor bikes and four wheelers over. The flowback collection tanks are out in plain view. The security fence that was installed offers no obstruction of the view to the pad and the company does not manage the vegetation around the fence which makes for an attractive view from our front porch. Our property value has been destroyed and the Company has offered not so much as an apology.

- As for the issue of Health and Safety, it is our primary concern. Contamination of our well from operations down the hole isn't something that we were overly concerned with. We were concerned during the initial drilling prior to setting the ground water protection casing but after that we thought chances of an issue were small. What did concern us was the potential for spilling fluids and then when they used the pad for transferring fluid. We had trouble with irritation to our eyes when they were mixing chemicals on the pad. When they were transferring sand from the trucks, a cloud rose up from the pad and typically blew over our home. My wife has an allergy to dust and pollen and takes medication in May and September to manage it. This was the first time she had to take her medication in November and December. I was experiencing bloody noises in the middle of the night, but initially contributed that to the cold weather. It wasn't until we discussed our issues with a health official that we realized this was typical for people living near fracing operations. When we asked if they could limit the amount of material leaving the pad we were told "it is only sand." We asked if they ever heard of silicosis. We later found out the system the Company was using on the pad for transferring sand was no longer being used by most operators because of not being able to control the amount that becomes airborne. It was obvious to us that this Company was not interested in making improvements to their processes on the pad which would have additional costs. They had no concern for our health. Not only were they willing to let us drive to work on as little as 2 hours of sleep they were willing to let us breathe very fine silica sand into our lungs. We no longer drink our well water because we have little faith that this Company will operate responsibly. We believe that most Gas Companies don't operate in the manner we experienced. We have talked to people that do not own the gas under their property and drilling operations were carried out near their homes. They said the Gas Company came and met with them and acknowledged that their operation would be a disruption to their lives and tried to work with them. Unfortunately all companies don't operate in that manner and changing the laws will have no effect on the companies that do act responsibly.
- When you look at where most companies drill they make a conscious effort to drill away from populated areas. I would assume they understand there is a potential for an accident on the pad and removing the public from such a risk is a good business practice. This Company's business model is to come into the poor more densely populated areas of Washington County where most other companies have avoided taking leases and drill just adjacent to the communities of Bentleyville, Ellsworth, Cokeburg, Beallsville, Scenery Hill, etc. If there was an incident on one of their pads, hundreds of people would be affected because the drilling is that close. This Company drilled adjacent to an elementary school in Greene County. When asked why is it that you don't feel that you have any obligations to the people living next to your pad, the answer was "we pay impact fees." The areas they are drilling in are what I believe to be Environmental Justice areas for the Coal Industry and require Public meetings before permits are issued. That doesn't sound like a bad idea for a change in the law also. These Townships and Boroughs are poor and do not have the resources to enact ordinances which offer protection to the residents. Even with the ruling of the Supreme Court on Act 214 they do not have the resources and are playing catch up.

- We also believe that future drilling and stimulation on existing pads needs to be addressed. There should be no grandfathering of current pads because they were allowed to be drilled so close to residences. It is not much to ask for the drilling companies to have to work out a solution with the nearby homeowner. An arbitration clause could be inserted if the parties cannot come to an agreement.
- We have lived in this community our whole lives. Our parents and grandparents worked in the mines here to support their families. We've seen what has happened to the area as the mines have closed and those family supporting jobs disappeared. We see the opportunity the gas industry has for the area for jobs and the ability to bring extra income into the household; members of our family receive royalties from the drilling. On our way home from work we pass the Gas company's employees driving from the well locations in our community to the comfort and safety of their homes in Peters Township and the South Hills. We don't see any rigs located next to communities in those areas. We offered to sell our home to the Company so their employees could live close to where they work and be members of the community. What better way to show that you have a vested interest in the area than to live in that community. The Company refused.

Finally, we apologize for how we've compartmentalized our comments. It was and is an upsetting issue for us and we thank you for giving us this opportunity to comment on the need for additional regulation of the industry. These regulations are necessary to prevent these types of practices from occurring, practices that have no regard for public safety or people's property values that they've worked a lifetime to accumulate. Act 54 addressed these issues for the coal industry; the oil and gas industry needs similar regulations to protect the public. (180)

Response: See response to comment 2040.

Many of the concerns raised by the commenter are related to property rights issues and are beyond the scope of this rulemaking. Regarding noise concerns, see the Department's response to comments submitted on § 78a.41. Regulation of sewage facilities is beyond the scope of this rulemaking.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2080. Comment: I live in Economy Borough, Beaver County. I have leases up against my property; I live in a narrow valley with a clean stream and very good well water at the present time.

As a Mother and grandmother, the health and wellbeing of children and the unborn is my priority as they do not have a vote.

I thank DEP for recognizing the fact that setbacks from actual wells are insufficient but I am sorry to say that 200' from the well pad to a school is not an improvement but irresponsible. We need 1 mile setbacks for oil & gas wells, waste storage facilities and any other infrastructure from the property boundary of any school property.

The one mile setback still seems insufficient if you read a gas driller's prospectus.

Range Resources 2013 Prospectus, page 26, reads:

Natural gas, NGLs and oil operations are subject to many risks, including well blowouts, craterings, explosions, uncontrollable flows of oil, gas or well fluids, pipe or cement failures, pipeline ruptures or spills, vandalism, pollution, releases of toxic gases, adverse weather conditions or natural disasters, and other environmental hazards and risks. If any of these hazards occur, we could sustain substantial losses as a result ofinjury or loss of life.

Too many lives have been ruined by the oil & gas industry. The workers who clean the equipment and people who live within half a mile down wind of any drilling activity face bad health, loss of water, loss of their property value and the loss of jobs. Pets and livestock have died and who knows how many children will be affected long term. It will be hard to prove but we all know in our hearts that living with this heavy industry is bad for us all and don't forget the gorilla in the room. Climate Change.

From Range Resources Annual Report 2013 Risks

Our business is subject to operating hazards that could result in substantial losses or liabilities that may not be fully covered under our insurance policies

Natural gas, NGLs and oil operations are subject to many risks, including well blowouts, craterings, explosions, uncontrollable flows of oil, natural gas or well fluids, fires, pipe or cement failures, pipeline ruptures or spills, vandalism, pollution, releases of toxic gases, adverse weather conditions or natural disasters, and other environmental hazards and risks. If any of these hazards occur, we could sustain substantial losses as a result of:

- injury or loss of life;
- severe damage to or destruction of property, natural resources and equipment;
- pollution or other environmental damage;
- investigatory and cleanup responsibilities;
- regulatory investigations and penalties or lawsuits;
- suspension of operations; and
- repairs to resume operations.

We maintain insurance against many, but not all, potential losses or liabilities arising from our operations in accordance with what we believe are customary industry practices and in amounts and at costs that we believe to be prudent and commercially practicable. Our insurance includes deductibles that must be met prior to recovery, as well as sub-limits and/or self-insurance. Additionally, our insurance is subject to exclusions and limitations. Our insurance does not cover every potential risk associated with our operations, including the potential loss of significant revenues. We can provide no assurance that our coverage will adequately protect us against liability from all potential consequences, damages and losses.

We currently have insurance policies covering our operations that include coverage for general liability, excess liability, physical damage to our oil and gas properties, operational control of wells, oil pollution, third-party liability, workers' compensation and employers liability and other coverages. Consistent with insurance coverage generally available to the industry, our insurance policies provide limited coverage for losses or liabilities relating to pollution, with coverage for sudden and accidental occurrences. For example, we maintain operator's extra expense coverage provided by third-party insurers for obligations, expenses or claims that we may incur from a sudden incident that results in negative environmental effects, including obligations, expenses or claims related to seepage and pollution, cleanup and containment, evacuation expenses and control of the well (subject to policy terms and conditions). In the specific event of a well blowout or out-of-control well resulting in negative environmental effects, such operator's extra expense coverage would be our primary source of coverage, with the general liability and excess liability coverage referenced above also providing certain coverage.

In the event we make a claim under our insurance policies, we will be subject to the credit risk of the insurers. Volatility and disruption in the financial and credit markets may adversely affect the credit quality of our insurers and impact their ability to pay claims.

Further, we may elect not to obtain insurance if we believe that the cost of available insurance is excessive relative to the risks presented. Some forms of insurance may become unavailable in the future or unavailable on terms that we believe are economically acceptable. No assurance can be given that we will be able to maintain insurance in the future at rates that we consider reasonable, and we may elect to maintain minimal or no insurance coverage. If we incur substantial liability from a significant event and the damages are not covered by insurance or are in excess of policy limits, then we would have lower revenues and funds available to us for our operations, that could, in turn, have a material adverse affect on our business, financial condition and results of operations.

Additionally, we rely to a large extent on facilities owned and operated by third parties, and damage to or destruction of those third-party facilities could affect our ability to process, transport and sell our production. To a limited extent, we maintain business interruption insurance related to a third party processing plant in Pennsylvania where we are insured for potential losses from the interruption of production caused by loss of or damage to the processing plant.

A change in the jurisdictional characterization of some of our assets by federal, state or local regulatory agencies or a change in policy by those agencies may result in increased regulation of our assets, which may cause our revenues to decline and operating expenses to increase

Section 1(b) of the NGA exempts natural gas gathering facilities from regulation by the FERC as a natural gas company under the NGA. We believe that the natural gas pipelines in our gathering systems meet the traditional tests the FERC has used to establish a pipeline's status as a gatherer not subject to regulation as a natural gas company. However, the distinction between the FERC-

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Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or

water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

See the response to comment 273. (attached above)

2081. Comment: Thank You for the opportunity to provide public comment on "Revisions" to Environmental Protection Standards at Oil and Gas Well sites that was mentioned in our local newspaper. I'll be as brief with my comments as I can and I've included newspaper articles and information to back up my statements.

Those of us in my area have been working as much as we can to protect ourselves from threats and damage the fracking boom has already caused, and that the drillers intend to impose upon the majority of the State in one way or another. To get to the bottom line right off the bat, I'm sure you're already aware that Fracking is an Outdoor Heavy Industry. And clearly the driller's objective is to IMPOSE That Heavy Industry Wherever They Intend To. It Is NOT a guaranteed perfected process, and they expect you to overlook and ignore the already proven health and safety consequences associated with it.

You Folks are wearing the DEP badge. (Which is supposed to mean Department of Environmental Protection). But the drilling industry sees it as meaning Department of Expanding Permits to give them whatever they want, turning forests, farms, commercial and even residential areas into Industrial Zones to suit them. They may claim they have the right to go after whatever it is they intend to retrieve that Has No Life At All Below The Ground, regardless what the damage or later consequences their process has the potential to cause. However it's done at the expense of What Does Have Life and is Vastly More Important at preserving and protecting Above The Ground. So You Folks Have To Determine What Your Priorities Actually Are. Is it Protecting The Environment For Us as your title implies, or is it for Expanding Permits, as the Drilling Industry wants you to do For Them?

When I go to these pro-drilling information meetings, what they should actually be presented is a full view like looking at a 90-inch wide T.V. screen to tell the attendants (as Paul Harvey would say), The Rest Of The Story. But they don't. They want us to only look at the center 30-inches of the screen focusing on fracking advantages. Like direct well jobs being created, other additional employment providing needs for well hands, spin-off jobs supplying parts or materials, and taxes that could go back to the state or communities. That's all the more they want everybody to see. However there's also the 30-inches of the screen on the other two sides they don't tell you about, as the process begins and operates on one side, and what could occur years afterward on the other. Things like permanent clearing of land and forests for well pads, and for pipelines that can never have trees on them again, huge impoundment ponds for reserve water and highly toxic produced frack slop that could leak and overflow during hard storms, continual truck traffic supplying water and toxic chemicals, and the intrusion of compressor racket and escaping chemical vapors that a lot of folks have already experienced ruined health and cancers over.

Let's start with some easy math here. To keep that drill head cool while boring through rock layers, it takes 1,000 gallons per minute of water mixed with their toxic cocktail to do that drilling. Taking time out to add pipes and other down time, let's say the drilling rig keeps running for a twenty-hour day. (Actually a drilling rig stays at a pad site for one well for over a week if not much longer). Working for one 20-hour day is 1,200 minutes; times 1,000 gallons of water per minute, giving you a total of 1,200,000 gallons of toxic laced contaminated produced frack slop that has to go somewhere. That's only one day for one well. And each 10-wheel water truck that provides water carries 5,000 gallons, or enough to keep the drilling going for only 5-minutes. So in water contamination alone you have a parade of trucks continually pounding the roads, and that's if everything else goes right.

Now let's move on to the other side of that 30-inch T.V. screen that the drillers don't explain. That's when the pad has already been worked for a few weeks and the driller moves on to somewhere else. What happened to the Millions and Millions of gallons of toxic frack slop? Does part of the revisions suggest leaving gigantic holding tanks on site to store the stuff? Where will it go after that or is it to stay there?

One lady I know had discovered radioactive readings on the dirt road next to her farm where the frack trucks were driving on it after several weeks. Undoubtedly the radioactivity came from the wheels of frack removal trucks hauling it off to who knows where for disposal, or perhaps even to water down the dust on the road they were using.

There have already been ludicrous suggestions made that that highly salty, contaminated and toxic radioactive brine could be spread on the roads in winter to help remove snow and ice. That way everybody gets it on their car tires with some folks parking their vehicles in their garages at home and others at their parking spots, getting it on their shoes and tracking it into businesses and homes where it dries and gets airborne for people to breathe, and where babies crawl on the floor and put their fingers in their mouths. These chemicals are known carcinogens, but the presentations don't want us to become aware of any of that.

A few years ago the local sewer plants were only ASKED not to take in that frack brine slop, because they had no way of filtering it out. So all they were doing was diluting it into the creeks and rivers where it would be picked up downstream by another water treatment plant that provides drinking water to their town. Mr. McCurdy who was running the sewer plant in Ridgeway made the New York Times over what he was doing, threatening the town customers with higher sewer rates if they stopped him. We attended a meeting in Clarion forty-miles downstream to tell the folks there what was going on, because their water treatment plant couldn't remove heavy metals and toxins from drinking water either. So do those Clarion College students and town residents deserve to get cancer from drinking the town's diluted frack water?

Perhaps you think injection wells are the solution? This may not be on your present revision list but it's all interconnected. That process keeps pressurizing and stuffing the contaminated waste back in the ground for years so it undoubtedly trespasses far beyond the strata that the original well produced. It's like overloading a jelly sandwich and squeezing it so the slop runs out past the edges of the bread, and then putting more and more and more jelly into that same sandwich and keep squeezing it so it keeps running out all over the place. Three injection wells are already proposed here, one right outside of DuBois, one near Penfield and another in James City in Elk County that residents are battling against. If you go to the latest USGS report, (United States Geologic Survey almost 70 pages long), dated April 23rd it states where injection wells ARE a Contributing Factor to Man Made EARTHQUAKES.

And what's just as significant to keep in mind is that our area is honeycombed with old mineshafts that run for miles underground. That means there's also the potential of having the injected toxic waste leaking into old abandoned mine shafts and spreading all over the place. Work here has been ongoing to get rid of the acid mine drainage that's been polluting our streams for decades. Was all that time and money wasted when contaminated toxic frack will now be oozing out into the creeks and streams again? And after the drillers get you to make concessions for them on their other issues, do you really think for a minute that they're going to stop without pushing for injection well changes in their favor too?

We are not talking about a few people having their well water knocked out or that they can light their tap water on fire. We're now talking about entire communities becoming seriously concerned about their reservoirs becoming ruined as I've highlighted in the local January 22nd DuBois Newspaper article I've included. The drillers expect to have the communities let them drill near their water sources or wherever else they want to. Already realizing the threat these Gas Industries Impose, the citizens are asking other nearby communities to provide them with contingency water supply plans when theirs gets contaminated. But the other communities being asked don't have the capacity to provide it, or are threatened with fracking around their own watersheds. Even the largest reservoir for DuBois that might be able to supply them has its own threats with an injection well and planned frack pad threats looming over it too.

If you don't have safe water, YOU DON'T HAVE ANYTHING. Not only do property values plummet and human health risks increase, but already established businesses could leave the area as well. In essence the expanding Gas Fracking boom has the potential to turn this half of the State into a toxic wasteland people will avoid. So why should we be even asked for additional public comment about compromising on any regulations When The Regulations Already In Place DON'T Go Far Enough.

A few years ago the town of Brockway had the driller Flatiron set up a well pad that drilled their first well only a few hundred feet from the town reservoir. We're talking about fracking inside a watershed containing valued and high quality streams and seeps providing water for not only the town and smaller businesses of a few thousand people, but also for two major Owens Illinois glass plants that employs hundreds of people from around this area.

Not long after beginning operations, the driller hit a feeder aquifer that caused a water flow interruption that was noticed by the town water company. Flatiron also constructed a gigantic water impoundment "pond" just up the hill from their reservoir too, that at first may not sound threatening at all. However the year before they constructed that basin we had torrential downpours of rain over several days that would have certainly overflowed that lake. And after it was being supplied with water, they began accepting Acid Mine Drainage being siphoned out of Sykesville and trucked up to the site. Understand that this obvious Catastrophe Waiting To Happen is the hometown of State Representative Joe Scarnati, and State Representative Mat Gabler's residence wasn't that many miles away either. But neither one of them would do anything about it. Finally last year it was reported that Flatiron wasn't going to drill another well at that pad site, but the threat to Brockway's water still hasn't completely gone away.

Now when you have unmistakable threats like this looming over exceptional value water sources that could permanently contaminate the water of businesses and communities, just what kind of mentality is behind issuing permits to drillers? Have the few temporary gas related jobs that come here and soon leave become that much more important than the thousands of other jobs, property values and health concerns of tens of thousands of people and business that are already

established here? I think somebody better get their priorities in order.

I first became concerned in 2010 when there was a 24-hour well blow in the forest behind Elliot State Park In Clearfield County. In the 1970's I use to snowmobile extensively in that area, and along one of the roads is an old camp made completely out of stone that has a pipe perpetually flowing with water that had the cleanest freshest spring water you ever tasted. After that blowout, a sign was placed at that spring warning not to use the water because of an "Industrial Accident ". In fact that blowout was in Pine Township and on the top of a mountain range that separates the waters going in different directions. Exit #111 on Interstate 80 is at the crest of that mountain range and there's a sign near it stating that it's the highest point on that road east of the Mississippi, with the blowout and continuing fracking going on less than a handful of miles in the woods from that exit.

The three large communities of Clearfield, Curwensville and DuBois depend upon those mountain springs, creeks and runoff waters to provide for their reservoirs. But yet the frackers are permitted to be clearing away the forest, dicing up the place and developing it since it's back in the woods away from prying eyes. And as I mentioned earlier, they have plans to put a frack pad a few miles west of the of that exit near the larger DuBois reservoir, threatening not only that city but also the water it provided to several smaller communities around it. So DuBois has a dual threat of not only a nearby frack pad being planned, but also an injection well hanging over it as well.

The DuBois reservoir Is Not an Industrial Zone, nor should the area around it (or near ANY reservoir) be considered or reclassified as one, yet isn't that the sort of thing that the latest "Revisions" want to include? On top of it there's numerous old orphan and abandoned Gas Wells around it that might very well become re-awakened and begin leaking as gas vents, should deep down disturbances from fracking commence. Amazingly the city is dancing with the devil by selling its water to the frackers to make a profit, while drilling additional wells if the main reservoir begins running low in summer months from water extraction.

The Gas Industry wants to come here and jeopardize one of our most basic necessities while leaving a footprint that will remain for generations over an UN-Guaranteed process. Not really for our betterment, but rather for their own profiteering over a finite (and fossil fuel global warming contributor) resource, I when the whole world should have started getting away from fossil fuel dependency decades ago. THAT is the 21st century mindset Everybody should have toward developing Clean Renewable Energy jobs and infrastructure, instead of the dirty, filthy and contaminating ways of the past.

Reputable reports show that over 5% of the well casings that are constructed during the fracking process Fail Right Off The Bat. And the Failure Rate Escalates to about 40% or more after 30-years and keeps on rising, depending upon the well pressure, construction design, damage due to frack handling, well deviation, and loss of material integrity used to name a few. I'm sure Drillers will argue that those figures sound high and are way into the future to worry about now. But you have to take any figure no matter how conservative it may be and multiply it by the Thousands of Wells that are already in operation and are projected to be drilled in the future. Clearly This State Is Targeted, And Letting Itself Wide Open, For Devastating Consequences.

Every community here depends upon a good percentage of their clean water coming from underground sources that we can't afford to jeopardize over Multi-Billion Dollar Corporate Profiteering through Gas fracking. We also depend upon Fire Departments made up of Volunteers that now have to take 200 hours of training to become a firefighter, and the departments aren't

able to attract many new members. Firefighting can be dangerous enough as it is (as I remember from my own younger years a few decades ago), without being exposed to toxic and radioactive chemicals at a well fire. So it's a no brainer why Fire Departments can't attract volunteers.

I've included a picture of a July 2014 gas leak fire deep in the woods that fortunately didn't result in a forest fire. And on the other side of that page is a map of Pennsylvania showing the location of over 9,000 unconventional wells that have already been drilled in this State. When you look at Butler County on the western end, you'll see a huge number of them on the southern half of that county. I have a brother that lives on the North Side of Pittsburgh and they get their water, (for at least 250,000 people) from an area near Moraine State Park located at the western edge of that county. He isn't exactly sure where the water sources originate from, but the threat of having so many frack pads in that lesser populated part of the county sounds a lot like what the drillers are doing in the wooded wilderness around my area.

All of this is getting far too much for Pennsylvanians to tolerate, while there are already plans to begin construction of gas liquefying plants to ship the gas from here overseas, when it was supposed to be for our own energy independence and "A Temporary Bridge" until we get more renewable sources up and running to combat global warming. Thousands Of Scientists around the world already know it's been a human induced occurrence that has escalated CO₂ levels, not in the last few hundred years, not in the last few thousand years, but just last week it was announced in the National News that it was discovered that emission levels are now the highest they've been in the last Two MILLION Years. Sea levels are rising in several ocean shore areas; costal reefs are dying from warmer waters and ocean pollution, with storms and droughts becoming stronger and more intense over the last few years. Only a bought off fool in bed with the Oil and Gas Industry would keep believing any denier stuff. The warnings are Already Upon Us and Major Protection Changes Have To Be Acted Upon and Not Compromised Away;

All the politicians seem to see is income and profit dollar signs while little by little they let the drillers turn this State into a toxic waste sight, eroding our property values and threatening our health. When instead they should be focusing on Expanding Renewable Energy Sources and getting away from this fracking madness.

Thank You again for the opportunity to provide you with this information and feel free to pass it along to those that may not be aware of what is going on from OUR Safety And Health Minded Perspective. **Please see Appendix 2 for attachments (285)**

Response: See response to comment 2040.

2082. Comment: Before you kill the golden goose: The newspaper claims you received 24,000 comments at public meetings. How many comments were proven facts by neutral agencies? I have attended many of these public meetings. Never have I heard anyone question the truthfulness of their testimony. You want to do away with impoundment ponds, yet if they are so dangerous why aren't there dead animals everywhere, they can directly drink from these ponds. In less than 1/2 hour I counted over 60 deer in the middle of gas wells. I'll bet over 20,000 of these comments are from people without any money income from drilling. The benefits are too many to give up on gas drilling. Let the protesters send their sons and daughters overseas to fight for energy. (2)

Response: The Department acknowledges the comment.

2083. Comment: My family has property in Indiana County (Rayne TWP) and an area on our

property has been cleared for drilling a gas well. We also have gas lines that cross the property so a well can be hooked to those lines. We favor drilling of these wells because we need the energy, revenue and to become self-sufficient in the energy fields. To us, this is a “no-brainer”. It is our property and the gas drilling industry can do this safely. Thank you. (11)

Response: The Department acknowledges the comment.

2084. Comment: We can get the oil and gas out safely without hurting anything if we just do it right. (36)

Response: The Department acknowledges the comment.

2085. Comment: I was born and raised in Washington County. Growing up my parents were self-employed, running a business from our home. For years we struggled to make ends meet, selling MRO supplies to manufacturing companies. Our business survived even though there were fewer and fewer manufacturing companies in our area.

After college, I made the decision to leave the business and work elsewhere. This decision was based on the decline of manufacturing in our area. I felt that I could have a better income if I worked outside the family business.

Then years later, the gas industry came to Hickory, PA, the town that I grew up in. Hickory is an agricultural town, that hadn't seen much development. Although the development and growth had its growing pains on the town, overall it was very beneficial. Farmers, like my uncle who had struggled for years with broken down equipment were finally able to purchase new and safer equipment to do the job they loved so much, farming! Small businesses like my families were able to grow. We finally had new customers to sell our products too. With the growth, we were able to hire new employees, and purchase new delivery trucks. The biggest change for me personally was that I was able to quit my job in the Financial Investments industry and come back to my family business.

Over the last few years, our business grew from just under 1 million dollars in sales to over 6 million last year. Today with new regulations being imposed by Chapter 78, threats of new taxes, and of course the ever fluctuating price of gas, our business year to date sales are half of last years, for the same time period. Although we have not laid any employees off, we do have two positions that need filled but are currently on a hiring freeze because of the lack of sales. Our small family business is in survival mode once again.

The Gas Industry has not only affected my family business and my personal employment, it has also affected my home life. My husband and I also live and manage his families farm. Although this is not our full time jobs, the farm consumes many of our weekend and evening hours. Our vacation every summer is making hay. We haven't seen a beach in years! Last year we were able to sell our gas rights to a local producer. With that money we were able to purchase new equipment to make our farm jobs easier.

All of these purchases whether farm equipment, delivery trucks, or just ordering pizza when we hit sales goals all create residual jobs. If the current cycle continues with the downward sales, fewer purchases will be made, that create these jobs.

The Drill Rig on our neighbor's farm was put up a few months ago. We look at the rig every day and see the lights all night long. We went through the seismic testing. We had all the water testing

before drilling, during drilling and soon after drilling. To me none of it has been a nuisance or a problem. The gas companies have done there due diligence to make sure everything was safe and all the local residence have been well informed of what is currently going on and what to expect next. I am proud to say I am part of the Gas Industry and I hope that the industry is alive and well for my children to say the same. (197)

Response: The Department acknowledges the comment.

2086. Comment: I'm speaking on behalf of two very important parts of my life. My children and my community.

I can tell you the same things that you read in the papers, I can tell you what others are saying. Well over 200,000 jobs have created in Pennsylvania. We now produce over 25% of the United States natural gas supply. Which in turn is lessened our dependence on foreign countries. Natural gas is a clean burning fuel. It has improved our air quality. Over \$2.3 billion in additional tax revenue has been generated by shale development. I can read facts and statistics all day on how the production of natural gas is beneficial. But let me now tell you how it affects me as a parent and a community leader.

As a parent we always want our children to have the opportunity to stay in the area if they choose to or find another corner of the world to call home. With the production of natural gas that opportunity was given to our next generation. As a mother of two boys one stayed in the area and one didn't. The oldest one that stayed, owns a bluestone quarry that produces bluestone. He is able to support his family because of the industry indirectly buying his product. My youngest son went on to further his education and became an engineer. But because of the gas industry and the summer internship that they offered him he graduated with little debt and has a job with a very promising future in a field that continues to grow. Because of the gas industry our children and grandchildren can choose their futures.

As president of Montrose Chamber, board member of Wyoming County Chamber, and a very active committee member for many non-profit organization located in these counties. I have lived in this area my entire life. This is my home. This is my investment.

I have seen the different trends of income. Farming - stone quarries - and now gas industry. I've seen a lot of hard times for a lot of residents. I've seen people sell off parts of family farms because their milk checks are smaller than their feed bill. Family owned stores going out of business because of the lack of customer spending. People living paycheck to paycheck and not making ends meet. Parents taking out huge students loans to give their children the education and opportunity that they didn't have.

But then the Marcellus Shale was discovered in the Northeast and production of natural gas became part of our everyday lifestyle and the economic growth from natural gas production has translated into increased income for families and local businesses. Both the nonprofit and the profit world have benefited from this industry in our area. Family farms are running full force and being passed down to the next generation. Families are taking vacations together. Residents are more involved in the community and donating time and money to the non-profits. The privately owned trucks are all working year round not just seasonal and many increasing their fleets to help build the well pads.

There has been over \$830 million in impact taxes distributed to local communities and environmental programs, and over \$2.3 billion in additional tax revenue that has been generated by shale development.

Pennsylvania already has world class environmental regulations in place. These regulations have been reviewed by the State Review of Oil and Natural Gas Environmental Regulations board. The changes to Chapter 78 are targeting only the oil and gas industry. Why single out one industry?? And because of this Pennsylvania will become less competitive with other shale basins. This would be devastating to PA which has experience an impressive economic growth.

So as a mother, a residents, a community leader I stronger suggest that you reconsider the changes to Chapter 78. The natural gas industry is a positive force for our environmental, our economy, and our future for Pennsylvania. (304)

Response: Chapters 78 and 78a are written specifically for regulating oil and gas development in Pennsylvania. Since chapters 78 and 78a are specific to oil and gas, it is appropriate that revisions to them target the oil and gas industry.

Statutory changes resulting from the passage of Act 13 of 2012 as well as environmental protection gaps in the Department's current regulatory requirements necessitate modest, common sense revisions. These revisions include specifying spill reporting and remediation requirements and the identification of abandoned and active wells prior to hydraulic fracturing. Cleaning up spills in a timely manner to standards that apply to all industries in the Commonwealth is necessary to ensure that ground and surface water is protected. Similarly, identifying wells that could be impacted during the hydraulic fracturing process is also necessary to protect these important resources. believes that these modest regulatory revisions are necessary and appropriately tailored to the purposes served.

2087. Comment: A few things I really liked in the revisions:

- Requirement for noise mitigation plans for gas operations
- Better and more specific requirements that the industry replace negatively affected water supplies with a supply that is at least equivalent to the original. Specific deadlines are established for industry to provide notice of affected supplies and for the Department to investigate and requite mitigation.
- A requirement that the industry do more to identify old, 'orphaned' wells in the area proposed for drilling, including along the course of any horizontal well bore, before drilling begins. Such old wells are known to have been involved in previous gas migration episodes
- Better erosion and sedimentation controls and stormwater management for all oil and gas operations.
- Open, lined earthen pits for storage of contaminated wastewater at individual drill sites would henceforth be prohibited. Old permitted pits must be decommissioned and cleaned up. Wonderful! Open pits are hazardous to wildlife and people, and they leak and overflow.
- Open pits for this material would still be permitted at centralized locations, but the design, construction and monitoring standards would be beefed up considerably. Lycoming

Audubon believes that the risks to wildlife from these open pits, to ground and surface waters of the Commonwealth, and to human health, are unacceptable and that the regulations should specify manufactured tankage for all gas industry wastewater. If the Department determines that this tankage requirement is not feasible at this time, then they must stick to the tougher standards in draft 78a for these open centralized pits!!!!

- as I read 78a.70, the use of drilling brine waste on dirt and gravel roads for dust control and road stabilization would now be illegal. Bravo!! The idea that you could safely apply this chemically laden, toxic and radioactive wastewater to our roadways was always simply ridiculous.
- There are better requirements and standards for the department's review of water withdrawal permit applications. Also there is a written requirement that the industry uniformly reuse the water that they do withdraw more water reuse means less water would need to be withdrawn. Good stuff!

Finally, I would think it would go without saying that adequate staffing at the Department is a must if there is any hope of these regulations making a positive difference in this commonwealth. Without a stable, trained staffing complement, the Department cannot properly enforce its statutes and regulations. (303)

Response: The Department acknowledges the comment.

Regarding staffing and inspections and continues to strive to provide adequate and appropriate oversight of the oil and gas industry.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

The rulemaking requires water supplies to be restored to Pennsylvania Safe Drinking Water Act standards or better. If a water supply's quality was better than Pennsylvania Safe Drinking Water Act standards prior to oil and gas operations, then it needs to be returned comparable to the previous state prior to being impacted by oil and gas operations. The timelines for investigation and determination established under section 78.51 and 78a.51 are consistent with timelines in Section 3218(b) of the 2012 Oil and Gas Act. The Department strives to complete investigations and determinations as expeditiously as possible but reserves the right to continue an investigation after any prescribed timelines to ensure the accuracy and thoroughness of the investigation.

The final rulemaking requires all centralized impoundments to comply with permitting requirements in Article IX. This allows operators to continue to develop and utilize centralized impoundments in the Commonwealth and also ensures that Chapter 78 does not result in disparate requirements or disproportionate costs on one particular economic or extractive sector. The rulemaking allows an adequate timeframe for operators to obtain the proper permits or upgrade existing facilities, as necessary.

Unconventional brines may not be spread on roads for any reason. Conventional brine may be spread on roads for dust control and road stabilization under controlled conditions that require the brine to meet certain water quality criteria and also sets limits on the application location, rate, and duration.

The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. But, the Department has retained the provisions to use pits at conventional well sites for temporary storage. The typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. Sections 78.57(a) and 78a.57(a) eliminate the use of pits for the collection of production fluids irrespective of the type of operation.

2088. Comment: Is hydraulic fracturing as harmful to the environment as society has been lead to believe? There are many frightening stories concerning hydraulic fracturing and its impacts on the environment. How much truth lies behind the controversy?

In 2010 a documentary was made by environmentalist Josh Fox, titled, Gasland. The purpose of the film was to explore the option of leasing your land to gas drilling companies, giving the rights to extract natural gas and or oil by means of hydraulic fracturing. The film revealed many horrifying stories concerning the impacts hydraulic fracturing allegedly has such as; air pollution (causing many illnesses including cancer), seismic activity, contamination of drinking water, wasting too much water, destroying the natural ecosystem (killing all wildlife) and much more.

Gasland insinuates hydraulic fracturing is the leading cause of most problems our economy faces today. The film was an Oscar-Award winning film misleading many people with false accusations and untrue facts, resulting in a banning on drilling in many different locations. Those uneducated about the advantages of hydraulic fracking were very pleased with this “Anti-fracking” movement. The citizens that the movement had the most impact on seem very scared of losing their farming land and means of living.

As according to epa.gov; Hydraulic Fracturing is a very efficient way of extracting trapped resources far below the earth's rock formations. A hole is drilled over a mile deep underground, far below the water table, using fresh water based fluids that are released to cool the drill bit, carry rock cuttings back to the surface and stabilize the durability of the wall. A steel pipe (called a casing) is then placed into the hole, lining the entire depth of the well, which is then cemented into the well, thus creating a barrier avoiding any leakage into the earth's layers. Once the well is checked to be isolated from the ground water and other undesired zones, explosives (shaped charges) are detonated near the bottom of the casing, far enough down, so there is no sign of seismic activity. The shaped charges bum holes through the casing, cement and formation. Then, a mixture of 99.5% sand/water and 0.5% additives is pumped down the casing at high pressure and out into the formation through the holes to finish fracturing the reservoir rock holding the recourses desired. The sand keeps the rock separated allowing oil/gas to freely flow up the well, allowing the extraction process to begin. The excess fluid is easily recovered and either safely disposed of or recycled for the next well. This process takes more than 3 months to complete, leaving the hole safely accessible for use for up to twenty to forty years after.

Once the well is no longer of use the well is plugged and trimmed well below the ground water level. Everything is then filled back in, i.e.: trees, grass, and plants are all replanted. This process is called reclamation, leaving no signs of drilling activity making a safe land for farmers and animals to once again use.

Many people believe resorting to other energy sources such as; solar power and wind tunnels is a much more efficient way. However they don't think about the down falls they may bring as well. For instance to make solar power energy requires loads of rare earth metals creating both a very expensive bill and a lot of pollution being forced into the air. And wind tunnels take up

unnecessary room, showing no endangered bird mercy. Not to mention the supply and demand they both have. Destroying 100 square miles every day just to keep up.

Fox retrieved the majority of his “facts” for Gas/and from himself, residents, protestors, and several “specialists” unable to provide valid credentials when asked by Investigative Journalist Phelium McAleer in his follow-up documentary Fracknation. Many of the points have been disproven by highly reliable and reputable sources some including Fox's speculations of the following;

“Hydraulic fracturing blasts a mix of water and chemicals 8,000 feet into the ground. The fracking itself is like a mini-earthquake ... In order to frack, you need some fracking fluid - a mix of over 596 chemicals”. The University of California/ Berkeley's biochemist Bruce Ames, PhD suggests “the long list of scary chemicals which was found in the drinking water is not that big of a deal. The same list of [scary] chemicals can also be found in broccoli.”

Fox argued in a letter sent to New York Gov. Andrew Cuomo that breast cancer rates spiked in an area of the Barnett Shale where extensive drilling is taking place. University of Texas medical anthropologist Simon Lee, PhD and Texas Cancer Registry epidemiologist David Risser, PhD, MPH, along with researchers from Susan G. Komen for the Cure, were all unable to find any evidence to substantiate the claims of the Barnett Shale “cancer spike”.

Fox also mentions that hydraulic fracturing is the leading cause of seismic activity. University of California/ Berkeley energy geophysicist Ernest Majer, who tells McAleer that fracking has the lowest risk of causing an earthquake of any type of energy production.

Many people across the world were misled by Gasland' s allegations resulting in a halt in production, killing farmer's pensions they depend on. As stated in the film Fracknation from a farmer, leasing his farm land to natural gas drilling, “The gas well is the best cow on the farm. It makes the most money, doesn't bother the water or cows. My land is healthy and the water tastes no different than it ever did. When fracking is down so is my farm.”

The E.P.A. has tested all harmful allegations made against hydraulic fracking, all have come back negative. There is no sign of harmful chemicals in drinking water that was not previously there before, people are not “catching” cancer near working drilling sites, and land is fully restored to natural allowing animals to live a healthy life.

Is Hydraulic fracking what America should be most concerned about restricting, or should we be more concerned with properly educating the public concerning the low risks and high yields? In conclusion it's clear we benefit a great deal from hydraulic fracturing and as humans we easily fall victim to propaganda. (331)

Response: The Department acknowledges the comment.

2089. Comment: I am one of the proud Pennsylvania residents that can say they have a good paying job in the oil and gas industry. I was a single mom looking to get back into the workforce 4 years ago and was blessed to find this wonderful industry to work in.

This industry brings so much opportunity to the community's they operate in and the state as a whole. They have paid over 830 million in impact fees that help local communities and over 2.3 billion in additional tax revenue.

Pa already has world class environmental regulations that have been a model for states across the nation. These regulations have been reviewed and praised by independent boards.

It seems to me that the DEP is sidestepping the ability of the legislative oversight committees and the independent regulatory review commission to formally comment on the sweeping regulatory changes proposed in the advance notice of final rulemaking. Several standards being proposed by DEP are not authorized under law, including new limitations regarding public resources, as this provision was struck down by the Supreme Court.

Natural gas is a clean burning fuel source, used for heating homes and supplying electricity as well as many other things. It has contributed to improving air quality in Pennsylvania. The activity in the Marcellus is being affected by all the new regulations and the low gas prices.

I feel blessed to still have my job. My company is a heavy construction company, operating in PA, OH, and WV. So far we have not had layoffs, but I know many people that have lost their jobs because of the slowdown. Please seriously consider what this industry does for the communities it serves and the state as a whole. Without this industry being in PA we are looking at higher fuel costs, loss of good paying jobs and less business opportunity's to keep our young people in the state. (373)

Response: The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety, the and the environment.

2090. Comment: I have been a resident of Washington County for over 10 years, and although I am not native to this area, have seen significant changes in Washington County in my time here.

I came here today to discuss the positive impacts that the oil and gas industry have had on myself, my job any my family. Let's start with the impact this industry has had on my job. Simply put, without the oil and gas industry, I wouldn't have a job. In 2008 I lost my job in the medical device industry when the economy tanked. I was about to be married, had a pile of student loan bills, and no idea what I would do next. I was forced to go back to my college job of waiting tables due to the lack of opportunities available at the time.

After over a year of struggling waiting tables, I found Sunnyside Supply, and I began working in the industry. My wife and I often talk about where we would be if the oil and gas industry hadn't landed in Washington County. We have been married 5 years now, have 2 young children and one on the way, and are currently shopping for our first home. We are truly blessed to be lucky enough to be able to live and work in what I believe to be an amazing place for my children to grow up.

So, now I am one of the over 200,000 people in PA that are employed in this industry. I am one of 200,000 people paying taxes and spending money in the area. I am one of the over 200,000 that is still able to proudly call Washington County home. For the record, I mentioned that I am not from PA. This industry has also made it possible for my 3 brothers to also work and raise families in this area. 2 in Washington County, one in Greene County.

So that is how my family and I have been positively impacted by the industry. I would also like to highlight some positive impacts this industry has had on PA and the USA.

- PA is responsible for 25% of the nation's Natural Gas Supply - cutting dependence on

- foreign oil
- \$830 Million in impact fees plus another \$2.3B in tax revenue

When considering these numbers, it is hard to understand how PA is not getting their “fair share” from the gas companies, as Gov. Wolf claims.

On a national level:

- PA has instituted environmental regs that are now the model for other states across the nation
- Gas prices have seen a drop recently due to the fact that OPEC wants to hurt the US natural gas industry, proof that our natural gas in has global impacts too

I would like to close by reminding everyone that we are lucky to have the industry here, we are lucky to have these jobs, and we would be crazy to keep adding industry specific taxes and regulations that make it more difficult for these companies to do business here. As of right now, it is less expensive to do business here than in WV. OH just struck down additional taxes and regs on the industry. If we are not careful to keep from getting too greedy, we run a serious risk of losing this industry in PA. (350)

Response: The Department acknowledges the comment.

2091. Comment: I am 66 years old and have lived in the SHENANGO VALLEY (Mercer County) all my life. When I was child and lived in Sharon PA the snow was black with soot or red with iron ore dust. Along came technology and bag houses and fixed that. When I was 20 I learned to fly and there was still a haze layer but they fixed that. In 1983 the rust belt hit and the Shenango Valley lost 19,000 high paying industrial jobs. In 1992 Mercer County lost 5 surface coal mines, idling 100s of miners and support jobs. Please, oil and gas production is the best job creators since steel, industry and coal. Do not sacrifice these badly needed jobs and help find ways to produce the God given natural resources. This will give Pennsylvania’s meaningful employment, clean air, clean water. Working together all can make God's Green Earth, a better place to live. (215)

Response: The Department acknowledges the comment.

2092. Comment: I am a Field Representative for Laborers' Local Union 1058 and I live in Slovan, PA.

I could stand up here and throw statistics at you. I could tell you that Shale development is supporting, and has made more secure, over 200,000 jobs in Pennsylvania. I could tell you that Pennsylvania produces 25% of the U.S. natural gas supply which has lessened our dependency on foreign energy sources. I could tell you that natural gas is one of the cleanest burning of all fossil fuels.

But instead, I would like to tell you of my own personal experience. I have lived in Slovan, Washington County, for over 20 years. I moved out this way because of the beauty and the small town mentality. When I would drive around, I would see farms with older farm equipment and only enough livestock to feed their family. I saw vacant homes that people couldn't afford to rent due to lack of industry. I saw stores and gas stations that only stocked basic necessities due to the lack of customers. I saw restaurants whose children weren't sure if they wanted to run the family

business or move somewhere else where they could afford to raise their families. To me it was your average small town.

Then, a little over 5 years ago I met with some representatives of a company named Mark West. They explained to me that we were living on large gas deposits called the Marcellus Shale that could be safely extracted from the ground and piped to needy customers. That peaked my interest because I am in the construction industry and there was potential to put some members of my local union to work. I had no idea what was to follow.

For the past 5 years the gas industry has employed tens of thousands of Laborers, locally and country-wide. In this area I have seen farms that have benefited with new farm equipment and now raising enough livestock for profit. I have seen convenience and hardware stores and gas stations with full shelves with anything you need, and family restaurants that will be family owned for more generations. Now try to find a home or apartment to rent or buy. When I drive around, I see gas right of ways pristine with green grass. I have family friends and neighbors who now have good jobs to help support their families. I see a community that I want to live in more than ever and a whole lot of it is due to the gas industry. To me, Washington County is still as beautiful as it was over 20 years ago. (347)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2093. Comment: My family has been drilling and producing oil and gas in Pennsylvania for four generations. My life has been surrounded with this incredible industry, and as a 10 year old I could tell you more about the history of drilling in this state than most adults. As a young adult, I have developed a passion for this state and its natural beauty. I have been around drilling sites my entire life, and believe that they are some of the most beautiful places in our forests. The oil and gas industry works hard to preserve and protect the environment in which they work in, because they have been raised to love and appreciate its beauty, just as I have.

As a college student traveling home for holidays and special occasions, I come home to a place that makes me both filled with joy and disappointment. I see an area with a loss of energy, and a dire need for a rejuvenated spirit. I believe that the oil and gas industry is the key to restoring our small Pennsylvanian towns to their former glory. Not only does this industry provide countless good paying jobs, but it helps the towns that those workers live in. Local restaurants, stores, gas stations, and any other small business that you can imagine are benefitted. The locally earned dollars are spent locally, which is what this area's economy desperately needs.

As a friend and family member of many employed by a business involved in this industry, I am worried about my loved ones' futures. I fear that if these regulations are passed, they will struggle to provide for their families and have the means to live a prosperous life. These regulations aren't just hurting small businesses, they are hurting sons and daughters, and the elderly parents of hard working men and women who depended on the livelihood of their children to help take care of them in their old age. I encourage those who are trying to pass these regulations to ask anyone in this room tonight if they know someone who has been recently laid off from a Conventional Oil and Gas job, the answer will be yes. At this time if you know someone who has been laid off from a Conventional Oil and Gas job please raise your hand. By looking around this room, you will see the already evident burden that has been placed on the industry. Do we really need more jobs to be lost over expensive regulations? The answer is no. For small businesses to carry the financial burden of these proposes regulations is impossible. The people that just raised their

hands will not be the ones who know someone who has been laid off, they will be the ones who no longer have a job.

There have been tens of thousands of wells drilled along the Allegheny River. Anyone who has seen this river, knows of its clear water and roaring beauty. How is it possible that this river has maintained its beautiful state if the wells drilled along it have done such terrible damage? It's because those wells have NOT done damage to the river. This area is one of the most beautiful in the state, and it has the most conventional wells drilled. We have been drilling here for centuries, and the land is still as beautiful as it ever was. The negative propaganda surrounding the oil and gas industry leads most uneducated people to believe that we are causing poisoned water and destroying the environment, which is simply not true.

I believe in this state, and I believe in the oil and gas industry. Please consider the people that will be hurt by these regulations. Thank you. (359)

Response: The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2094. Comment: The stormwater provision is only part of the story. The proposed conventional regulations would impose tens of millions of cost for several other sections. The total new costs are hundreds of millions of dollars for a small industry that only generate a few hundred millions of dollars per year.

The scope of the new regulations is grossly out of balance with the scope of the conventional industry.

I know about that scope. At Slippery Rock University I studied Geographical Information Technology and Environmental Geoscience. I chose that career because I care about water quality, sound management of trees, and wildlife.

I have worked in both the unconventional and conventional industries and I can attest they are very different. Unfortunately, the proposed 2015 conventional regulations still read as though geared to the complexity and scope of the unconventional side of the industry.

I urge the EQB to vote no and for the DEP to start new, and truly separate, process for conventional regulations. (302)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. Chapter 78, which pertains to the conventional well industry, has been specifically tailored to meet the unique needs of this industry and is in no way intended to impose unnecessary regulatory burdens. Examples of the ways in which the conventional industry is treated significantly different from the unconventional industry include the continued ability to utilize pits during well drilling, completion and servicing and the ability to dispose of drill cuttings at the well site without first needing to obtain a permit from the Department.

However, statutory changes resulting from the passage of Act 13 of 2012 as well as environmental protection gaps in the Department's current regulatory requirements necessitate modest, common sense revisions. These revisions include specifying spill

reporting and remediation requirements and the identification of abandoned and active wells prior to hydraulic fracturing. Cleaning up spills in a timely manner to standards that apply to all industries in the Commonwealth is necessary to ensure that ground and surface water is protected. Similarly, identifying wells that could be impacted during the hydraulic fracturing process is also necessary to protect these important resources. The Department believes that these modest regulatory revisions are necessary and appropriately tailored to the purposes served.

2095. Comment: I am currently employed at a conventional oil and gas company. I grew up hunting and fishing in this region. My interest in the outdoors led me to study Geographical Information Technology and Environmental Geoscience at Slippery Rock University. I chose that career because I care about water quality, good management of trees, and wildlife.

I started my career as a wetland delineator working for unconventional shale companies in both Pennsylvania and Ohio. I did that work for 3 years and walked 100's of miles of pipelines, delineated hundreds of wetlands and watercourses in both Pennsylvania and Ohio. I moved from that career to work at home in the conventional industry. I now work on environmental controls, timber management and mapping.

With my experiences *on* both sides of the industry, the unconventional and conventional, I can attest that they are truly apples and oranges. The economic and environmental impacts are on *very* different scales. To give you a taste of that difference in impact, I have compared my records from unconventional and conventional wells. I found that just one unconventional well pad and supporting Infrastructure is equal to roughly 70+ conventional wells and their supporting infrastructure.

With that being said, the proposed conventional regulations still read as though geared to complexity and scope of the unconventional side of the industry. When the 2015 version of the regulations were issued *very* few of the burdens were removed. And, many new burdens were added. The process leading to the 2015 version was flawed. Instead of ever asking what changes needed to be made to the existing conventional regulations, the DEP wrote the 2013 regulations with a focus on the unconventional industry. The 2015 regulations are simply more of the same.

In my opinion, the department has failed to meet their obligation to state a need for change. That very obligation is to be met and based in facts and science. I am shocked at the failure to address the difference in scale between unconventional and conventional oil and gas. I spend the majority of my time at multiple conventional well sites on a daily basis; in my opinion the existing conventional regulations are working well. The conventional well sites are environmentally sound. It's one thing to incur enormous regulatory costs if a clear goal is being achieved. But that clear goal is absent.

I am fortunate to work in the woods every day. And every day I see that a harmonious existence can be achieved between conventional oil and gas and the sound care of the environment I studied in college. Before we make wholesale changes to regulations that are working, the DEP needs to state why it is proposing changes. The DEP did not do this as to conventional oil and gas. The result of this failure is a set of proposed regulations that is not geared to conventional operations and which will have a crushing financial impact on the industry. (302a)

Response: See response to comment 2094.

2096. Comment: I have been in the oil business since 1979, which was my first job. I purchased my

first oil property in 1985 and have since been involved in the oil industry. I not only have several leases, some by myself and some with partners two of which are my father-in-law and brother-in-law. My brother-in-law has his own truck and hauls equipment for oil companies all over the US. My wife and I have a small excavating business which my son has worked since 2008. I have 3 daughters who have started out with their first jobs painting tanks, weed eating, etc. I have since had my first grandson, which is has gone pumping with me.

With these new Rules & Regulations for the small independent oil Producer, it is very concerning to me that what I have built up with long hours & a lot of sweat & hard work for my family will not be able to last through these new regulations for them to keep running in the years to come. Not only does this business benefit my family livelihood it helps heat our houses and businesses. We put a lot of money back in to our community purchasing equipment and misc. items.

I would encourage the government of PA to look more closely into these new regulations and the shallow well producer, not comparing them to the Marcellus producer. The regulations that were in effect before I believe were sufficient and covered everything to keep the environment and public safe. (357)

Response: See response to comment 2094.

2097. Comment: This [rulemaking] flies in the face of the recent bill that was created by State Senator Scott Hutchinson which forced the DEP to bifurcate or separate the unconventional regulations covering Marcellus wells from the regulations more appropriate for shallow or conventional wells. By refusing to separate regulations the DEP itself is in direct violation of the Laws of the Commonwealth. Instead, since the election of Governor Tax'em Tommy Wolfe, the DEP has fired the Technical Advisory board responsible for evaluating new proposed regulations and attempted to force through ludicrous and seemingly vindictive regulations which has personally violated any trust that I have ever held for the PA DEP. (339)

Response: Regarding the bill pertaining to bifurcation, namely Act 126 of 2014, see responses to comments 2100 and 2119. Regarding the Oil and Gas Technical Advisory Board (TAB), the Department believes that it was proper to reconfigure the existing membership with individuals having more hands-on experience tackling the issues surrounding unconventional gas development. The former TAB members had a great deal of experience dealing with conventional oil and gas development but little or none with the unconventional side of the industry.

It is also clear that the conventional oil and gas industry presents (and is confronted with) very different issues than the unconventional industry. As such, it was necessary and appropriate for the Department to create the Conventional Oil and Gas Advisory Committee (COGAC), using TAB as a model for membership qualifications. By creating COGAC and having its specific focus be on conventional oil and gas issues, the Department is creating additional channels through which the conventional industry can express its views and work with the Department to properly regulate the conventional side of the industry.

2098. Comment: Pennsylvania has a complex regulatory environment and an uncertain fiscal climate. These two issues have made doing business in Pennsylvania a real challenge. Pennsylvania already has world class environmental regulations that have been a model for states across the nation. These regulations have been reviewed and praised by the independent STRONGER board. With these powerful regulations -and billions paid in taxes -we need to firm

up the uncertainty to do business in this great Commonwealth.

We are very concerned about regulations which seek to hold the natural gas industry to different standards than any other industry; that seek to impose vague and inconsistent standards; which exceed the authority granted to the department by the General Assembly and the courts; and which place Pennsylvania businesses at a competitive disadvantage without a commensurate environmental benefit to our communities or natural resources.

The Marcellus Shale Coalition will provide detailed written comments on the Department's proposed regulations in the weeks to come. Our over-arching message, though, is straightforward: instead of undermining our strong, consistent, and predictable regulatory framework, we should work cooperatively to revise these proposals to maintain a balance between strong environmental protections and a competitive economic climate. It does not need to be a false choice between the environment and economics, and we urge the DEP to continue working with our industry and stakeholders across the Commonwealth on a reasonable, competitive path forward. Thank you for the opportunity to provide this testimony. (351)

Response: The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

- 2099.** Comment: The PA DEP has Developed regulations so complex we have difficulty understanding
(What I do I understand is that for forty five years my husband has conducted all earth disturbances as “restoration paramount” with proper drainage, no erosion, re-seeding and general back to original state status. We did not need to pay an engineer or refer to a 2 inch set of mandates to tell us how to do that.) (375)

Response: The Department acknowledges the comment.

- 2100.** Comment: The latest reg proposal ignored the bi-furcation law set forth by the PA Senate and House inn 2014. (375)

Response: The General Assembly enacted Act 126 of 2014, an amendment to the Fiscal Code, nearly a year after the Environmental Quality Board had adopted the proposed rulemaking (August 27, 2013) and roughly seven months after the Department published the proposed rulemaking for public comment (December 14, 2013). Under this Fiscal Code amendment, regulations promulgated under 58 Pa.C.S. (Relating to oil and gas) are required to differentiate between conventional oil and gas wells and unconventional gas wells. In response to this legislation and comments received on the proposed rulemaking, as noted in the Department’s notice of availability of the ANFR published in the Pennsylvania Bulletin on April 4, 2015 (45 Pa.B. 1615), the Department bifurcated the rulemaking into two separate chapters, one for conventional oil and gas wells (Chapter 78) and the other for unconventional wells (Chapter 78a). The revisions to Chapters 78 and 78a are consistent with applicable statutes and provide appropriate balancing of protections for public health and safety, the environment and the economy.

- 2101.** Comment: The latest reg proposal added regulation to already existing regulations as if more requirements would solve whatever problem they think exists without offering proof that a problem exists. (375)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

Statutory changes resulting from the passage of Act 13 of 2012 as well as environmental protection gaps in the Department's current regulatory requirements necessitate modest, common sense revisions. These revisions include specifying spill reporting and remediation requirements and the identification of abandoned and active wells prior to hydraulic fracturing. Cleaning up spills in a timely manner to standards that apply to all industries in the Commonwealth is necessary to ensure that ground and surface water is protected. Similarly, identifying wells that could be impacted during the hydraulic fracturing process is also necessary to protect these important resources. The Department believes that these modest regulatory revisions are necessary and appropriately tailored to the purposes served.

2102. Comment: It once again proposed to impose regulations on conventional well operators that do not even pertain to operating shallow wells. (375)

Response: See response to comment 2094.

2103. Comment: I employ 15-20 employees with a job in this county of Indiana, Pa for 27 years. We provide service to the Natural Gas Industry since 1990. Every new regulation has an adverse effect to our business so please have the business & employment concerns of this state in your best interest and ours! (12)

Response: See response to comment 2098.

2104. Comment: It appears that the rulemaking contains standards applicable only to the oil and gas industry. There is no justification for singling out one industry for burdensome rules that do not apply to other industries. This includes wastewater treatment; noise standards; new storage tank standards; and waste reporting. (309)

Response: Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding centralized tank storage concerns, see the Department's response to comments submitted on §§ 78.57a and 78a.57a.

Regarding waste reporting concerns, see the comments and the Department's response on §§ 78.121 and 78a.121.

The commenter's concerns regarding wastewater treatment are not clear to the Department. Any wastewater treatment standards included in Chapters 78 and 78a remain largely unchanged from 1989 when Chapter 78 was initially promulgated.

2105. Comment: Pennsylvania already has world class environmental regulations that have been a model for states across the nation. These regulations have been reviewed and praised by the independent STRONGER board (State Review of Oil and Natural Gas Environmental Regulations). Additional and more stringent regulations are not necessary and will only inhibit the further development of this valuable resource and hinder what should be the goal of every

resident of Pennsylvania and our country: “ENERGY INDEPENDENCE”

However, if you must develop more stringent or additional regulations that will impact the development of natural gas, I implore you to base your decisions on fact rather than emotion, on science rather than with arbitrary information and be well defined rather than ambiguous. (309)

Response: The Department acknowledges your comment. This new rulemaking that addresses the new unconventional Oil and Gas exploration and production processes is necessary, timely and represents a well thought-out and thoroughly vetted comprehensive approach to regulate the new environmental aspects of this historic resource extraction industry.

2106. Comment: Consider whether some of the more prescriptive sections of the proposed regulation would be more effective if delivered as policy or guidance. Examples are the sections dealing with pad restoration, containment, spill remediation, among others. In the past, DEP has had much success with writing more general regulation, and providing detail in subsequently developed policies or guidance. The DEP Erosion and Sedimentation Control Manual, and the Special Protection Stream Implementation Handbook are examples of products that were collaboratively developed from more general, flexible regulatory language, and which have stood the test of time as achieving effective compliance. Policies and Guidance are more easily changed and adapted to new advances and needs --- Regulations are not. The industry stands ready to work with the Department to develop meaningful and responsible policy and guidance, to meet the intent of Act 13, while allowing a flexible platform in Ch. 78. (315)

Response: To the extent that the commentator suggests that the Department place the provisions in this rulemaking in policy rather than regulation, the purpose of this rulemaking is largely to implementation requirements in the 2012 Oil and Gas Act, update existing requirements and codify existing policy.

2107. Comment: Throughout the process of the rulemaking by the PADEP the industry continuously asked why existing Regulations needed to be changed. This is a question that I believe the DEP failed to answer during the initial phases of the process. It has resurfaced again in this phase. The explanation provided to industry representatives by the head DEP officials after the initial comment period was that there have been changes in technology that warrant new regulations. The industry was quick to question this statement and ask for more specific information. No specific reply was given that could be backed with facts. Anyone who has been involved in this industry on the conventional side knows that there have been no significant changes in our practices, technology, chemistry, etc. for at least 10 years if not longer. The current regulations have been revised within this time frame.

During the period of this revision Industry representatives went back to the DEP again asking why the need for change. The DEP's answer this time came through the newspaper article in the Pittsburgh Post-Gazette dated April 19, 2015 in which they submitted photos that explained their justification. I quote from this article “The State Department of Environmental Protection is preparing to show them in full color. Regulators have compiled hundreds of photos taken by field inspectors in recent years to document violations at Traditional, shallow well sites”. I believe this was their way of trying to sway public opinion as a review of these photos by anyone with industry knowledge quickly shows the majority, if not all, of the issues shown could be addressed with existing regulation. The DEP even proves this point by a quote from the same article which states, “These photos were taken by inspectors with the Pennsylvania Department of Environmental Protection to document violations of environmental laws and rules at the state's

traditional, shallow well sites.” If these pictures document violations of existing regulations, then new regulations are not justified.

During the initial phase of this rulemaking process the Technical Advisor Board weighed in on the proposed Regulations as required by the rulemaking process. In their letter to the DEP they firmly warned the DEP that the proposed regulations lacked the justification of need. The DEP and this administration responded not by upgrading their analysis, but instead relieved the TAB members of their duties.

In summary I feel the DEP has failed in the rulemaking process on many fronts the first and foremost of which is the justification of the need for change. I suggest the DEP should withdraw these proposed changes and return to the regulations already in place. (327)

Response: The Department disagrees with the comment. The proposed Chapter 78 Oil and Gas Regulations are essentially the existing regulations from 1989 that have been updated in certain sections to address obvious omissions, weaknesses and inconsistencies. Statutory changes resulting from the passage of Act 13 of 2012 as well as environmental protection gaps in the Department’s current regulatory requirements necessitate modest, common sense revisions. These revisions include specifying spill reporting and remediation requirements and the identification of abandoned and active wells prior to hydraulic fracturing. Cleaning up spills in a timely manner to standards that apply to all industries in the Commonwealth is necessary to ensure that ground and surface water is protected. Similarly, identifying wells that could be impacted during the hydraulic fracturing process is also necessary to protect these important resources. Finally, the Department notes that many techniques developed for the purpose of unconventional gas development, such as horizontal drilling and high-volume slickwater hydraulic fracturing, are beginning to be used to develop conventional oil and gas resources. The Department believes that these modest regulatory revisions are necessary and appropriately tailored to the purposes served.

As for the Oil and Gas Technical Advisory Board, see response to comment 2097.

2108. Comment: You have a lot of work to do to bring this industry up to the standards they should have been forced to implement from the initial drilling of wells in our state. To chase away regulators is outrageously neglectful of our health.

Separation of unconventional and conventional regulations, same regulations should apply to both, no “pass” for conventional drilling! DEP is required by law to issue two sets of regulations—but that doesn’t change the agency’s mandate to develop regulations that protect people and the environment. Sometimes the only difference is the scale of operations. Conventional wells also use water and chemicals, create waste, and disturb land. Conventional operators also cause spills, accidents, and contamination. (84, 111, 179, 188, 299, 2848-3056)

Response: The Department acknowledges your comment. The revisions to Chapters 78 and 78a are consistent with applicable statutes and provide appropriate protections for public health and safety and the environment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2109. Comment: I urge the Department of Environmental Protection to become more stringent in its regulations of the gas and oil industry. We cannot tolerate any possible pollution to our precious environment, no matter how inconvenient they are for the gas and oil industry. Health of our

environment and of the people who live here must remain strictly safeguarded. (101a)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with applicable statutes and provide appropriate protections for public health and safety and the environment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2110. Comment: PADEP and EQB should reconsider the proposed regulations. Modifying and revising the Oil & Gas regulations at this time without providing scientifically sound and clear language, or following the required procedural process, would be detrimental to the EQB, PADEP, industry and the citizens of the Commonwealth. (113)

Response: The Department disagrees with the comment. See response to comment 2094.

2111. Comment: The small producer doesn't have the money that the big companies have to fight your over regulations. There's a lot of difference between the two. You're just trying to make your own laws you have too much power with no control. Where do you think your pay comes from? Stop trying to ruin this country like the federal government. (116)

Response: See response to comment 2094.

2112. Comment: As a Pennsylvania resident and a landowner, a mineral owner and a tax payer, I am writing to express concern for the Department of Environmental Protection (DEP) proposed revisions to Chapter 78 regulations, and the proposed Chapter 78a. I am from Adams Township, Butler, PA and my community has experienced firsthand the benefits of shale gas development. Between the impact fee dollars coming to our county and township and the revitalization of local businesses, we need to encourage, not discourage, the natural gas industry in Pennsylvania. For me as a landowner, I want this industry to succeed. Also, as a small business owner the benefits of this industry has helped our 34 employees and their families.

Because of development on properties like mine, Pennsylvania now produces a quarter of U.S. natural gas supply. This home-grown energy is decreasing our dependence on foreign energy sources at a time when we need to make our country's energy security a national priority. As an immediate result of this abundant supply, our families are saving money on their energy bills. Pennsylvania residents are experiencing energy prices which are more than 40% lower than the onset of significant shale gas production in 2008, saving homeowners and businesses billions of dollars annually. And this industry is putting Pennsylvanians back to work. Shale gas development is supporting and has made more secure over 200,000 Pennsylvania jobs.

However, we cannot take for granted this industry and the immense benefits it has brought our state. Overly-burdensome regulations will jeopardize this once-in-a-lifetime opportunity. Pennsylvania already has world class environmental regulations that protect my property and my family. I am proud to live in a state where our lawmakers took proactive steps to upgrade the Commonwealth's environmental and safety standards so that I can feel confident that drilling is occurring safely and that strong regulatory oversight is already in place to ensure the protection of my family and our community. Significantly altering the state's regulations with additional costly and burdensome requirements, as proposed, without proper evaluation and analysis, which I've seen no evidence of, does not help me and my family but puts everything we've built our futures on at risk.

Downward gas prices have already reduced activity and curtailed royalty payments. This rule will significantly increase the cost of doing business in the state and drive more investment out of Pennsylvania. Royalty owners and tax payers like me will suffer the brunt of this impact. With that in mind, before proceeding, DEP should conduct a cost-benefit analysis for all of the proposed changes as required by law, with the knowledge that bad economics for producers will directly affect not just me but thousands of other landowners and tax payers across the state.

Shale development and the spin-off economic benefits in our local communities has been a bright spot over the past 6-7 years as the nation continues to emerge from the recession. This is not the time to push overly-aggressive regulations that will harm our economy, local businesses and the citizens you work for. Now is the time to get gas to market and grow Pennsylvania's economy. Therefore, before moving ahead, please consider the impact of these regulations on Pennsylvania families like mine.

As stated above, I want this industry to succeed and based on my knowledge and observations of the industry and their operations in my area, I do not believe that additional costly and burdensome regulations are necessary. The industry and the organizations that represent it are doing a good job ensuring protection of the environment and the communities in which they operate within an already existing stringent regulatory framework. Therefore, I also support the comments being submitted on these proposed revisions, knowing that they are trying to work cooperatively with DEP to ensure an effective and reasonable regulatory program. (125, 134, 152, 275, 276, 277)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

However, statutory changes resulting from the passage of Act 13 of 2012 as well as environmental protection gaps in the Department's current regulatory requirements necessitate modest, common sense revisions. These revisions include specifying spill reporting and remediation requirements and the identification of abandoned and active wells prior to hydraulic fracturing. Cleaning up spills in a timely manner to standards that apply to all industries in the Commonwealth is necessary to ensure that ground and surface water is protected. Similarly, identifying wells that could be impacted during the hydraulic fracturing process is also necessary to protect these important resources. The Department believes that these modest regulatory revisions are necessary and appropriately tailored to the purposes served.

- 2113.** Comment: I part owner in a family owned Oil & Gas Field Supply house. From safety PPE, environmentally spill containment and clean up supplies, to natural gas processing filtration to tools and more. My wife and I started the business in 1980, we now have our two children working in the business. We are all Pennsylvania born, raised and working tax payers all due to the O&G Industry. I believe the implementing of the DEP Chapter 78 regulations will threaten our business and our way of life.

I would like to state the facts that the Oil & Gas Industry in Pennsylvania over the last 6 years has helped our business and our employees grow and prosper. We have worked hard to learn a new industry as well as providing supplies to the O&G Companies. We have grown from 5 employees to 16 in 5 short years, along with an average of a 50% increase in our average employee's median income. Why the drastic increase in pay you might ask? The O&G Industry pays well and if I

want to keep good experienced employees I in turn need to pay them a competitive salary. The O&G Industry has provided many family sustaining incomes across the state and there are more to come with future downstream businesses from the Southwestern PA gas fields all the way to Philadelphia refineries and manufacturing. The O&G Industry is the catalyst that will grow our Commonwealth into prosperity. However, we cannot continue to unjustly over regulate and discriminate against just this one industry. Honestly, if you over regulate and tax the O&G Industry it will shrink, downsize and move away which will kill our business.

The DEP Chapter 78 proposed regulations are singling out the O&G Industry as if they are thugs! It is a crime the way the DEP has abused the regulatory process in shortening the public comment period. I urge our state leadership to look into these abuses. The DEP is abusing the regulatory process by inserting a wide array of brand new provisions into the final draft rulemaking. By doing so, DEP is precluding the legislative oversight committees and the Independent Regulatory Review Commission from formally submitting comments and objections. With many of the new regulations far exceeding the legislative intent used to justify them, these checks and balances that the department is sidestepping are all the more critical.

PA already has world class environmental regulations that have been a model for states across the nation. These regulations have been reviewed and praised by the independent STRONGER board (State Review of Oil and Natural Gas Environmental Regulations). I have worked with this industry for the last 6 years, and I believe they want to do it right and not harm the environment. I believe we can harvest these resources responsibly.

I urge you to not pass the Chapter 78 Regulations. (126)

Response: See response to comment 2112.

2114. Comment: I would like to express my concern regarding proposed changes to Environmental Protection Performance Standards at Oil and Gas Well Sites proposed rulemaking published at 43 Pa.B. 7377. Pennsylvania currently has one of the strongest oil and gas regulatory programs in the country. Added regulation would be to the detriment of Pennsylvania's oil and gas industry. While I support reasonable regulations to safely develop oil and natural gas, additional, over burdensome rules might negatively affect companies, jobs, and myriad economic investments across the Commonwealth. (159)

Response: The Department acknowledges the comment. See response to comment 2112.

2115. Comment: The proposed regulations are selective and targeted with respect to the unconventional oil and gas industry and are not uniform, consistent or fair relative to other industrial sectors. As such, they are far-reaching and overly-burdensome, with little to no environmental benefit.(187, 3094-3121)

Response: The Department disagrees with the comment. See response to comment 2112.

2116. Comment: The new Oil and Gas Act (sponsored by Sen. Scarnati, ironically) that has resulted in these new regulations being written should have affected only the unconventional, deep drilling that is new to our state. That was the intent of our legislators. (153)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2117. Comment: The proposed regulations are too prescribed and do not allow for natural innovation within the industry therefore allowing them to quickly become outdated in light of continuing advancements in technology. (3094-3121)

Response: The rulemaking allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

2118. Comment: I oppose the new requirements added to Chapter 78a in the draft final rule. Particular problems in the additions include, but may not be limited to, changes to Section 78a.41 (requiring noise mitigation); 78a.51 (requiring restoration to better than drinking water or pre-drill quality); 78a.56 (prohibiting waste storage pits); 78a.57 (prohibiting production fluid pits); 78.57a (establishing centralized tank storage standards); 78.59c (requiring residual waste permits for centralized recycled water impoundments and closure of existing impoundments); 78a.66 (imposing Act 2 requirements on all spills and releases); and 78a.121 (requiring monthly waste/reuse reports), possibly among other problematic changes I have not yet had time to identify. (203)

Response: The Department believes that the revisions to Chapters 78 and 78a provide appropriate protections for public health and safety and the environment.

2119. Comment: We are an industry group representing drillers, operators and support services necessary for conventional oil and gas wells. Our members operate tens of thousands of conventional oil and gas wells in the Commonwealth and constitute the majority of entities conducting new conventional oil and gas well drilling. All of our members are “small businesses” as that term is used in the Regulatory Review Act.

On April 4, 2015, the Pennsylvania Department of Environmental Protection published an Advance Notice of Final Rulemaking (“ANFR”) in the Pennsylvania Bulletin. The ANFR solicits comments on changes PADEP is recommending to 25 Pa. Code Chapter 78, Subchapter C, which provides environmental protection standards for oil and gas operations.

We respectfully suggest that the Draft Final Rule for conventional operations be withdrawn entirely. The process employed to arrive at the ANFR is irretrievably flawed. Key procedural steps were missed entirely or were performed far below the law's requirements. Inasmuch as the procedural steps are intended to inform the process, the resulting proposed regulations are tainted by the procedural failures. That taint is irretrievable because that missing process (analysis of financial impact, identification of need, and so forth) cannot be added as an afterthought after the proposal has matured to near completion.

The only remedy that redresses the procedural missteps is the commencement of a fresh process. If this suggestion is not heeded, however, we submit the following general and specific comments to the Draft Final Rule. That Rule would impose profound burdens on the conventional oil and gas industry if finalized in its current form. Indeed, some of the proposal's consequences are so severe and ill-fitting that it is safe to conclude the drilling of new conventional wells would draw to a halt, and the operation of existing wells would be plagued by highly inefficient burdens under the proposed regulations. The Department has not provided data or shown a need with respect to the environmental impacts of conventional oil and gas operations that would justify such harsh and economically devastating results. The comments below cannot fully rectify the procedural errors and the proposed regulations would undoubtedly be different had the requisite process been

followed. However, in making its comments, we have made our best effort to intuit the goals, needs, and data assumed by the DEP. (212)

Response: The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act, Commonwealth Documents Law, Act 126 of 2014 (the act of July 10, 2014 (P.L. 1053, No. 126)), and others. The General Assembly enacted Act 126, an amendment to the Fiscal Code, nearly a year after the Environmental Quality Board had adopted the proposed rulemaking (August 27, 2013) and roughly seven months after the Department published the proposed rulemaking for public comment (December 14, 2013). Under this Fiscal Code amendment, regulations promulgated under 58 Pa.C.S. (Relating to oil and gas) are required to differentiate between conventional oil and gas wells and unconventional gas wells. In response to this legislation and comments received on the proposed rulemaking, as noted in the Department's notice of availability of the ANFR published in the Pennsylvania Bulletin on April 4, 2015 (45 Pa.B. 1615), the Department bifurcated the rulemaking into two separate chapters, one for conventional oil and gas wells (Chapter 78) and the other for unconventional wells (Chapter 78a). The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. Please see the Department's responses to comments 2301 and 2302.

2120. Comment: I would like to express my concern over the changes proposed to Chapter 78 regulations. The Oil and Gas industry provides many much needed jobs in Pennsylvania including mine. The industry also has a huge impact economically on our communities. The proposed regulations are selective and targeted with respect to the unconventional oil and gas industry and are not uniform, consistent or fair relative to other industrial sectors. As such they are far-reaching and overly-burdensome, with little to no environmental benefit. Please do not support the changes. Thank you for your time. (174)

Response: See response to comment 2112.

2121. Comment: While I view bifurcation of the conventional and unconventional regulations as a step in the right direction, the current proposed final rulemaking packages have not addressed previous concerns that were voiced in the draft comment period in 2014. The significant volume of comments provided as part of the draft rulemaking phase of Subchapter C, should have shown both the regulators and the General Assembly that there were legitimate concerns and certainly viable objections and instigated a more thorough review and opened up the process to more public dialog. (150)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with applicable statutes. The Department believes that the revisions to Chapters 78 and 78a provide appropriate protections for public health and safety and the environment. The Department notes that providing a formal public comment period on the draft final rulemaking, as well as three public hearings, is not a requirement under Pennsylvania law and represents an extraordinary opportunity for additional input.

2122. Comment: PA already has strong environmental regulations, which have been used as model's for other states across the nation. These regulations have been reviewed and praised by the independent STRONG board, State Review of Oil & Natural Gas Environmental Regulations. Although regulations protect residents and our environment, they also come at a cost. We need to look at the regulations and make sure what is being proposed is cost effective to be put into place.

We can't over regulate, just to regulate, this puts added cost onto business so they can't survive. If new regulations such as the noise standards are put into effect, we need to make sure they are done for all industries not just segregate the Gas Industry. (197)

Response: See response to comment 2098.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

2123. Comment: Fiscal Code - Bifurcation (Act 126 of 2014, § 1741.1-E)

On July 10, 2014, Governor Tom Corbett signed Act 126 into law implementing various provisions of the state budget. The Act included the following directive:

Section 1741.1-E. Environmental Quality Board.

Regulations.--From funds appropriated to the Environmental Quality Board, the board shall promulgate proposed regulations and regulations under 58 Pa.C.S. (relating to oil and gas) or other laws of this Commonwealth relating to conventional oil and gas wells separately from proposed regulations and regulations relating to unconventional gas wells. All regulations under 58 Pa.C.S. shall differentiate between conventional oil and gas wells and unconventional gas wells. Regulations promulgated under this section shall apply to regulations promulgated on or after the effective date of this section.

72 P.S. §1741.1-E (emphasis supplied). "Words and phrases shall be construed according to rules of grammar and according to their common and approved usage." 1 Pa.C.S. § 1903(a). "We have generally used dictionaries as source material for determining the common and approved usage of a term." *Fogle v. Malvern Courts, Inc.*, 722 A.2d 680, 682 (Pa. 1999). The term "separate" is defined to mean "to set or keep apart." *House of Leung v. Department of Health*, 38 A.3d 986, 990 (Pa.Cmwlth. 2011) (citing *Webster's Third New International Dictionary* (3d. ed. 1993)). "Every statute shall be construed, if possible, to give effect to all its provisions." 1 Pa.C.S. § 1921(a). See also 1Pa.C.S. § 1922{2} ("[T]he General Assembly intends the entire statute to be effective and certain.").

In its zeal to stay on schedule, the Department has disregarded the plain language of Act 126 by failing to separate ("set or keep apart") the proposed regulations for conventional well operators from the proposed regulations for unconventional operators. Both rulemakings continue to share the same IIRC number (No. 3042) and are proceeding on the same schedule. The Department published a single Advance Notice of Final Rulemaking for both the conventional and unconventional rules, and the rules for both conventional and unconventional well operations are contained in a single document. The public is being furnished with exactly the same amount of time to submit written comments to the conventional and unconventional regulations, and Department took testimony on both sets of rules during its hearings. In all the ways that matter, the Department continues to promulgate the rules for conventional and unconventional oil and gas industry as a single rulemaking, in contravention of Act 126.

Act 126 matters. By continuing to proceed with both sets of regulations in a single rulemaking, the Department entirely misses the point of the legislation in the first place. The language of Act 126 was derived from House Bill 2350 and Senate Bill 1378. Both of these Bills passed out of their respective committees prior to insertion of the language into House Bill 278, which became Act 126. During hearings before the House and Senate Environmental Resources and Energy

Committees, several Representatives and Senators remarked about the underlying purpose of the legislation. Excerpts appear below:

House Environmental Resources and Energy Committee 6/25/14, 9:00 a.m., G-50 Irvis Office Building
By Kimberly Hess

HB 2350 Causer, Martin - {PN 3741}

Rep. Marty Causer (R-McKean) noted conventional and unconventional industries are very different and need to apply different regulations.

Rep. Matt Gabler (R-Clearfield) said it makes sense to pass the bill so the state can look at what makes sense for each industry, “and the two are inherently different.”

Rep. Chris Ross {R-Chester) remarked on the history of regulation of conventional wells, explaining that the regulatory process provides public comment and review. He said this bill will allow the process to look at the facts for each type of well and “appropriately regulate with everybody having a say.”

He acknowledged there may be cases where both industries will have similar provisions, but argued it is best to treat them separately.

Rep. Jeff Pyle (R-Armstrong) said the salient point is that Pennsylvania has had a vibrant shallow gas industry for more than 100 years and argued the outputs on unconventional wells are significantly higher than those of conventional wells. He called for a clear line of separation between how the state deals with the two types. “It is not fair to apply” unconventional standards to conventional wells, he argued.

Rep. Kathy Rapp (R-Warren) added her support to the bill, remarking on the history of Pennsylvania crude oil and the many products that depend on it. She also commented on the “ridiculousness” of trying to regulate conventional wells the same as Marcellus Shale wells and indicated many violations can be minor, such as incorrect font size on a sign.

Senate Environmental Resources and Energy Committee 6/25/14, 10:00 a.m., Room 8E-B, East Wing
By Kati Lawson

The committee met to consider bills. SB 1378 Scarnati, Joseph - (PN 2053)
Sen. Hutchinson clarified the subject by saying “we are talking about two separate industries here.” He discussed the negative impact new regulations are having on the conventional drilling industry; he said the bill clarifies that separate industries should have separate regulations.

Sen. Scarnati said the legislative intent was not to include conventional drilling in Act 13. He said he would appreciate the committee's positive vote and said “let's keep a Pennsylvania industry that keeps people working.”

Source: Pennsylvania Legislative Service.

Clearly, the members of the House and Senate Environmental Resources and Energy committees identified above had fundamental concerns about the singular regulatory approach that the

Department was taking. The concerns expressed by these members went well beyond simple issues of drafting and word processing. What these members were saying was that the conventional and unconventional oil and gas industries were fundamentally different industries, and that regulatory review process should reflect that by proceeding separately in a manner that furthered the public interest.

The Department's interpretation of Act 126 is contained in its Advance Notice of Final Rulemaking published on April 4, 2015. In its Notice, the Department stated: "As a result of the passage of the act of July 10, 2014 (P. L. 1053, No. 126), all regulations promulgated under 58 Pa.C.S. (relating to oil and gas) were required to differentiate between conventional oil and gas wells and unconventional gas wells. The Department determined that the current rulemaking process would continue, but that the regulations would be completely bifurcated (separated into two distinct chapters) on final-form rulemaking." This explanation reflects a rather selective reading of Act 126, focusing exclusively on the requirement to "differentiate" contained in second sentence of the statute and neglecting the rest of the language requiring proposed regulations and regulations to be promulgated separately. It also ignores the fact that in order for the Environmental Quality Board (EQB) to issue a separate "final-form regulation" for Chapter 78, it must have previously published as a proposed regulation that had been submitted to the IRRC and the standing committees after the close of the public comment period. 71 P.S. § 745.3 (defining "final-form regulation"). Since Chapter 78 following bifurcation has never been published as a proposed regulation nor submitted to either the IRRC or the standing committees, it is not presently capable of becoming a final-form regulation.

The Department may also argue that Act 126 was not intended to require it to start the rulemaking process anew. However, there is evidence in the legislative record that suggests otherwise. During the debate on the floor of the House of Representatives on House Bill 278, Representative Vitali expressed concerns that the bifurcation language contained in the Bill would require the Department to start the regulatory process over again. "What we also risk if we pass this is going back to square one, going back to square one on all the Chapter 78 surface regs, all of the regulations that have been moving through the pipeline for about two years with regard to oil and gas development from the day we passed Act 13, starting at square one if we pass, if we pass this bill today." House Legislative Journal, July 2, 2014, p. 1206. Representative Vitali then moved to suspend the rules to permit the House to consider his amendment stripping the bifurcation language from the bill. In support of his motion, he stated: "If this amendment does not get in, what we are doing or what we are putting in are surface regulations of the oil and gas industry, back to square one after two years of working on them." Id. at 1207. Not a single member of the House challenged Representative Vitali's interpretation. His motion failed 79-121. Id. at 1208. While these remarks may be subject to differing interpretations about the intent of the General Assembly to require the Department to start anew, one thing is clear. When faced with the risk that its language may be interpreted to start the regulatory process back at square one, the General Assembly did not hesitate in passing language requiring the promulgation of separate regulations. (201)

Response: See response to comment 2119.

2124. Comment: (Chapter 78) As an initial matter, We believe that the Chapter 78 revisions should be withdrawn entirely because the Department and the Environmental Quality Board ("EQB") have not complied with the legislation adopted last summer that required separate rulemaking for conventional operations. This is discussed in additional detail below. (213)

Response: See response to comment 2119.

2125. Comment: Huntley & Huntley has been in the oil and gas business since 1912 and always headquartered in Allegheny County, Pennsylvania. We have seen many oil and gas cycles that have caused boom/bust realities. I must say that in over 103 years of exposure, 30 of which have been under current ownership, we have never seen such dynamic changes to our industry. Many companies, not just in Pennsylvania, but across the County and now the World have not been able to make the change from conventional oil and gas to unconventional oil and gas development. This fact is so very apparent within Pennsylvania; where over 150 years of conventional oil and gas has occurred and is now struggling like no other time in history. Within historical bust, cycles, our Pennsylvania legacy industry has been resilient and has always survived. Technological changes have always advanced our industry and many times we have victims of our success. The current cycle will be no different technologically, but admitting this go around is something our conventional industry has never experienced before. In addition, the conventional industry along with its big brother the unconventional industry is under a magnifying glass of scrutiny. What was very effective regulation in the past is now no longer acceptable with the only cause being political pressures to do something more to appear active. Thus far, Huntley has successfully kept up with the changes of new and or adjusted regulations on our conventional operations. I must testify, it has not been easy or without significant distraction and cost. I fear many conventional operators are not in the same position as us and will simply be unable to overcome the multiple forces against them/us.

No doubt our State regulations needed to be updated to address unconventional oil and gas development. We are now active in Pennsylvania as an unconventional oil and gas player. The fundamentals of our business, conventional and unconventional are truly the same and always will be. I again can tell you that the temporary and legacy environmental footprint of an unconventional oil and gas development site is so impressive. I again could not be prouder as a life-long Pennsylvanian of how the industry I have dedicated my entire career to achieves so much with such little environmental burden.

I grew up in DuBois, PA. I am very much aware of our wonderful and unique environment that my grandfather's father enjoyed, and my kid's kids will enjoy. As such, I will be the first call foul to something my industry contemplates that may have an impact on our great PA resources. However, I have hit a very frustrating, breaking point. Enough is enough! I am tired of responding to significant changes to regulations that many times are outside the scope of what our elected officials have ordered or mandated under law. I am tired of thinking I am not a cooperating partner with the State of Pennsylvania every time a new regulation pops up that threatens my very existence by saying why. I am proud of our Pennsylvania operations. Under media, regulatory and public scrutiny, our operations, even under significantly stressed financial pressures, are better than they ever have been. The bottom line is that our State's regulations of our industry have been audited by many and have been determined to be best set of regulations throughout the Country. Please stop the constant pressure of regulators interpretation of the law that is aimed maybe with or without intention to choke to death an industry that is operating at an extremely high level of environmental compliance.

Don't get me started on the severance tax. (217)

Response: See response to comment 2112.

2126. Comment: I am writing to you to express my opposition to the passage of this illegal rewrite of the Chapter 78 regulations as proposed. I urge you to vote NO to these "copy and paste" regulations that are in direct opposition to the spirit and legislative intent of the 2014 Bifurcation

legislation. Please vote NO to this attempt by DEP to destroy the communities that have been a part of the oil region since 1859. Please reject this misuse of power and public trust that was granted to them to serve Pennsylvanians and allow conventional wells to operate under the effective regulations in place before the passage of Act 13 of 2012. You have heard and will hear more facts that clearly delineate and clearly define TWO completely different industries with a need for TWO different sets of regulations. (281)

Response: See response to comment 2119.

2127. Comment: Various Components of the Draft Regulations are Vague in Definition, Intent or Authorizing Statute

The PA Chamber expects that other trade associations whose membership is more concentrated in oil and gas extraction activities, including the Associated Petroleum Industries – Pennsylvania, the Marcellus Shale Coalition, and the Pennsylvania Independent Oil and Gas Association, will file more detailed comments regarding specific components of the proposed regulations. The PA Chamber urges that the Department fully consider and address these comments prior to crafting a final rulemaking to be considered by IRRC. (236)

Response: The Department has considered and addressed all comments submitted on the proposed regulations prior to crafting a final rulemaking to be considered by IRRC.

2128. Comment: There are numerous instances throughout the ANFR and the Subchapter C regulatory proposal as a whole where various activities are authorized or prohibited or regulatory obligations deemed met “as determined by the Department.” These include sections relating to water replacement, noise mitigation and mine-influenced water. We object to such broad use of yet-to-be-finalized technical guidance documents as placeholders in a proposed regulation. While technical guidance is often useful in filling in some of the gray areas of a regulation for both DEP staff and the regulated community, the regulations themselves must establish clear, binding norms for staff and the regulated community to follow in applying that guidance.

The draft final regulations are deficient in many respects. We find that the Department has failed to fully address the cost impact the newly proposed provisions of the regulation will incur on the oil and gas industry, as well as clearly identify the need for and statutory basis of these new provisions as required by the Regulatory Review Act. The Department’s use of the ANFR process to circumvent the Regulatory Review Act is an unacceptable precedent to the regulated community and our members. Unless these significant deficiencies (and the other areas noted above) are corrected, the Department’s rulemaking package should be reconsidered and restarted. (236)

Response: It is not appropriate to list all specific standards in regulations as conditions change over time requiring timely modifications. Specific details are better listed in guidance material that can be easily updated in a timely fashion.

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small

businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

2129. Comment: In the summer of 2014, the bifurcation Act 126 was passed requiring that regulations be completely severed into separate chapters, one for conventional and the other for unconventional operations. It is my understanding, and the intent of the legislatures, that for any proposed change to Chapter 78 for conventional operations, the EQB is required to start fresh with:

- 1) A proposed rulemaking, which was not provided
- 2) A regulatory analysis, which was not done
- 3) A public comment period if necessary

None of these steps were followed and Chapter 78 currently remains on the same track as Chapter 78a for unconventional operations. (251)

Response: See response to comment 2119.

2130. Comment: If we have incorrectly judged that the Draft Final Regulations are an intentional attempt to stifle the natural gas industry in the Commonwealth, then the Department has inadvertently arrived at the same result. The Draft Final Regulations introduce such a combination of over-regulation coupled with vague and ambiguous terms and requirements into Chapter 78a that operators will be subject to uncertainty and arbitrariness - factors that make continuing investment in Pennsylvania problematic. If it is not the intent of the Department to shut down this industry, we urge you to convene meaningful dialogue with the industry so that the Department can truly meet the legislative directive to balance optimal development of natural gas with necessary environmental protections. We would appreciate your consideration of our comments. (191)

Response: See response to comment 2112.

2131. I am writing this email in response to the proposed changes to Chapter 78 as a concerned oil and natural gas industry employee. There are hundreds of changes, deletions and additions of wording in the document and I stand by the thorough review that the Marcellus Shale Coalition will be providing as well as Cabot Oil & Gas Corporation's official statement on the proposed changes.

Why are we so anti-oil & gas in this state? Imagine where this state would be if we wouldn't have had this boom in industry investment. Why are we so quick to frighten the industry away? Shouldn't we be inviting them with open arms? With the new poorly designed regulations we are asking too much of the oil & gas industry. I understand that the DEP is just trying to do their jobs, but sometimes it is okay to accept that the current process works. How is it fair to ask the oil & gas companies to live up to your new regulation changes, yet we do not impose such arduous regulations on other industries? If anything shouldn't everything you are imposing on oil & gas

companies apply to every other surface disturbing industry in PA? If we fight for equal treatment between people, shouldn't we fight for equal treatment between industries? For the sake of brevity, here are just a few of the major flaws that make this legislation job-crushing and unnecessary: The regulations would create an overreach by the PA DEP into areas where it is not authorized to regulate, such as noise monitoring and placing restrictions around wildlife species. Both of these areas are within jurisdictions at levels different than the PA DEP. • The regulations would require a total of 31 notifications which would require additional resources – both for companies and the PA DEP – to properly monitor and review with little environmental benefit. • PA DEP has failed to conduct a cost-benefit analysis for the proposed changes and failed to conduct an analysis of the impact of these rules on small businesses – both of which are required by law. • These proposed changes contain various poorly-defined terms, and in some cases no definition at all, in rulemaking that will have a major impact in future operations and perhaps retroactively as well. Without clearly defined regulations, much of the enforcement will be based on interpretation rather than rules. • The proposed regulations are too prescribed and do not allow for natural innovation within the industry therefore allowing them to quickly become outdated in light of continuing advancements in technology.

The proposed regulations are selective and targeted with respect to the unconventional oil and gas industry and are not uniform, consistent or fair relative to other industrial sectors. As such, they are far-reaching and overly-burdensome, with little to no environmental benefit. (255)

Response: Regarding the appropriateness of this rulemaking, see response to comment 2112.

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

Regarding flexibility, the rulemaking allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

Regarding definitions, please see the specific comments and the Department's responses on §§ 78.1 and 78a.1 related to definitions.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

It is appropriate for the rulemaking to target the oil and gas industry because the purpose of the rulemaking is to develop regulations for the oil and gas industry.

2132. Comment: The Pennsylvania DEP has recently released a picture file to the news media showing photographs of obvious violations and pollution associated with conventional well

operations. I acknowledge that conventional oil and gas operations are not environmentally benign and that most of the problems documented should never be allowed to occur and those responsible should be held accountable. Of equal importance, I note with extreme emphasis that every one of the problems and violations portrayed in the photos are adequately addressed in the current law. Additionally, all of these problems have likely been resolved since the pictures were taken, indicating the current regulations are effective and yield favorable results. In my humble opinion, these photos highlight several things:

- 1) Regulation is necessary
- 2) Existing regulations and laws adequately address the issues
- 3) Additional regulations are not needed to fix or eliminate these problems
- 4) Many of these pictures show problems that had existed for an extended period of time prior to the inspection when the photos were taken; indicating that regulation without adequate enforcement is not effective.
- 5) The Department's response to these violations is the proposed addition of new and more stringent regulation. The logical answer is to enforce the existing regulations. When traffic speeding becomes a problem, do we first reduce the speed limit making it more stringent? No, we get speeding tickets. (251)

Response: See response to comment 2112.

2133. Comment: I haven't been in the oil and gas industry nearly as long as many in here today and have nowhere the experience as the men I've worked for in this room. That being said, during my time working as a rig hand with Pennsylvania crude and as a land man working with Marcellus shale pipelines, I've had plenty of time to develop my own opinions of the DEP.

Your zero tolerance policies when it comes to infractions on the part of producers is about the most hypocritical thing that I have ever heard, even as far as government policies go. I recently got to sit in on a story about an orphan well in a residential area that blew back oil and impacted a local community. A friend of mine's wife heard the noise, so he went to inspect the damage. Being an oil man his entire life, he knew the severity of the situation, put down hay bales and bags of peat moss of his own to prevent the oil from spilling into a nearby waterway. This orphan well was also within about 25 ft. of a nearby woman's water well.

When he got a chance the next day, and the DEP was on the scene, he told them what he'd done and asked what they were going to do, if they were going to plug it; too which the agent replied, we don't have the money to do anything, we already went through our budget. Where's the zero tolerance on your part? Whatever happened to leading by example or holding yourself to a higher standard? I guess those things we were taught go out the window when it comes to big brother.

But this same man that did the right thing to help clean up the DEP's mess, because you are legally obligated to those orphan wells, gets pegged with fines of his own because his "Stuffing box had a slow leak". You fine producers thousands of dollars at the very sight of the most minute amount of oil where it shouldn't be. But one of your wells blows hundreds if not thousands of gallons into the environment and I guess your theory is, Do as I Say, Not as I do? The hypocrisy is mind-blowing. It doesn't sound to me like you're quite as worried about the

serious environmental impacts at hand as you are making a profit off of producers. Sounds to me like what we're really dealing with is the Department for Environmental Profit.

Marcellus Shale companies can fend for themselves against big government. Independent producers cannot. When their livelihoods are at stake because of an overbearing, over regulating, tyrannical government they must band together like any other group in history has done. My heart isn't in Washington County with Marcellus shale, it's in Northwestern Pennsylvania and that's why I'm here. We've fought this since these new regulations were announced, and we'll continue to fight. The way I see it, we've only just begun. (326)

Response: To the extent that the comment is meant to address the Department's abandoned well plugging program, it is beyond the scope of this rulemaking.

Regarding the commenter's compliance and enforcement concerns, the Department has developed a compliance and enforcement strategy to address issues with inspection frequency and compliance (Department Document Number 820-4000-001, *Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations*).

See response to comment 2094 regarding the appropriateness of the rulemaking.

2134. Comment: I am a third generation representative of a family business that has been in continuous operation since 1947. We are conventional producers of shallow oil and natural gas located in Northwestern Pennsylvania. We have enjoyed several booms and we have suffered as many busts but we have always persevered and lived to fight another day. Today, when I speak to my father and my grandfather about the current climate of our industry they are less confident about its' future than they have ever been. Where, in the past, there had always been a gleam of cock-eyed optimism, today there are dark shadows of doubt. It's not solely the downturn in commodity pricing. Markets ebb and flow. No, this prickly uncertainty results from the seemingly endless onslaught of new and revised regulation being imposed on our conventional industry by the DEP.

When I read the proposed regulation changes to Chapter 78 by the PA DEP I am forced to ask the following questions:

What has changed in the operations of the conventional Oil and Gas Industry in Pennsylvania since the 1960's? Nothing! If the way we operate has not changed, why then are the regulations which were promulgated in 1985 and updated in 2001 no longer adequate?

When we, as an industry collective, implore the DEP to share with us what scientific and empirical data they have gathered to justify these proposed changes what have they shown us? Nothing! Instead they prey on the emotions of the citizens of Pennsylvania by publishing photos of spills that are already violations under the current regulations. Why impose more regulation when they cannot effectively enforce those currently on the books?

When we, as an industry of small mostly family-owned businesses ask what alternatives or exemptions for small businesses have been considered in incurring costs of \$1.5 billion in implementation and then hundreds of millions of dollars per year ongoing to maintain the proposed Chapter 78 changes? Their answer: nothing! When asked to recognize the devastating financial implications of their proposals our protestations fall on deaf ears.

The spirit of the bifurcation of Chapter 78 was meant to regulate the Unconventional and Conventional Oil and Gas Industries separately; the conventional industry via Act 223 and the Unconventional Industry via Act 13. Instead, the PA DEP has executed a word processing exercise in giving us two identical sets of regulations labeled “Chapter 78” and “Chapter 78-A.” They laugh in the face of our State Legislatures who saw the need for bifurcation and worked hard to push it through. The DEP scoffs at our conventional industry as uneducated rural roughnecks and work to implement unattainable regulation as a sort of retribution for our audacity in trying to save our jobs and maintain our rich heritage here in Pennsylvania.

There is no question that the protection of the pristine waters and natural resources of our Commonwealth is a noble endeavor. We, in the conventional industry are stewards of the environment. Yet we are labelled as “criminals” sight unseen by many in the DEP Offices in Harrisburg. If our activities in the conventional oil patch are so detrimental then why are the fresh water aquifers, streams, creeks, and rivers that course through Warren, McKean, Venango and Forest Counties among the most exceptionally valued and highest quality in the State? The mighty Allegheny River is an artery that the oil patch follows directly from Bradford to Butler; a national symbol of wild, uncontaminated beauty.

Ours is a cottage industry composed of small, family-owned and operated businesses located in the rural, economically depressed counties of Northwestern Pennsylvania. We employ the men and women from communities unknown to many: Titusville, Pleasantville, Oil City, Bradford, Warren, Sheffield, Kane. In many of these communities ours is the only industry left. We manage shoestring budgets and invest what slim profits we make into our employees or back into our businesses. We aren't J.R. Ewings or Daniel Plainviews. We are the people you bump into at the grocery store. Your kids are on the same soccer team as ours. Don't confuse us with the Chevrons, Shells and Senecas of the Marcellus and Utica Shale-plays. We are the local hardware store. Why treat us like Wal-Mart?

Pennsylvania's Conventional Oil and Gas Industry is the oldest of its' kind in the world. That legacy is threatened now more than it ever has been. Our industry deserves its' own set of regulations. Those regulations were written in 1985 and updated in 2001 and they work. Give them back to us, as written, so we can do what we do best; work. (338, 338a)

Response: See response to comment 2119.

2135. Comment: I am a Professional Engineer licensed to practice within the Commonwealth. I have 18 years of professional experience and am employed by Civil & Environmental Consultants, Inc. of Robinson Township where I hold the position of Vice President and manage the company's Natural Gas Industry Consulting Group. I am here tonight speaking as an individual citizen; not on the behalf of my employer.

With that said, I think that it is important that I communicate to you that the Natural Gas Industry is important to me relative to my job. It represents over 1/3 of the annual revenue generated by my company; it has facilitated career growth that would not have otherwise been possible for me and many of my co-workers; it supports over 100 jobs that I am responsible for in CEC' s three Pennsylvania locations; and it played a key role in bridging the gap for us when practically all of our other market sectors were suffering in 2008 and 2009.

I have worked with natural gas producers, midstream companies and those involved with processing and treatment since 2008. The services that my company provides are centered on helping these companies conduct their activities in an environmentally safe and responsible

manner. We perform environmental investigations and engineering services; we work with the PADEP to obtain permits and assist with compliance. In this capacity, I have had the unique perspective of witnessing and, for a large part, living the evolution of the PADEP's regulatory framework for the natural gas industry since the Marcellus Shale became a viable production option. My experience has helped me draw the conclusion that Pennsylvania's regulation of the Natural Gas industry is comprehensive and very thorough. Furthermore, I have worked closely with the staff at the PADEP throughout my work in this industry and have confidence in their will and their ability to protect the resources of the Commonwealth.

It is my opinion that the regulations proposed in Chapter 78a in this rulemaking go too far. They propose regulation that will not result in appreciable benefit to the environment, yet will have a crippling effect on the industry that is so important to the economic viability of our Commonwealth, this region, my Pennsylvania-based employer, others like it and me. I urge the Department to reconsider this action in favor of a more balanced approach that includes the input of all stakeholders, including the regulated community.

I offer the following specific points:

- 1) The rulemaking contains standards that are only applicable to the Oil and Gas Industry. The wastewater treatment; noise; storage tank; and waste reporting standards included in the proposed document will unfairly burden the Natural Gas industry in comparison to other industries operating within the Commonwealth.
- 2) The rulemaking eliminates the text proposed under the December 13, 2013 rulemaking relative to Centralized Impoundments and effectively eliminates impoundments from the list of available facilities that can be utilized to store and recycle flowback and produced water. Speaking from experience, the Department, industry and the consulting community have invested vast amounts of time and resources to develop design and construction standards for centralized impoundments that have been proven to result in the construction of safe and reliable facilities. The most recent standards included robust liner system and subgrade requirements, groundwater protection standards and provisions for ongoing monitoring. It would be a shame to eliminate this as a viable option at this stage in the evolution of the PADEP's regulations. Unintended consequences of this rule could include less water recycling, more truck traffic associated with water transfer and more earth disturbance being necessary to site tank farms. I speak from direct experience when I say that these impoundments can and have been built and operated in a safe and environmentally sound manner with proper design, construction oversight and operational controls.
- 3) The rulemaking will result in significant compliance costs at a time when the industry is already facing difficulty due to slumping commodity prices. The net effect of this is that it will make Pennsylvania less competitive with respect to its neighbors and other shale basins with little additional environmental benefit.
- 4) Pennsylvania already has world class environmental standards and regulatory staff. Let's let those work for us in lieu of creating new, overly burdensome regulation that singles out the very industry that helped carry us through the great recession. (386)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health

and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

The Department believes that centralized impoundments should be regulated in the same manner as other waste transfer facilities are regulated under Subpart D, Article IX. Therefore, the final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX which will ensure that Chapter 78 does not result in disparate requirements or disproportionate costs on one particular economic or extractive sector.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding centralized tank storage concerns, see the Department's response to comments submitted on §§ 78.57a and 78a.57a.

Regarding waste reporting concerns, see the comments and the Department's response on §§ 78.121 and 78a.121.

The commenter's concerns regarding wastewater treatment are not clear to the Department. Any wastewater treatment standards included in Chapters 78 and 78a remain largely unchanged from 1989 when Chapter 78 was initially promulgated.

2136. Comment: I work in the natural gas industry for PennEnergy Resources, a small, private, Pennsylvania based company located in the Pittsburgh area. My personal values include a strong commitment to the protection of human health and the health of the environment. I have worked in manufacturing, environmental consulting, and the oil and gas industry for over 30 years helping companies comply with state and federal environmental regulations. I have performed environmental compliance audits both internally and externally throughout PA, the US and Internationally. I have also designed and implemented environmental management systems, which are designed to go beyond basic compliance requirements.

PennEnergy has been in business since 2011. We have grown from 2 to over 30 employees. Our activities help employ hundreds of Pennsylvania citizens in good paying jobs. PennEnergy has invested over \$300 million in southwest Pennsylvania to date; with over \$115 million going to local landowners in the form of lease bonuses. We are welcome in the communities in which we operate and have already significantly improved existing infrastructure in many areas and will continue to do so as we develop our acreage.

PennEnergy insists upon 100% compliance with all applicable rules and regulations and, we have the outstanding environmental performance record to support this. We support responsible regulations that truly protect our environment, as do most other operators in the state. Our industry is already very well regulated by PA DEP, US EPA, OSHA, ACOE, and others and the Pennsylvania regulations have served as a model for states across the nation. These regulations have been reviewed and praised by the independent STRONGER board (State Review of Oil and Natural Gas Environmental Regulations). While there may be operators in the past, or even currently, who have not performed well with respect to protection of the environment, this is not about a need for more regulations, but rather compliance and enforcement of existing regulations.

My day-to-day job for PennEnergy involves the specific details of environmental compliance and reporting, with the ultimate responsibility of protecting human health and the environment. I

collect and report our operational data related to waste, air emissions, and water. Most of the current regulations are necessary to protect the environment. However, most of the proposed regulations will not provide any further protection to human health or the environment.

For example, rock removed from the borehole is required by the PA DEP to be analyzed for specific waste chemistry (including heavy metals, pesticides and PCBs!) with the results reported annually, and the waste descriptions, volumes, and destinations being reported every 6 months. Many of the analysis are not components of the drilling fluids and do not occur naturally in the environment. The proposed requirement is that the waste descriptions, volumes, and destinations must be reported monthly, instead of every 6 months (or annually for reporting of hazardous wastes in other industries). How we must handle waste rock, nor the analysis, will not change. To put this in perspective, other industries in Pennsylvania are only required to report this information on an annual basis. And incidentally, the drilled rock samples are generally the same as those found on the surface.

The proposed requirements contain standards applicable only to the oil and gas industry. There is no justification for singling out one industry for burdensome rules that do not apply to other industries or that provide no additional protection to the environment. More importantly, the details of “how to comply” with many of these proposed regulations have NOT been developed by the PA DEP.

For example, the proposed requirements contains a section on noise that no other industry is required to meet... that I'm aware of, and that authorizes PA DEP to shut down operations if they believe noise controls are inadequate, but there are no details provided as to what specific requirements or standards would apply or at what distances those determinations would be made.

With regard to storage tanks, rather than providing an incentive to recycle and reuse our wastewaters by facilitating temporary storage of those waters at centralized locations, the proposed requirements for those storage tank locations are so extensive, and beyond what would be required for tank storage in other industries, that they will actually be a major disincentive for recycling and reusing that water.

In addition, there is a proposed requirement to identify and monitor Pennsylvania's numerous abandoned and unidentified oil and gas wells during our drilling and completion activities. Estimates for the number of these wells are unknown and have been reported between 300,000 to 1,000,000. Almost all are very shallow and would therefore not be influenced by unconventional well completion activities that are conducted much deeper. PA DEP is well aware that detailed records on these old abandoned wells are often not available, but there will be general knowledge that the wells in certain areas were all shallow, nevertheless in those situations, the proposal would require us to make an unreasonable assumption that those wells were drilled much deeper than they were and undertake the significant time and expense to identify and unnecessarily monitor those wells during our well completion operations.

Conversely, the current Chapter 78.88 unconventional well Mechanical Integrity (MIA) program is a positive example of a balanced requirement where inspections are required to be conducted quarterly yet reporting is performed annually.

Finally, it appears that members of the regulated community are being negatively impacted by not being allowed to review the comment and response document from the proposed rulemaking that PA DEP is required by law to share.

We remain committed to protecting human health and the environment through the **existing** framework of environmental regulations, and these proposed new rules do very little to further that commitment. (319)

Response: See response to comment 2112 regarding the appropriateness of the rulemaking.

Regarding waste reporting concerns, see the comments and the Department's response on §§ 78.121 and 78a.121.

It is appropriate for the rulemaking to target the oil and gas industry because the purpose of the rulemaking is to develop regulations for the oil and gas industry.

It is not appropriate to list all specific standards in regulations as conditions change over time requiring timely modifications. Specific details are better listed in guidance material that can be easily updated in a timely fashion.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding centralized tank storage concerns, see the Department's response to comments submitted on §§ 78.57a and 78a.57a.

Regarding the need for the area of review requirements, see the comments and the Department's responses on §§ 78.52a and 78a.52a related to area of review.

In response to the request for release of the draft Comment and Response Document, see response to comment 2220.

2137. Comment: The few conventional oil and gas wells I own and operate are located in Armstrong, Butler, Washington, and Allegheny counties. Most of the wells were drilled before 1900. These wells have provided and continue to provide an income to owners, operators, employees, and associated businesses. Domestic gas is provided to many homeowners in accordance with the terms of the original leases and assignments.

My testimony as an independent operator of conventional oil and gas wells is to again express my opposition to the proposed draft final rule of the subject regulations. The draft final rule has expanded significantly and will place additional burdens on the oil and gas operators.

The draft final rule also refers to forms which are not yet available for review and thus far our experience with the Department's development of forms which are manageable has been costly and burdensome without evidence of benefit or usefulness.

I believe these regulations exceed the intent of the bifurcation of the regulations law, are burdensome and overly prescriptive without justification for the protection of the environment, and have not addressed the cost of compliance to those of us being regulated and therefore should be withdrawn.

There are a dozen or more forms referenced in the proposed regulations that have not yet been drafted or disseminated by the Department. The industry is expected to accept these forms as satisfactory in the final regulations without a chance to review or discuss.

The proposed regulations also have numerous requirements for advanced notifications to the Department for certain field activities. Each and every one of those requirements opens the operator to violations and fines that are not of a nature to cause any environmental harm, but are simply administrative in nature. (343)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking. See response to comment 2119 regarding the bifurcation and the regulatory development process.

The numerous notification requirements are necessary to allow the Department to conduct have an understanding of the regulated activities that are occurring and ensure timely inspections.

The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

2138. Comment: I have been employed by Howard Drilling, Inc. since 2002. Howard Drilling has been in the oil and gas business for more than 50 years. My daughter, nieces and nephews are 4th generation to work for Howard Drilling. I fear that there will be nothing left for the 5th generation. Between the poor economic conditions and the proposed regulations, I fear that our 5th generation will be donating our equipment to the local oil museum instead of operating it.

When I started in 2002, my day was entirely consumed with completing a job that gave me a sense of being productive. In the course of the past few years, my job has totally been dictated by the newly enacted DEP laws. I cannot tell you how the new rules and regulations will affect those who actually do the drilling, fracing and well tending, but what I can tell you is how they will affect the bottom line of the profit and loss statements. The DEP reports that I currently deal with are all time consuming, detailed, and in my opinion, only a few are necessary, but mostly to justify jobs for the DEP. In 2014, we drilled 30 wells and fracked 22, and had 136 DEP inspections. So far this year, we have drilled 4 wells and fraced 8 and have had 44 inspections. The ratio of wells drilled and fracked to inspections has increased thus far, not a good indicator the rest of the year.

With the advanced notice of the Chapter 78 Conventional Oil and Gas wells, referring to the 283 page document, I don't see where there is going to be any less reporting, paperwork, or less time spent on mandates. strongly urge The Pennsylvania General Assembly to work with us, and any other conventional well producers and/or groups to work together to pass regulations that are fair and not detrimental. Our members are hardworking, conscientious, and dedicated to getting a job done and they want to keep the conventional oil and gas well industry thriving. Without the oil and gas industry, what would North Western Pennsylvania do for jobs? According to the Pennsylvania Department of Labor & Industries, latest historical data posted on their web site, the top 50 employers by county, both McKean and Warren's biggest employers are Heath Care Facilities and Government agencies, meaning Federal, State, Local, and Schools. Ranked the number 5 employer for McKean County is the America Refining Group and number 5 in Warren County is the United Refining Company. These two refineries have been operating for more than 100 years providing good jobs and benefits to local residents. The proposed regulations will not only be a hardship on the producer but ultimately have a negative impact on the refineries, consumers, and our communities.

This year I am the President of Penn York Oil and Gas Affiliates, Association of Desk and Derrick Clubs. Our most important purpose is to promote the education to the general public about the energy industries. As President this year, my goal is to get a foot hold on the thresholds of our schools, which is very hard to do, due to the State Curriculum.

With the help of the Essay Committee and other members, the committee is currently working on field trips for 2 local schools to the Penn Brad Oil Museum in Bradford, PA. The museum has preserved our history and will provide an educational experience for all those who attend. I strongly believe that the survival of this industry depends on educating not only the youth but the public as well. Our youth needs to understand that a pump jack or tank battery in the woods is a good thing not a threat to the environment. Educating, not mandating is the answer. (356)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking.

Curriculum requirements for schools are beyond the scope of this rulemaking.

2139. The current draft revisions of Chapter 78 seem to have been developed based on fear rather than the best available science. The fear of oil and gas development, especially unconventional development (i.e. the Marcellus and Utica Shale), has been a moving target over the last 7 years and is endemic of bad science, disingenuous print, online and television media and a general misunderstanding of industry processes.

It appears that the current set of regulations, in many instances, is based on some of these manufactured fears. Of the 30-some states that regulate the oil and gas industry, Pennsylvania is currently the third most expensive to drill in on a cost per foot basis. The misplaced fear that has been promulgated into this draft regulation will surely drive Pennsylvania to the top of the list with little to no environmental benefitand no financial benefit to the Commonwealth. Look about 90 minutes north of here for an example of missed opportunities based on fear and misinformation. (306)

Response: See response to comment 2112 regarding the appropriateness of the rulemaking.

2140. Comment: Property Ownership : I have entered into oil and gas leases for four (4) properties, totaling nearly 750 acres. The oil and gas leases are with three (3) different Energy and Production firms, and includes the property that my house is situated on. I have a 30-inch diameter Interstate pipeline traversing a property owned by my wife and I have directly benefitted from the results of the Shale Gas Impact Fees due to the lowering of my local and county taxes, improved roads in my area, and the rehabilitation of Sullivan County's Court House - just to name a few.

Job Creation and Opportunities: I have been very fortunate to be able to work as a consulting engineer in north-central Pennsylvania, in a large part due to the oil and gas industry My brother works for a large Exploration and Production firm, with its branch office based out of Williamsport

My nephew is a well driller in the area My wife - who teaches high school has had many of her former students that live locally and have gained employment through the opportunities offered in the oil and gas industry

Correlation to the Proposed Revisions to Chapter 78:

-I am all for PADEP's goal of protecting human health and the environment.

- There currently are numerous rules, regulations and guidelines as they relate to all aspects of natural gas development.
- That's my job - to help firms in the natural gas industry to secure construction and operating permits through PADEP, the Army Corps, the Susquehanna River Basin Commission, the Conservation Districts, local municipalities, etc.
- Based on my intimate knowledge of what goes into securing such permits, I am well versed in saying that there are plenty of safeguards for the public and the environment in order to eliminate or minimize threats to human health and the environment.
- Therefore, I am not in favor of onerous and supplemental regulations that may adversely impact my job the evolution of Pennsylvania as a major player in the world's energy supply, and the production of a superb fuel that is noted for its clean-burning properties and minimal impacts on air quality.
- I personally feel that the present version of PADEP's regulations properly protects my properties, as well as the drinking water supply for me and my family - otherwise, I likely would not lease any of my properties to the oil and gas industry.
- I value the initiative and integrity of the natural gas industry and relish the employment opportunities that it presents to this area -' so let's not jeopardize this situation with onerous regulations. (312)

Response: The Department acknowledges the comment. See response to comment 2112 regarding the appropriateness of the rulemaking.

2141. Comment: As a Pennsylvania resident and land owner, mineral owner, royalty owner, and taxpayer, I am writing to express concern for the Department of Environmental Protection (DEP) proposed revisions to Chapter 78 regulations, and the proposed Chapter 78a. I am from Mars, Butler County, and my community has experienced firsthand the benefits of shale gas development. Between the impact fee dollars coming to our county and township and the revitalization of local businesses we need to encourage, not discourage, the natural gas industry in Pennsylvania. For me as a land owner, mineral owner, royalty owner, and taxpayer, I want this industry to succeed.

Because of development on properties like mine or within communities like mine, Pennsylvania now produces a quarter of U.S. natural gas supply, This home-grown energy is decreasing our dependence on foreign energy sources at a time when we need to make our country's energy security a national priority. As an immediate result of this abundant supply, our families are saving money on their energy bills. Pennsylvania residents are experiencing energy prices which are more than 40% lower than the onset of significant shale gas production in 2008, saving homeowners and businesses billions of dollars annually. And this industry is putting Pennsylvanians back to work. Shale gas development is supporting and has made more secure over 200,000 Pennsylvania jobs.

However, we cannot take for granted this industry and the immense benefits it has brought our state. Overly burdensome regulations will jeopardize this once in a lifetime opportunity. Pennsylvania already has world class environmental regulations that protect my property and my family. I am so proud to live in a state where our lawmakers took proactive steps to upgrade the

Commonwealth's environmental safety standards so that I can feel confident that drilling is occurring safely and that strong regulatory oversight is already in place to ensure the protection of my family and our community. Significantly altering the state's regulations with additional costly and burdensome requirements, as proposed, without proper evaluation and analysis, which I've seen no evidence of, does not help me and my family but puts everything we've built our futures on at risk.

Downward gas prices have already reduced activity and curtailed royalty payments. This rule will significantly increase the cost of doing business in the state and drive more investment out of Pennsylvania. Royalty owners and taxpayers like me will suffer the brunt of this impact. With that in mind, before proceeding, DEP should conduct a cost-benefit analysis for all the proposed changes as required by law, with the knowledge that bad economics for producers will directly affect not just me but thousands of other landowners and tax payers across the state.

Shale development and the spin-off economic benefits in our local communities has been a bright spot over the last 6-7 years as the nation continues to emerge from the recession. This is not the time to push overly aggressive regulations that will harm our economy, local businesses, and the citizens you work for. Now is the time to get gas to market and grow Pennsylvania's economy. Therefore, before moving ahead, please consider the impact of these regulations on Pennsylvania families like mine.

As stated about, I want this industry to succeed and based on my knowledge and observations of the industry and their operations in my area, I do not believe that additionally costly and burdensome regulations are necessary. The industry and the organizations that represent it are doing a good job ensuring protections of the environment and the communities in which they operate within an already existing stringent regulatory framework. Therefore, I also support the comments being submitted by Marcellus Shale Coalition (MCS) on these proposed revisions, knowing that they are trying to work cooperatively with the DEP to ensure an effective and reasonable regulatory program. (277)

Response: See response to comment 2112.

2142. Comment: I would like to start with section 78.57(e) which states that we must report the location of all underground or partially buried storage tanks. After working under the 1984 Oil and Gas Act for 31 years why all of a sudden do you need to know where our buried tanks are? If they would have been causing environmental harm the Department would have known by now where they are. So obviously there have been no problems.

Section (f) states that when we replace a tank it must be corrosive resistant and have cathodic protection. Has there been a problem with the old style tanks, because from the year 2004 thru 2010 there was only 1 Notice of Violation for a leaking oil tank. That is an excellent safety record for seven years and approximately 12,000 oil storage tanks being used according to the two refineries. There are not very many industries that can show that kind of excellence. The cost to comply with this regulation will add quite an additional cost to the operator for something that is not been proven to be needed.

Section (h) states that we will have to inspect all tanks, above and below ground every month. Once again where is proof that our tanks have been enough of a problem to warrant these inspections. The extra cost of someone inspecting the tanks, filling out forms from the Department and keeping them on file for a year will be a huge burden on the operator. Most

members of PIPP work other jobs besides operating their wells and don't have time to do unnecessary and burdensome paperwork that has nothing to do with protecting the environment.

Section 78.66 is about spills and releases. It states you must report a spill of 5 gallons or more. Our production water is listed as a residual waste. It weighs about 9 pounds per gallon which means 5 gallons weighs about 45 pounds. There are 717 hazardous materials that have a higher reportable quantity than our water. The Environmental Protection Agency states that you can spill 92 barrels which equals 3,864 gallons of 15 pound brine water before you must report it. When these facts were presented to Deputy Secretary Scott Perry he was asked to explain how we are only allowed to spill 5 gallons. His answer was, that the EPA needs to change their standards. So he is stating that the EPA is wrong and the DEP is right. I along with every oilman in this room tonight are saying that you need to change your standards. They are out of touch with reality.

Here are a few examples of the hazardous materials. Ammonia---reportable quantity is 100 pounds.

It is toxic, maybe fatal if inhaled.

For a small spill you must isolate area immediately for at least 330 to 660 feet in all directions.

Hydrogen Sulfide---reportable quantity is 100 pounds.

It is toxic, extremely hazardous and maybe fatal if inhaled or absorbed through the skin.

For a small spill isolate the area for 330 to 660 feet in all directions. Protect persons downwind during the day for .1 mile and at night for .3 mile. Wear Self Contained Breathing Apparatus for cleanup.

Phosphine---reportable quantity is 100 pounds.

It is toxic, maybe fatal if inhaled or absorbed through the skin.

For a small spill isolate the area for 330 to 660 feet in all directions. Protect persons downwind for .2 mile during the day and .8 mile at night. Wear Self Contained Breathing Apparatus for cleanup.

If our production water is so bad then explain to us how most streams in the areas where we operate, except for coal areas, are either high quality or exceptional value. A study of the streams that run through the Allegheny National Forest, which has tens of thousands of conventional oil and gas wells in operation, says a full 72% of the 2,126 miles of mapped streams are rated as high value or exceptional value. Conewango Creek which runs through Warren was just voted the Pennsylvania River of the year.

Since 1984 there have been enough regulations in place to protect the environment. More regulations will only hurt the industry and hamper its growth. Our industry as a whole does a great job protecting the environment. Our industry along with the DEP must work together to bring the few bad operators into compliance.

Production Water vs Hazardous Materials

Act 13, Chapter 78.1 Definitions states, more than 5 gallons of brine within a 24-hour period on or into the ground at the well site where the total dissolved solids concentration of the brine is equal or greater than 10,000 mg/l must be reported.

Our production water (brine) weighs about 9 pounds per gallon. 5 gallons weigh about 45 pounds. It is listed as a residual waste not a hazardous material.

I went through the EPA's list of reportable quantities for hazardous materials and found out that there are 717 hazardous materials that you can spill more on the ground, without reporting it than you can our production water. The EPA list had 970 hazardous materials listed.

I tried to find the reportable quantity for production water on the EPA list and all I could find was a list that the brine water started out being listed was 15 pound brine. Our brine has never in the history of the oil fields ever been more than 9 or 10 pounds per gallon. The EPA list states that you can spill 92 barrels of 15 pound brine on the ground before you must report it.

How can anyone in the state of Pennsylvania justify 5 gallons of our water being a spill?

Examples of Hazardous Materials with a R.Q. over 50 Pounds

- 1) Ammonia---CASRN # 7664-41-7
Reportable Quantity is 100 pounds
North American Emergency Response Guide # 125

Toxic, maybe fatal if inhaled.

Isolate spill or leak area immediately for at least 100 to 200 meters (330 to 660 feet) in all directions. For a small spill
- 2) Benzyl Chloride---CASRN # 98-87-3
Reportable quantity is 5,000 pounds
North American Emergency response Guide # 156

Toxic, inhalation, ingestion or contact (skin or eyes) with vapor, dusts or substance may cause severe injury, burns or death.

Isolate spill or leak area immediately for at least 50 to 100 meters (160 to 330 feet) in all directions.
- 3) Chlorobenzene---CASRN # 108-90-7
Reportable Quantity is 100 pounds
North American Emergency Response Guide #130
May cause toxic effects if inhaled or absorbed through the skin.
Isolate spill or leak area immediately for at least 50 to 100 meters (160 to 330 feet) in all directions. Wear SCBA gear for cleanup.
- 4) Dimethyl Sulfate---CASRN # 77-78-1
Reportable Quantity is 100 pounds
North American Emergency Response Guide #156
Toxic, inhalation, ingestion or contact (skin or eyes) with vapor, dust or substance may cause severe injury, burns or death.
Isolate spill or leak area immediately for at least 50 to 100 meters (160 to 330 feet) in all directions. Wear SCBA for cleanup. For a small spill protect persons downwind during the day for .4 miles and at night for 1.7 miles.
- 5) Hydrogen Sulfide---CASRN # 7783-06-4

Reportable Quantity is 100 pounds.

North American Emergency Response Guide # 117

Toxic, Extremely Hazardous

Maybe fatal if inhaled or absorbed through the skin.

Isolate the spill or leak area immediately for at least 100 to 200 meters (330 to 660 feet) in all directions. Wear SCBA for cleanup. For a small spill protect persons downwind during the day for .1 mile and at night for .3 miles.

6) Methly Iodide---CASRN # 74-88-4

Reportable Quantity is 100 pounds.

North American Emergency Response Guide # 151

Highly Toxic, maybe fatal if inhaled, swallowed or absorbed through the skin.

Isolate spill or leak immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. Wear SCBA for cleanup.

7) Phosphine---CASRN # 7803-51-2

Reportable Quantity is 100 pounds

North American Emergency Response Guide # 119

Toxic, maybe fatal if inhaled or absorbed through the skin.

Isolate spill or leak immediately for at least 100 to 200 meters (330 to 660 feet) in all directions. Wear SBCA for cleanup. For a small spill protect persons downwind for .2 miles during the day and .8 miles at night.

(364)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking.

The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

The Department disagrees with the commenter's assertion that the Department would know the location of all buried tanks that are causing environmental harm. The Department believes that below ground and partially buried tanks create a greater environmental risk than aboveground tanks because they are more difficult to inspect and maintain. Underground leaks can go undetected for significant amounts of time until problems surface, especially when formal leak detection protocols or equipment are not in place.

Section 3218.4(b) of the 2012 Oil and Gas Act requires all aboveground and underground tanks to comply with the applicable corrosion control requirements in the Department's storage tank regulations. This section is intended to implement that statutory requirement.

Requirements to conduct periodic inspection of production tanks are appropriate to ensure that the tanks are designed, constructed, and maintained to be structurally sound with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. The Department has amended subsection 78.57(h) to reduce

the frequency of inspection from once per calendar month to once per calendar quarter. It is not clear to the Department which inspections are included in the count provided by the commenter but the Department's review of inspection data for 2014 reveals significantly more than one incident where quarterly inspections may have mitigated a tank storage release. In addition, the Department notes that since storage tanks are not a subject of many inspections, the number of leaks found by the Department expressed as a fraction of the total number of inspections is not a reliable measure of the frequency of storage tank releases. Finally, the Department inspected only slightly more than 6 percent of the conventional wells in 2014, so it is presumable that there were storage tank releases that are unknown to the Department, which is a problem that could be mitigated by well operators conducting quarterly inspections. Attachments are included in the comment.

Section 78.66(b) only requires reporting of a spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system, or spills or releases causing or threatening pollution of the waters of the Commonwealth. The Department believes that the revisions to Chapters 78 and 78a are stringent enough that complying with the requirements will also allow operators to meet the reportable quantities provisions of the federal regulations. The Department also believes that the revisions to Chapters 78 and 78a reach an appropriate balance between notifying the Department and allowing small spills to be addressed but not reported.

2143. Comment: It is understood that the Department did not have to follow the Advanced Notice of Final Rulemaking procedure, but did so to allow additional review and comment from all interested parties. For this we are appreciative.

The regulatory process is challenging at best, but this Chapter 78 (Subpart C) process has been made even more so.

- Sweeping regulatory changes are proposed to an industry that has been effectively regulated for decades.
- A new and magnificently productive new play has been proven. We call this the Marcellus/Utica and it is a game changer and this was the impetus for a new regulation package.
- There is huge public and stakeholder interest in this package as evidenced by 24,000 +/- comments. This is unprecedented.
- This process is ripening as the IRRC deadline approaches so there is now a time crunch approaching.
- Parts of Act 13 were ruled unconstitutional and are under serious legal review and we all wonder when and where it will end up.
- The legislature required bifurcation of the Conventional and Unconventional operations leading to a hasty separation of the two sides of the industry.
- A new administration has taken control.
- The long standing TAB was severely shaken up and all new members appointed and the make-up of TAB modified.

- A new advisory committee was formulated and is getting its feet on the ground.
- This is all happening when the economic health of the industry is in peril and conventional activity is down by 80% and unconventional activity is down some 30% and continues to drop.

It would be wonderful if we could all take a deep breath and regroup, and while that does not appear likely, that is exactly what I am suggesting to you here tonight and I will offer both general and specific comments to that point.

General:

- The current draft of the regulations goes **beyond** the words and **the intent of Act 13** with **respect to conventional operations**.
- The current regulations **largely ignore the intent of the bifurcation** legislation (Act 126) by proposing many changes to the existing Chapter 78 provisions for conventional operations. This is substantiated by the correspondence from legislatures and through conversations with sponsors of the bill.
- The current **regulations are overly prescriptive and burdensome** to the industry without justification for needed protection of the environment. It was recently documented by the Department that violations have dropped from an average of 18% per inspection conducted to 8% per inspection conducted. This demonstrates that the existing regulations are working and further changes are not needed.
- The proposed regulations fail to present a **flexibility analysis** for small businesses as required by law.
- The Department has failed to quantify the **cost of compliance** with the proposed new regulations.
- There are a **dozen or more forms** referenced in the proposed regulations that have not yet been drafted or disseminated by the Department and were **not included** in the Advanced Notice of Final **Rulemaking**. The industry and other interested parties should not be required to accept these forms as satisfactory in the final regulations without a chance to review and comment.
- There needs to be a distinction in the “Notice of Violation” process between **administrative type violations and environmentally threatening** or damaging violation. There also needs to be a mechanism to have a **NOV** removed from the record if it is shown the violation was issued inappropriately. Violation statistics are often used to characterize the oil and gas industry as very bad actors and revisions of the violation procedures in this regulation package is appropriate.
- The provision to complete environmental enhancement projects in-lieu-of paying fines for environmental violations should be included in this regulation package.

For these reasons the draft regulations for the conventional industry should be withdrawn. (335).

Response: See response to comment 2094 regarding the appropriateness of the rulemaking.

See response to comment 2119 regarding the bifurcation and the regulatory development process.

The revisions to Chapters 78 and 78a allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

Regarding notices of violation and enforcement, the Department has developed a compliance and enforcement strategy to address issues with inspection frequency and compliance (Department Document Number 820-4000-001, *Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations*).

The Department agrees that it is important to meaningfully collaborate with stakeholders to ensure that regulations are appropriately tailored to risks presented by the activity being regulated. Neither the Department nor the Governor has any intent to antagonize any industry that has a lawful right to operate in the Commonwealth. It is clear however, that issues surrounding oil and gas development extend far beyond the technical aspects of well drilling – which is the purview of the Technical Advisory Board. It is also clear that the conventional oil and gas industry presents (and is confronted with) very different issues than the unconventional industry. As such, it was necessary and appropriate for DEP to broaden the scope of advisors it listens to during the regulation development process.

2144. Comment: I am very concerned about the proposed set of new regulations on our local oil Producers that will change the current regulations that have been in place since 1985. It is also my understanding that you can't give any reason why these new regulations are needed. (153)

Response: The Department disagrees with the comment. Chapter 78 Oil and Gas Regulations, which is the subject of this rulemaking, is essentially the existing Chapter 78 regulations from 1984 that have been updated in certain sections to address obvious omissions, weaknesses, and inconsistencies.

2145. Comment: Hydraulic fracturing will contaminate drinking water aquifers.

Incorrect - Anyone who has taken a structural geology or rock mechanics course knows why this is the case. Furthermore, after nearly 1.5 million frac jobs since the 1960s, neither the USEPA nor the regulatory agencies of the 30+ states who take advantage of this resource can identify a single instance of this happening. (306)

Response: The Department acknowledges the comment.

2146. Comment: While the BCWA recognizes the importance of energy independence, the Association stands in unyielding support of regulations that consist of high standard requirements, oversight, and enforcement directed toward assuring responsible and uncompromised development practices and regulatory compliance. The BCWA supports the DEP's initiative to modernize the state's oil and gas protection performance standards to reflect emergent technological and scientific advances. (345)

Response: The Department acknowledges your comment.

2147. Comment: I am extremely concerned about drilling-caused degradation of our water, land, and air. I am writing to express my support for the strongest possible protections against environmental harm caused by fossil fuel extraction. Drilling activities cause harm affecting many essential environmental processes, including water disposal, water storage and contamination, noise, and other aspects of natural gas extraction that could harm our health and the environment. Please enforce strict regulation on drillers. (45a)

Response: The Department acknowledges the comment. Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

2148. Comment: Thank you for the opportunity to comment on the proposed Advance Notice of Final Rulemaking of the Environmental Protection Performance Standards at Oil and Gas Well Sites (Chapter 78 and 78a). There is an obvious change from the listening you have done to the community. I appreciate the work you have done thus far but feel there are areas that could be better served to more fully protect me and my community and PA. So thank you for the opportunity to again, be heard! (50)

Response: The Department acknowledges the comment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2149. Comment: The highest standards must be put in place for gas and oil well drill sites. The protection of the fresh water sources and the local community must be paramount in consideration. The effect to the local wild life most also be addressed carefully. (46)

Response: The Department acknowledges the comment.

2150. Comment: As per environmental protection performance standards at oil and gas well sites, I am pleased the Pennsylvania Department of Environmental Protection intends to issue some new rules that will help protect Pennsylvanian's health and the environment of Pennsylvanians to a greater degree. However, I would like to see the Pennsylvania Department of Environmental Protection be even more stringent and strict when it comes to protecting the environment and the health of Pennsylvanians. Oil, gas, and coal companies have in many ways run rampant across Pennsylvania, with the "epidemic" of fracking across Pennsylvania being a case in point, and I think that the Pennsylvania Department of Environmental Protection should be issuing rules that hold Big Oil, Big Gas, and Big Coal companies more fully accountable, and which prevent them from doing basically as they please to extract whatever fossil fuels they can across the state, while polluting the environment. The yardstick for success must be the health of Pennsylvanians, and the health of Pennsylvania's environment. To the extent possible I hope the Pennsylvania Department of Environmental Protection can support clean energy and the expansion of clean energy in Pennsylvania (such as solar, wind, hydroelectric, biomass, geothermal, etc.). (32)

Response: The Department acknowledges the comment. Incentivizing use of clean energy such as solar, wind, hydroelectric, biomass and geothermal is beyond the scope of this regulation.

2151. Comment: I feel the new regulations are a step in the right direction. Much more oversight is needed for direct and indirect operations. For example, sub-contractors have to be held to high standards as well. Last, we need much more research about the environmental and health impacts

of these practices. In the meantime, oversight of these operations and strict enforcement of the new rules are imperative. I applaud your efforts. (37)

Response: The Department acknowledges the comment. Regarding enforcement, the Department has developed a compliance and enforcement strategy to address issues with inspection frequency and compliance (Department Document Number 820-4000-001, Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations).

2152. Comment: I urge the DEP to accept the proposed Environmental Protection Performance Standards at Oil and Gas Well Sites. As a Registered Nurse I know the serious negative effects on citizens' health that the emissions and noise from drilling and well sites can cause. Maximum efforts must be made to ensure protection for people living in the areas of concern. Oil and gas drilling should not be carried out at the expense of citizens. (75)

Response: The Department acknowledges the comment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2153. Comment: Fracking poses high risks to the environment. Pennsylvania's forests, streams, parks, and schoolyards are precious resources that warrant strong protections. The new protections proposed in Section 78a amendments are much needed and long overdue. I urge you to adopt the Section 78a regulations in full so that Pennsylvania will have the essential resource avoidance, impacts minimization, and site restoration requirements that are missing today. It is the obligation of the DEP to protect our environment; these regulations are an important step that will help safeguard our natural resources from undue harm. (81)

Response: The Department acknowledges the comment.

2154. Comment: I'm writing to support the new Chapter 78 regulations to protect public health and the environment from dangerous drilling and production practices.

Updated rules that protect our drinking water and air quality are long overdue. Thank you for holding the gas industry accountable. (89)

Response: The Department acknowledges the comment.

2155. Comment: Safe guard Pennsylvania! Implement regulations to protect the environment, people and animals from fracking and water contamination. (108)

Response: The Department acknowledges the comment.

2156. Comment: Night-time lights flooding forests and marshes from drill sites interfere with life cycles of many insects with impacts on bats, already in trouble from White Nose Syndrome and in steep declines. This impact is in addition to loss of dark sky and star watching. With cloud cover the impact is even worse due to reflection off clouds from greater distances. Thank you for considering mitigation or rules/laws to reduce these real impacts to wildlife and the lifestyles of people living in shale-drilling regions. (121)

Response: The Department acknowledges the comment.

2157. Comment: My local newspaper states that DEP will continue to receive comments until 5/19/15 and that is why I am writing. I live in Warren County and the local paper relayed some

comments that were received at a public hearing on 4/30/15 at the Warren County Courthouse. Most of the reported comments were from “local”, “conventional” “independent” producers and the politicians who support them. The general tone of the reported response was that the oil and gas industry does not need more regulation. I could not disagree more. Please remain free from and independent of political influence and focused on the goal of protecting Pennsylvania's air, land and water from pollution and promoting a cleaner environment. It seems the politicians are the biggest problem. It is embarrassing that Governor Corbett was bought by out of state companies that were allowed to come into our state and take our resources and are now planning to export them out of the state and even overseas. Please act on behalf of the environment; the trees, streams, plants, insects and wildlife that can't buy political influence. (135)

Response: The Department acknowledges the comment.

2158. Comment: Connection for Oil, Gas & Environment of the Northern Tier, aka C.O.G.E.N.T. has participated in many comment periods to advocate for better operations near our homes and schools with the goal of working towards the delicate balance where all stakeholders – public health and safety, the environment, our communities and industry all thrive. We are based in the Northern Tier Region, focused on the counties of Bradford, Sullivan, Susquehanna, Tioga and Wyoming Counties. Approximately 183,000 souls reside in our region comprised of nearly 4,000 square miles.

We’ve been involved with this rulemaking since 2011 when we were advocating to our assembly members for better measures, in 2013 participating with the four TAB subcommittees, 2014 submitting written comments on the proposed draft and 2015 as a newly appointed advisor to TAB. We are very pleased the Department has included this one last round of public comment to further fine-tune the proposed regulations ensuring that the areas in which we live, love, raise our families, recreate and work are adequately protected and provide for reasonably regulated unconventional oil and gas industry operations near our homes and schools.

Currently, our Region lies within the heart of the northern reaches of exploitable unconventional shale gas and hosts 41 percent of total unconventional spud wells and a disproportionate share, 54% of violations. Thus with nearly one well (.94) per square mile within our region, and still within the beginning of exploitation, this rulemaking is extremely important to us and will define the manner in which we coexist with the unconventional shale gas industry operating near our homes and schools. (170)

Response: The Department acknowledges the comment.

2159. Comment: Although I believe that the general Gas Drilling Rules are woefully deficient in the ability to protect the environment, I wholeheartedly agree with this small step in the right direction. With over 7,000 wells already drilled in this beautiful state and with over 200 documented cases of water contamination, timing is crucial to save our resources. I moved here before I ever knew of this hydraulic fracturing process, and had I known, I may have never decided to become a taxpayer in this state. People with the means will leave if something isn't done to curb the gas industry as they trample on people's rights, and care nothing about Pennsylvania's environment or Pennsylvanians health.

Thank you for this opportunity to make statements with regards to these new rules. I am placing my trust in John Quigley as a welcomed change from the last administration. (160)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with applicable statutes and provide appropriate balancing of protections for public health and safety, the environment and the economy. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2160. Comment: I am a life-long resident of Wyoming County. Currently I live in Lemon Township. I hold a degree in Electrical Engineering from Wilkes University, and I have spent 20+ years of my career working for the Wireless Telecommunication industry on siting towers and other infrastructure for the industry. I am a natural gas leaseholder, a stay at home mother of two young children, and I work full time as an engineering consultant.

I have been observing and experiencing first-hand the Marcellus shale development over the past four years. Within a two mile radius of my home I have six active well pads, with approximately twenty spudded wells, the Hirkey Compressor Station, and one freshwater impoundment. The closest well is within 2700' of my house. I want you to know that I actually feel, hear, see, and breathe Marcellus development twenty-four hours of every day.

I am writing this letter urging the quick passage of the revisions to the Chapter 78 Oil and Gas Wells Code. I have read reports on both industry and environmental comments from hearings in other parts of the state. Industry states the proposed regulations kill jobs. Environmentalists state the regulations are not strong enough. As I see it, these regulations will help create jobs in the local environmental and engineering firms that currently exist in Pennsylvania. The Industry will not stop drilling because of the Regulations- they are not prohibitive, so their argument about job loss is unfounded, in my opinion. On the other side, the Environmentalists want strict regulations that may impede Industry. The proposed Regulations are much better than what we have currently- so it is a benefit to the environment to enact these Regulations. We need compromise in the middle- which is what I think these proposed regulations represent. It is my understanding that both Industry and Environmental groups worked on roundtable subcommittee discussions about these regulations over this past two years. That was the time to debate and fight it out.

I want to express how critical it is to me as a resident leased landowner in the development area to have these regulations in place to better protect the health, safety, and welfare of my community. I live in a county and township that has no zoning or protections for landowners on any of these issues. I feel regulations are extremely important when you have an industry that has a large amount of operators- seventy-three- according to the DEP Executive Summary Document.

Speaking for residents of the Shale region, we need action now and I urge no further delay. Thank you for providing the opportunity to comment. This is an important rulemaking that directly affects where I live and where my children attend Tunkhannock Area School District. These additional performance standards help to balance operations in my community in such a way that they are more balanced for all stakeholders. (168)

Response: The Department acknowledges the comment.

2161. Comment: Earthworks encourages DEP to swiftly review all public comments and adopt strong Chapter 78 and Chapter 78a regulations within the established timeframe (i.e., by early 2016). Doing so would help prevent further environmental degradation and additional community and health impacts related to widespread oil and gas development. The adoption of updated regulations would also enable EQB and DEP to address the need for stronger safeguards from air emissions from oil and gas activities, in particular the release of methane and volatile organic compounds— which are increasingly evident and of growing concern for communities across

Pennsylvania. (188)

Response: The Department acknowledges the comment.

2162. Comment: Our organization's focus area is that of Bradford, Sullivan, Susquehanna, Tioga and Wyoming Counties. Folks we are likely to receive calls from are landowners or residents of these counties, many of whom have well pads either near or next to their homes. These are folks that this rulemaking actually has an effect on their daily lives. How their water is protected, whether they can sleep at night with a drilling or fracturing event happening not far from their bedroom, whether there is a spill on their property or is released onto their property, how the soil may be restored to the field they annually harvest crops during gathering line construction. There are many aspects of this rulemaking that affect us daily; we need this rulemaking package, we need it effective at the earliest possible date. We request that our suggestions be considered as suggestions and recommendations for further fine tuning to the benefit not only to our rural, farmland, forested communities, but also, that the industry has a strong guide to operate better, in a more sustainable community manner. Lacking regulations, there is no standard that will create the reality that we are striving for, and that is to reach that delicate balance where all stakeholders thrive. We are not there yet, but this rulemaking will be a big step in getting us there. (170)

Response: The Department acknowledges the comment.

2163. Comment: Having attended the DEP hearing in Williamsport, it appeared to me that industry representatives believe the DEP acronym stands for "Department of ECONOMIC Protection".

May I remind you that it is your job to protect the ENVIRONMENT. If that protection comes at a cost to industry, so be it. No industry should be permitted to put people and the environment in harm's way in order to protect stockholder and owner/operator interest.

If the regulations on gas development hinder profits, that will force us to move toward sustainable forms of energy at a more rapid rate. This is the way a free market in a democratic society works. This is Jeffersonian democracy at its best.

I am 93 years old, and a WWII veteran. I have been a businessman all my life and have had to follow many regulations first in my career in management with Sears Roebuck, and later in the manufacturing segment. I have seen many businesses come and go due to supply and demand, increased overhead, etc. The government's job is not to protect enterprise, it is to protect people FROM enterprise.

I urge you to hold fast. Include the additional recommendations proposed by the environmental organizations such as RDA, Earthjustice, and NRDC in the final rulemaking. Stand up to the industry.

I will not be here to see the results of your decision, but future generations are depending on you to do the right thing.

DO NOT WEAKEN THESE REGULATIONS. (178)

Response: The Department acknowledges the comment. The Department considered all comments received when developing the final rulemaking.

2164. Comment: I support the most stringent regulations possible, in order to minimize the fossil

fuel industry's threat to our air, water, soil, ecology and human health. (194)

Response: The Department acknowledges the comment.

2165. Comment: As a preliminary matter, we commend DEP for making substantial improvements to the regulations for unconventional wells since the December 2013 proposed rulemaking. It is evident that the Department carefully reviewed the technical comments submitted by Harvey Consulting, LLC and other experts in March 2014, and the accompanying cover letter (collectively, the “2014 Comments”), and we appreciate the extent to which DEP’s March 9, 2015, draft final rulemaking has responded to those recommendations. (211)

Response: The Department acknowledges the comment.

2166. Comment: API-PA supports strong environmental safeguards and stewardship, and commends DEP on their regulatory oversight program; however we do have concerns with several provisions contained in the draft final rulemaking. (193).

Response: The Department acknowledges the comment. The Department considered and responded to your comments in each specific section of this document.

2167. Comment: I would like to thank everyone who has worked so diligently on the Rulemaking for Unconventional Oil and Gas Wells Chapter 78a.

The “other critical communities” definition on page 8 of the Draft document is appreciated.

The use of the Clean Streams Law authority 15 (b.1) to protect waterways and wetlands within 100' of the edge of the well pad is appreciated.

I am pleased that the Reporting and Remediating of Spills and Releases section 66 requires a 2 hour notification of any spill over 5 gallons that might affect waterways. (165)

Response: The Department acknowledges the comment.

2168. Comment: Overall, we applaud and support these proposed regulatory changes in anticipation that they will provide increased safeguards to the public health and the environment while maintaining a robust natural gas exploration program in Pennsylvania. Clearly they attempt to highlight and remediate current significant risks regarding on-site wastewater storage, the protection of sensitive populations and facilities, protection of Safe Drinking Water Act (SOWA) standards, and increased focus on noise mitigation. However, with our comments we will identify a number of specific issues that may still warrant additional scrutiny to ensure that the public and the environment are fully protected from potential significant adverse impacts associated with ongoing operations. DEP Secretary John Quigley recently stated “The proposed revisions focus on the need to protect public safety and the environment while enabling drilling to proceed.” With up to 25,000 comments already being considered in developing these regulations, many of which identify a change to more stringent policies likely disrupting the booming natural gas economy in the State, the DEP will be required to hold steadfast to its environmental positions in the face of numerous industry and political challenges. (157)

Response: The Department acknowledges the comment.

2169. Comment: We appreciate the opportunity to comment on the DEP's proposed regulations on

Chapter 78 and 78(a). We further believe this initiative is a significant step forward to govern an important industry for the Commonwealth and nation to increase our energy production and U.S. global energy independence. However, with all good plans, we need resources to achieve our most significant goals. We have been dismayed at DEP's inspection and monitoring rates at active sites for almost a decade. The success of these new regulations will largely depend on "boots-on-the-ground" to create both partnership with operators and deterrence to ensure that the regulated community meets the public's expectations both with respect to economics and environmental protection. (157)

Response: The Department acknowledges the comment.

2170. Comment: I am hopeful the new Governor and his aides will be successful in passing standards that will protect the general population of the State in those areas where Oil & Gas are drilling has been taking place. (274)

Response: The Department acknowledges the comment.

2171. Comment: I whole heartedly support the changes proposed in this current version of the proposed rule enhancements. Some areas even need more strengthening. Living in the middle of Washington County PA I can say with certainty that these rule changes are long overdue. (273)

Response: The Department acknowledges the comment.

2172. Comment: The Proposed Rulemaking is a marked improvement from the prior version published by the Pennsylvania Department of Environmental Protection ("Department") in December 2013, and we commend the Department for bolstering environmental review and protection provisions. Subject to the specific comments below, we generally support the revisions in the Proposed Rulemaking. We also offer observations on areas not amended in the Proposed Rulemaking, but identified in our earlier (March 14,2014) comments to the Department. (225)

Response: The Department acknowledges the comment.

2173. Comment: We also note the efforts of the Department to take a more comprehensive approach to the review of proposed development activity, as in the description of "Oil and Gas Operations" and the consideration of Public Resources. In a similar vein, we encourage the Department to identify appropriate opportunities for exploring integrated planning of surface development activities at a broader scale, by inter alia, and to the extent possible, working with applicants to facilitate the sharing and discussion of regional siting and infrastructure plans. (225)

Response: The Department acknowledges the comment. Regional surface development planning is beyond the scope of this rulemaking.

2174. Comment: We are now three years removed from passage of Act 13 of 2012 -- the citizens of Pennsylvania deserve to see these improved protections in practice across the Commonwealth. Therefore, collectively, we urge the Department, after consideration of public comment, to promptly finalize and implement this rulemaking, including development of associated guidance. (225)

Response: The Department acknowledges the comment. The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

2175. Comment: As a commissioner for a township that is currently dealing with the continued prospect of natural gas drilling and concerned about the potential impacts that could occur from heavy drilling in neighboring municipalities, I know firsthand how important it is that we continue making strides to better protect Pennsylvanians, our communities and the environment from the dangers associated with natural gas drilling. I am encouraged by the continued advancement and strengthening of the proposed Chapter 78 Oil and Gas Regulations but believe there are several areas within the latest revisions that require additional improvement. (229)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2176. Comment: I appreciate your continued dedicated efforts to keeping our environment and all Pennsylvanians safe and healthy. (229)

Response: The Department acknowledges the comment.

2177. Comment: We support strong regulation of the oil and gas industry. Loose regulations have created dangerous conditions in Pennsylvania. Leading to chemical spills, contaminated streams and unsafe drinking water. (290, 291, 292, 4870-4914)

Response: The Department acknowledges the comment.

2178. Comment: I disagree with the notion that the regulations harm the oil & gas industry. By over producing , the industry has driven the price down, slowed investment, stopped drilling, and caused layoffs. Laws and Regulations need to constantly change to keep up with current conditions. Just like a building or fire prevention code. This protects everyone. The PA DEP must live up to its mission statement and enforce all state and federal environmental laws with fidelity. Both conventional (78) and unconventional (78a) laws have to catch up with current Supreme Court definitions of the Pa Constitution. Article #1 Sec. 27 , as defined. Along with others. (286)

Response: The Department acknowledges the comment. This rulemaking is consistent with the constitution and applicable statutes and provides reasonable protections to public health and safety and the environment.

2179. Comment: Although I am testifying as a private citizen, for disclosure, I am an environmental consultant with 29 years of experience currently working at Hull & Associates, Inc. (Hull). Hull is a project development and consulting firm specializing in the Alternative Energy, Brownfields, Environmental, Shale Oil & Gas, and Waste Management markets. Founded in 1980, Hull currently has 7 offices, is 170 employees strong, and is recognized as a top 500 ENR firm that serves Pennsylvania clients from our Pittsburgh office. Hull is committed to helping upstream, midstream and downstream, and support companies manage the complex technological, environmental, and regulatory challenges posed by the rapidly unfolding shale oil and gas market. Our innovative engineering and environmental services help clients manage costs, protect the environment, and proactively manage regulatory compliance.

I am a registered professional geologist and have been a resident in the Commonwealth of Pennsylvania since 1989. Since arriving in Pennsylvania, many good things have happened to me as a result of hard work, doing my best to treat people right and sometimes being in the right place at the right time - but mostly through hard work. For example:

1. I had the opportunity to work as an environmental and remediation specialist for one of the great iconic Pennsylvania companies Sunoco;
2. I met and married my wife and we have raised our three children right here in western Pennsylvania;
3. I started and operated a successful consulting company and grew it to 40 employees, with four offices in two states; and,
4. Due to the vision of some very intelligent people, and astronomical financial investments made by oil and gas companies, “unconventional” oil and gas exploration and development arrived in Pennsylvania, and has been one of the best things to happen to my family and me.

I think this is an example of the Commonwealth, all of us, being at the right place at the right time.

Because of the Marcellus Shale development in Pennsylvania, I was able to create an opportunity to merge my company of 11 years with my current employer in 2009. Over the past 4 years, thanks to the robust development of the Marcellus and Utica shales, our Pittsburgh office has been steadily growing by over 50%. This profitable growth allows us to hire Pennsylvanians with recent degrees from Pennsylvania universities. Additionally, our firm is evaluating further expansion into the Commonwealth. Because of the Marcellus Shale development, we have recently seen client interest and business activity pick up in Hull's other market areas, such as Brownfield Redevelopment and Alternative Energy.

Our family has benefited as well, thanks to Marcellus Shale development. My wife, a life-long Pittsburgher, is a chemical engineer with degrees from The University of Pittsburgh and Penn State. She was able to return to work after having raised our three children as a stay at home mom. A gas producer recognized her experience and talent and hired her immediately. My wife will readily admit that, without the robust, profitable, Marcellus Shale development in the Commonwealth, she very likely would still be unemployed or at the very best underemployed. With all three of our kids in college at the same time, my wife's annual salary is a much needed addition to the family finances. I know there are hundreds of similar stories about how the Marcellus Shale development has helped individuals, saved companies and more - all across the Commonwealth.

In the early days of the Marcellus Shale development people would say “we have to get this right” in reference to not only the development of the Marcellus Shale itself but also the development of new and expanded oil and gas regulations. There was no dispute - everyone agreed. Through several iterations of massive collaborative efforts within the industry, working with the Pennsylvania Department of Environmental Protection (PADEP) and other agencies the current Chapter 78 Oil and Gas regulations were developed. In fact, these regulations have been recognized as being among the very best in the whole country! Not only that, but thousands of professional, labor and union jobs have been created from Pittsburgh to Philadelphia! Not only that but the industry has generated, \$830 million in impact taxes to be distributed to all 67 PA counties as well as PADEP; \$2.3 billion in various state and local taxes; and, over \$1 billion in royalties and bonuses have been paid from DCNR lands. Pennsylvania has been getting it right already.

It is clear that the promise of cheaper energy and the potential for large quantities of feedstock are garnering national and international attention from companies with the wherewithal to make huge investments in the Commonwealth. Accordingly, I see tremendous opportunity for years to come

not only for my family and co-workers, but also the residents of the Commonwealth. Of course, there are concerns over the market pressures on the industry, my customers, and my wife's employer. Already there have been lay-offs and a dramatic decrease in operating rig-counts in the Commonwealth.

So, as the PADEP and EQB consider modifications to the Chapter 78 regulations, I ask that you follow the procedures established by law and listen carefully to subject matter experts who are "in the know" to ensure decisions are based on sound facts that are truly defensible. Good information, coupled with policies that foster development and downstream opportunities will ensure that my family, my co-workers and the Commonwealth of Pennsylvania continue to flourish. (372)

Response: The Department acknowledges the comment. See response to comment 2112.

2180. Comment: I attended the meeting held by the DEP at Washington and Jefferson College. After four years of testing many of the waters in Southwestern PA and Northern WV, I have a good idea of what is going on with our waters. Over a 120 sites have been tested and I can emphatically state that our waters have been contaminated by the drilling industry. Enclosed you will find hard core certified data that shows the alarming results of water testing on suspected source points of these "fracking" chemicals into our waterways. This is your data. I am referencing the data mentioned in the testimony given by Charles Evans Hunnell. During the testimonies, the comments made by many industry members are false and unjust. The information that I have enclosed is factual and valid. It is not some estimated projection. The evidence is backed by certified scientific research.

Gentlemen it may be too late to protect the waters of Southern PA. If immediate action is not taken, then all will be definitely lost. The above ground "frack" pits must be eliminated; there must be a buffer of at least 1 mile from schools, hospitals and public buildings. Better control of the disposal of "frack" flow back must be asserted. We are facing one of the largest potential environmental disasters this state has ever encountered. There is an estimated 1.6 trillion gallons of water in our abandoned mine pools, when this water becomes contaminated, how will the state address this problem? The enclosed data indicates that much of this underground water has already been compromised. Where do we go from here?

Thank you for your efforts in solving this problem, and as always the IWLA stands ready to assist the DEP in any way possible. (289)

Response: Regarding open pits, see responses to comments 903, 1027 and 1365. Regarding control, storage and disposal of produced fluid, see the comments and the Department's response on §§ 78.57 and 78a.57 relating to control, storage and disposal of production fluids. Statewide management of abandoned mine pools is beyond the scope of this rulemaking.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

2181. Comment: I want to thank you for the opportunity to provide input at this hearing on the CH 78a revisions to the department's oil and gas regs. I serve as the president of the Lycoming Audubon society and I have been authorized by unanimous vote of our board of directors to offer testimony here on behalf of our chapter's 425 members in Lycoming and Clinton counties. We are a chartered local chapter of the national Audubon society and our mission is to conserve and restore the natural ecosystem for birds and other wildlife for the benefit of humanity and the earth's natural biological diversity we like to think that the conservation work that our volunteers do makes our two counties better places to live. So, on behalf of the birds and our members I offer the following:

I have reviewed the revisions to 78a and almost uniformly they represent an improvement on the existing regs governing this industry. We recommend that the DEP adopt as final rulemaking this package of 78a revisions. If re-revisions are made, they should enhance the requirements and protections, not lessen them. (303)

Response: The Department acknowledges the comment.

2182. Comment: I appreciate this opportunity to comment to this proposed Advance Notice of Final Rulemaking of the Environmental Protection Performance Standards at Oil and Gas Well Sites (Chapter 78 and 78a). These draft regulations reflect responsiveness to public comments. While I understand and support many of the changes proposed in this current version of the proposed rules, there are certain areas that I would like to see strengthened for the protection of my community. In addition, it is important to have this public comment period, and I hope the comments you receive will be taken seriously. Our nation has taken a short-sited view to continue with natural gas extraction instead of increasing and subsidizing renewable energy sources, and we will all suffer as a population as a result of this. It is past time to improve this record, and provide the maximum protections for the environment and all life. It is essential that we have these rules on the books and implemented, and avoid further delay of these protections leaving our communities at risk. (25,31, 40, 41, 45, 48, 50, 51, 53, 54, 55, 59, 62, 63, 64, 65, 67, 68, 70, 73, 91, 93, 94, 270)

Response: The Department acknowledges the comment. Increasing and subsidizing renewable energy sources is beyond the scope of this rulemaking. The commenter did not provide suggestions as to how the regulations could be strengthened.

2183. Comment: Rules to protect the environment and ensure clean water need to be the guiding principles when making regulations. Stricter is better. (18)

Response: The Department acknowledges the comment.

2184. Comment: Thank you for the opportunity to comment to this proposed Advance Notice of Final Rulemaking of the Environmental Protection Performance Standards at Oil and Gas Well Sites (Chapter 78 and 78a). These draft regulations reflect responsiveness to public comments. While I appreciate and support many of the changes proposed in this current version of the proposed rules, there are certain areas that I would like to see strengthened still, for the protection of my community. (66, 72)

Response: The Department acknowledges the comment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2185. Comment: I feel there are not enough regulations to protect our air and water. I would like to halt all drilling until if ever we can be assured this process of drilling and the toxic waste it produces is safe (79)

Response: The Department acknowledges the comment. The Department does not have the statutory authority to ban drilling within the Commonwealth. Such a ban would require an act of the Legislature. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2186. Comment: We need more stringent protections against the obvious dangers of gas and oil well sites, not more flexible ones. Our environment is more important than creating jobs. What good are jobs if we are all becoming ill from polluted water or air? I urge you to exercise stringent limitations on any drilling and/or a ban on gas drilling. (101)

Response: See response to comment 2185.

2187. Comment: Thank you for the opportunity to comment on the proposed Advance Notice of Final Rulemaking of the Environmental Protection Performance Standards at Oil and Gas Well Sites (Chapter 78 and 78a). Although these draft regulations show clear evidence of responsive to public concerns, I fear that these regulations do not provide sufficient protection to our invaluable and irreplaceable resources, particularly clean air and water. It is essential that the proposed rules be expanded and implemented quickly, to avoid further risks to our communities. (58)

Response: The Department acknowledges the comment. However, the commenter did not provide suggestions as to how the regulations should be expanded.

2188. Comment: Thanks for the opportunity to comment on these proposed standards for oil & gas well sites. As an avid hiker and backpacker on Pennsylvania's trails, this is a great concern. What used to be nearly a wilderness experience for my wife or friend and I on most northern PA trails is now an exercise in how many wells and access roads are we going to encounter. This is why most of our long backpacking trips are now planned for out-of-state destinations. I do appreciate the DEP for listening to my concerns and for these proposed rules. It is important to have them codified and implemented. However, I do not think they go far enough. (73)

Response: The Department acknowledges the comment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2189. Comment: I am concerned about drilling activities including water disposal, water storage and contamination, noise, and other aspects of natural gas extraction that could harm your health and the environment. I support stronger standards to protect our air, drinking water and communities. I believe the closest that a drilling platform can be to any residential property, church, hospital or school is one mile. This would also reduce light pollution. There needs to be ample tree lines left intact and sound barriers need to be erected. (76)

Response: Regarding water disposal and storage, see the comments and the Department's responses on §§78.56-78.60 and 78a.56-78a.60.

Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2190. Comment: As a property owner without mineral rights I am concerned about how close unconventional gas and oil wells are allowed to operate near homes. I am concerned about the health of my family as well as my neighbors. I am also concerned about the value of my property with wells being allowed to be drilled so close to homes. From what I understand, the setback limits in the Dallas-Ft Worth area, which is headquarters for many of the drilling company's, is set at 1250 feet. I think this setback distance should be the law here in Pennsylvania also. (117)

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2191. Comment: Make sure the public has access to operator information easily and in a timely fashion. Please triple the setback for schools and apply to hospitals, churches, nursing homes and day care center. Regulations for conventional and unconventional wells should be identical. (128)

Response: The Department acknowledges your comment.

In regard to public access to oil and gas well information, the Department currently has more than a dozen interactive reports on our website that provide information such as: permits issued; operator well inventories; inspection, violation, and enforcement information; spud information; and target, oldest, and producing formations associated

with each well. Users are able to run these reports based upon specific parameters such as: region, county, municipality, operator, date range, etc. Additionally, the Department has an Oil and Gas Mapping application on our website that allows users to geographically locate oil and wells using various map layers and aerial photography. The mapping application allows users to search for wells based upon numerous parameters. The mapping application also provides the additional functionality of displaying electronic copies of actual documents such as: well permits/applications, inspection reports, and operator's responses to violations. The Department will continue to expand both the amount of oil and gas well information available on our website, and the ability to readily locate, retrieve, and export that information.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

- 2192.** Comment: Public resources should be more clearly defined and meaningful protection provided. (Section 78.15, 78.57, 78a.15, 78.57a) DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells and has extended the setbacks of waste storage from school buildings, parks, and playgrounds. Those setbacks are inadequate. Recent evacuation zones have been 1.5 miles, the minimum distance fracking should occur from any school.

This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers,

All the setbacks in the public resource section are too small to provide the needed protection and must be expanded to include more sensitive resources, such as private water wells and all our streams and rivers. Current science supports greater protections; see the compendium from Physicians, Scientists and Engineers for Healthy Energy: http://www.psehealthyenergy.org/site/show_list/id/15 (130)

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2193. Comment: I appreciate the improvements that DEP has made over the last draft of the regulations. But the proposed changes must go further to stem the damage being done to our communities and environment from gas and oil development. Please strengthen key parts of the proposed regulations such as standards for pits and impoundments. (2848-3056)

Response: The Department acknowledges the comment. Regarding issues concerning pits and impoundments, see the comments and the Department’s responses on §§ 78.56-78.59c and 78a.56-78a.59c.

2194. Comment: The PA DEP should definitely increase AND ENFORCE stricter regulations on the oil and gas industries. Pennsylvania’s environmental resources, wildlife, flora and fauna and invaluable to citizens, whether they are current and future residents, or visitors.

Water is more than invaluable. It is IRREPLACEABLE and is susceptible to contamination all over the state, no matter where the industry infrastructure is. Water travels, that’s what it does. Contaminated water will moved through the ground and bodies of water to make our well water undrinkable, and our lakes and rivers unusable.

Our children ARE the future. They should not be exposed to short-sighted plans for fossil fuel extraction or transmission. All infrastructure should be kept away from schools and other educational facilities, parks, camps, and playgrounds.

The industries need to be held accountable to the full extent of PA law and PA DEP regulations when ANY are overlooked, ignored, or violated. These corporations have had free reign for entirely too long and the consequences have been dire with contaminated drinking water and continuing explosions. Safety is absolute priority at all times.

PLEASE be sure to enforce regulations, as well as pass the new stricter proposed regulations. (167)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2195. Comment: Overall, I think the changes to Chapter 78 are a small step in the right direction, although much more needs to be done. Article I, Section 27 of Pennsylvania’s constitution, requires the state to “conserve and maintain” public resources “for the benefit of all the people.” I don’t see that happening. (145)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety, and the environment.

- 2196.** Comment: Earthworks is concerned about the effect of having less comprehensive and stringent regulations for conventional than unconventional operators.

DEP's budget and staff have not kept pace with the review, oversight, and enforcement demands placed on the agency as a result of the shale gas boom. In light of resource constraints, DEP appears to have shifted its inspections and regulatory enforcement to unconventional wells. DEP's 2013 Oil and Gas Annual Report focuses analysis of industry oversight on wells drilled as part of the Marcellus Shale gas boom.

This trend is borne out by an analysis by Earthworks in 2014 of inspection and violations data for nearly 500 wells (from eFACTS, the Oil and Gas Compliance Database, and documents found in well files at regional offices); over 24% of the conventional wells reviewed had never been inspected, compared to less than 2% of unconventional wells. Such lacking oversight could mean that environmental problems are going unchecked. Due to the inherent risks of all oil and gas development, DEP has a responsibility to at least ensure that regulations for all types of wells are strong and enforceable. (188)

Response: The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety, and the environment. In addition, the Department has developed a compliance and enforcement strategy to address issues with inspection frequency and compliance (Department Document Number 820-4000-001, *Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations*).

- 2197.** Comment: However, in other respects the proposed Chapters 78 and 78a changes fall far short of what is needed to protect the Commonwealth's national parks and to protect the balance between important national park economies and the oil and gas industry. The draft Chapters 78 and 78a regulations need to be improved: The final regulations need to keep the moratorium on fracking in the Delaware River Basin in place until a full environmental impacts study is completed to determine potential negative impacts of drilling in the Basin, and how to avoid such impacts. (175)

Response: The revisions to Chapters 78 and 78a are consistent with applicable statutes. The Department does not have the statutory authority to ban drilling within the Commonwealth. Such a ban would require an act of the Legislature. The Department believes that the revisions to Chapters 78 and 78a provide appropriate protections for public health and safety and the environment.

- 2198.** Comment: Regarding site restoration: I ask that DEP develop more stringent standards to ensure that the pre-drilling ecology of plugged sites be restored. (194)

Response: The Department acknowledges the comment. See the comments and the Department's responses on the comments on §§78.65 and 78a.65 regarding site restoration.

- 2199.** Comment: The negative aspects of the unconventional oil and gas drilling are well known and better stated by many environmental lobbyists and activists. But my personal recommendation would be to protect water supplies by elimination of impoundments; protect children by substantial - like 2600 feet -setbacks from school boundaries; There are no safe substances that come from this industry and therefore they should not be spread on our roads with runoff to creeks, rivers and lakes. Have followed Ms. Steinzor for many years and agree with her words: "The revisions are an improvement over the last draft, but they still expose Pennsylvanians to

unacceptable risk. The proposed regulations would still allow practices that jeopardize our environment and health, like the storage of fracking waste in huge impoundments, spreading of wastewater on roads, and letting conventional drillers off the hook for some protections. We need strong regulations that protect water, air, and health for all Pennsylvanians.” The job of the DEP should be to protect Pennsylvanians from risky fracking and drilling! Thank you! (202)

Response: See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments. The Department believes that the revisions to Chapters 78 and 78a provide appropriate protections for public health and safety and the environment.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania’s environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2200. Comment: We understand that, as a result of the General Assembly’s passage of the Act of July 10, 2014, oil and gas regulations must differentiate between conventional oil and gas wells and unconventional gas wells. To implement that statutory mandate, DEP has created two separate sets of regulations: (1) Chapter 78, governing conventional oil and gas wells, and (2) Chapter 78a, governing unconventional gas wells. The new regulations should recognize, however, that all wells require land disturbance, produce waste, and otherwise degrade and threaten clean air, pure water, and environmental values protected by Article 1, section 27, of the Pennsylvania Constitution (“Section 27”). The geologic character of the formation from which oil or gas is extracted, standing alone, does not determine applicable best management practices or constitutionally required safeguards for public natural resources. For those reasons, the additional revisions we propose to the draft final rulemaking for Chapter 78a establish a set of regulations that should govern all oil and gas operations in Pennsylvania, even if the Chapter 78a regulations simply are repeated in Chapter 78. (211)

Response: The Department disagrees that conventional oil and gas operations must adhere to the same regulations as unconventional oil and gas operations in order to provide adequate protection of public health and safety and the environment. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. There are differences between conventional and unconventional operations. This rulemaking reflects those differences. Chapter 78, which pertains to the conventional well industry, has been specifically tailored to meet the unique needs of this industry. The Department also notes that the 2012 Oil and Gas Act includes different requirements for oil and gas operations depending on whether they are unconventional or conventional including setbacks, notification requirement and containment requirements.

2201. Comment: DEP is required by law to issue two sets of regulations—but that’s no excuse to put health and the environment at risk. Conventional wells also use water and chemicals, create waste, and disturb land. Conventional operators also cause spills, accidents, and pollution. (198)

Response: See response to comment 2200.

2202. Comment: **Conventional Drilling** should be equally regulated as unconventional. The legislation did not say that the conventional regulations had to be less strict or less protective than the unconventional regulations. They should be at least as protective even though they are separate. These comments apply to Chapter 78 as well as Chapter 78a. (182)

Response: See response to comment 2200.

2203. Comment: The Council greatly appreciates the opportunity to comment on the DEP’s draft final Chapter 78a regulations. The Council incorporates by reference its comments submitted on March 14, 2014, in response to a previous draft of Chapter 78. Further, the Council is a signatory to the comments submitted by Earth Justice and the Environmental Integrity Project, and asks that the DEP carefully review both submissions.

While we are encouraged by the DEP’s efforts to improve the regulation of unconventional well activities, we strongly believe that the Chapter 78a regulations must be broadened and strengthened. Here, we focus on two areas in particular: (1) the proposed noise mitigation performance standards and (2) the application requirements for wells proposed near public resources.

Since 2008, Pennsylvania has seen the rapid and extensive proliferation of unconventional natural gas development.¹ The Environmental Quality Board (EQB) adopted new rules for unconventional natural gas development after Governor Corbett signed the 2012 Oil and Gas Act.² The rules were promulgated to “ensure the safe and responsible development of oil and gas resources.”³ This comment addresses only Chapter 78a, the unconventional well regulations; it does not address changes to Chapter 78, the conventional oil and gas well regulations. In the draft final rulemaking, published in the Pennsylvania bulletin on April 4, 2015, the key provisions added to the revised Chapter 78a regulations, as noted by the DEP, are (1) the protection of public resources, (2) the identification of orphan and abandoned wells, (3) containment practices, and (4) the protection of water resources.⁴ This comment will focus on the newly proposed noise mitigation performance standards and the provisions addressing the protection of public resources. The Council strongly supports the DEP’s efforts to establish these protections. However, the Council urges the DEP to strengthen the proposed rules to reflect the evidence on unconventional natural gas development’s (UNGD) threats to the public health and the environment. (221)

Response: The Department acknowledges the comment. The Department has reviewed and considered all comments submitted when developing the final rulemaking. Please see the comments and the Department’s responses to the comments on §§ 78.15 and 78a.15 regarding public resources, §§ 78.52a and 78a.52a regarding area of review, §§ 78.64 and 78a.64 regarding secondary containment around production tanks and §78a.64a regarding containment at unconventional well sites. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

2204. Comment: I am the mother of two small children, ages 9 and 4. My family lives in Adams Township, southern Butler County where unconventional natural gas drilling (UNGD) is encroaching upon our schools and established residential areas. Our local government is reluctant to restrict this heavy industrial activity away from where families live and attend school. Citing fear of being sued by the wealthy, profit-driven oil and gas industry, our township leaders refuse to take a proactive role in protecting the residents' health and safety and instead hide behind the platitude "The DEP will protect us." I think we can agree that the DEP is only as strong as the regulations that are in place to protect Pennsylvania's environment and its citizens.

I am sure that the process of revising regulations is a complex and arduous one. As a mother speaking for her children, I appeal to you to make the most of this opportunity to realize strong, protective and meaningful revisions to the current oil and gas regulations. Please note that UNGD is an industrial practice which has never been proven to be safe around people, let alone children who are a vulnerable part of the population and should be protected accordingly from environmental health and safety risks. In fact, increasing peer reviewed studies show that UNGD does contribute to harmful health effects and increased safety risks in communities where this activity occurs. Oil and gas operators themselves catalogue the inherent risks associated with their operations in their annual reports to shareholders, which include but are not limited to spills, releases, fires, explosions, loss of life and property.

I truly appreciate the time you took to read my comments. As you are revising Chapter 78 and 78a in the Pennsylvania Code, please implement strong, meaningful regulations related to oil and gas development. Strong regulations have a far reaching impact, protecting Pennsylvania children now and for the rest of their lives. Lawmakers and enforcers need to be ever mindful of cumulative impact. They need to remember to look at the long game, which means to focus on the health and safety of our children and residents and not on the next quarter profits to shareholders. As I suspect that Pennsylvanians fully intend to be here when these fossil fuels are depleted, how we fare in the future depends on what protective measures we take now. No price can be put on the good health of my children. Thank you. (218)

Response: The Department acknowledges the comment.

2205. Comment: These proposed amendments are a tremendous improvement over the existing rules. However, there is still more that can be done to protect the State's drinking water resources. (237, 246, 249)

Response: The Department acknowledges the comment. However, the commenter did not provide suggestions as to how the regulations could be strengthened.

2206. Comment: Comment: Current regulations allow wells to be within 100' of a stream and 200' of a house. Eight wells were drilled on the property next to mine. One about 200' from my house and one about 100' from the South Branch of the Tionesta Creek. I think these wells and the related activity reduce my property values and harm the local environment due to increased dust and runoff from the access roads, the noise of the wells running/pumping, the odor from the holding tanks and the activity of large trucks and machinery. I decided to start on a personal note so you may be able to relate to a "what if this happened to me" scenario. Please increase the distance wells have to be from waterways and houses. A thousand feet seems more than reasonable to me. (135)

Response: To the extent that the commentator recommends an increase in the setback from wells to buildings, the Department declines to make this change because the setback from wells to buildings is established by statute in Section 3215(a) of the 2012 Oil and Gas Act. The Department may not amend a statutory requirement by regulation. To the extent that the commentator recommends increasing the distance between wells and bodies of water, the Department also declines to make this change. In § 78.15(b.1) and § 78a.15(b.1), if the well site is within 100 feet of certain bodies of water, the well permit applicant the well permit applicant must demonstrate that the well site location will protect those waters. A 100 foot buffer has been demonstrated to protect waters of the Commonwealth. See response to comment 224.

2207. Comment: As study after study provides more evidence that oil and gas drilling sites pollute our air and water with dangerous toxins, the arguments for strong regulations have become impossible to deny. DEP can no longer ignore the concerns of Pennsylvania residents about water contamination and worsened air quality from drilling. Last year, DEP released information about 240 private water sources in Pennsylvania that were contaminated by oil and gas operations over the past seven years. This frequency of contamination is unacceptable.

PLEASE REMEMBER LONGER-TERM CONSIDERATIONS RELATING TO SPIRITUALITY AND THE EARTH, TO SAY NOTHING OF PEOPLE'S HEALTH AND SAFETY. (256)

Response: The Department acknowledges the comment.

2208. Comment: The extensive revisions to Chapter 78a are a tremendous improvement over the existing regulations. Significant to me are the following: the protection of critical public resources that exist near gas well development, the requirement to mitigate noise associated with gas well drilling and production, the more restrictive erosion and sedimentation controls and the inclusion of stormwater management requirements, the tighter restrictions on the use of unpermitted pits and other structures for the storage of regulated substances, the improved provisions for containment systems and practices, and well site restoration requirements that are more specific. I applaud the agency and its staff for considering the many comments previously offered and incorporating many of them into this final draft.

Overall I strongly support more stringent regulation of the oil and gas industry and urge these regulations, strengthened in keeping with the above comments, be adopted as soon as possible. I trust that the current administration will provide DEP with the staff and other resources needed to fully and timely implement these regulations. (295)

Response: The Department acknowledges the comment.

2209. Comment: Good evening and thank you for this opportunity to present. I am the program coordinator for Women for a Healthy Environment, a nonprofit organization headquartered in Pittsburgh, PA. Women for a Healthy Environment educate and empower community members about environmental risks that impact human health. We provide educational programming, through tools, information and online resources that address creating healthy communities across the region. Further, the organization advocates for policy solutions that better protect human health and the environment.

I am here this evening to address children's health. One of our main program areas is Healthy

Schools, which focuses on creating a green and healthy learning environment for all those in the school setting. Our organization recently created an online mapping tool. We wanted to get a better understanding of the potential environmental risks in school communities. To that end, using Pennsylvania Department of Environmental Protection data, we mapped all conventional and unconventional active gas wells within a one-mile radius of a school setting. Our analysis concluded the following.

There are 350 unconventional wells in the Southwestern PA region situated within one mile radius of a school building. There are 75 schools that have one or more wells within a one mile radius of the school building. There are 30 school districts that have one or more wells situated within a one mile radius of one or more of their school buildings.

Children are especially vulnerable populations that need our protection. Pound for pound, children breathe more air, drink more water, and consume more food than adults. Several scientific studies continue to assess and report on the health impacts from drilling operations. An article in the March 26, 2015 Environmental Science and Technology publication indicated that polycyclic aromatic hydrocarbons (PAHs) were highest when passive air samples were closest to active wells. Those living closest to gas wells had an estimated risk “for maximum residential exposure of 2.6 in 10000, which is above the US EPA's acceptable risk level.

Overall, risk estimates decreased 30% when comparing results from samplers closest to active wells to those farthest. (The results) suggest that natural gas extraction may be contributing significantly to PAHs in the air, at levels relevant to human health.”

A 2012 Columbia University study in Environmental Health Perspectives found that exposure to higher levels of PAH was associated with a 24% higher score of anxiety or depression for children ages six to seven than those with low exposure levels. Infants found to have elevated PAH levels in their umbilical cord blood were 46% more likely to eventually score highly on the anxiety/depression scale than those with low PAH levels in cord blood.

Another study done in 2014 study by the Department of Environmental and Occupational Health, Colorado School of Public Health found that “babies born to mothers living in areas with the highest density of wells [in Colorado] - more than 125 wells per mile - were more than twice as likely to have neural tube defects than those living with no wells within a 10-mile radius.

Children in those areas also had a 38 percent greater risk of congenital heart defects than those with no wells.” Neural tube defects, such as spina bifida, are permanent deformities of the spinal cord or brain. They usually occur during the first month of pregnancy, before a woman knows she is pregnant. Congenital heart defects are problems in how the heart's valves, walls, veins or arteries developed in the womb; they can disrupt normal blood flow through the heart.

There are many human health exposure periods throughout the drilling process. Chemicals used in the drilling operation include known carcinogens (benzene, formaldehyde, 1,3-butadiene). High HAP and VOC emissions (especially near completion sites) can impact health, including links to heart and lung disease. Particle pollution from the drilling operation leads to increased rates in asthma, heart attacks, strokes, various cancers and COPD. Diesel exhaust and industrial emissions, gasoline vapors, and chemical solvents as well as natural sources emit NOx and VOC that help form ozone, which is a lung irritant and aggravates those with asthma.

As stated in the 2012 Pennsylvania Asthma Burden Report, asthma rates in school children have increased by percent from years. From the 1997/98 to the 2008/09 school year, the prevalence of

asthma steadily increased every year (although 2004/05 school year data is not included). By the 2008/09 school year, lifetime asthma prevalence had increased almost 70 percent compared to 1997/98. In 1997/98 approximately 137,000 Pennsylvania school students in kindergarten through grade 12 were diagnosed with asthma; by 2008/09 that number had increased to more than 220,000.

Just today the American Lung Association released its State of the Air Report. The region landed as the 9th worst in the country for year-round measures on fine particle pollution (or soot), and the 10th worst for short-term particle pollution (the number of days with unhealthy particle levels when air quality is especially dangerous). Pittsburgh metro also ranked 21st worst in the nation for smog from ground level ozone.

Because there are many potential health risks associated with drilling operations, Women for a Healthy Environment is requesting that in this advanced rulemaking under Chapter 78 Conventional Gas Wells and Chapter 78a Unconventional Gas Wells, that DEP include measures that are most protective of children's health, including requiring all conventional and unconventional gas drilling and associated infrastructure be located outside of a one mile radius of any school building or playground. Should any incident or accident occur at a drilling site, this one mile radius would be more protective of the populations in that vicinity, certainly more protective than 200 feet or 300 yards as indicated in the current regulations. Requiring these stricter measures will guard our most vulnerable population, our children, by reducing their exposure to potential health risks. Thank you for your time and consideration. **Please see Appendix 3 for attachments.** (344)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2210. Comment: It's clear that fracking is an inherently dangerous process -- occurring with inadequate regulations and enforcement while harming public health in Pennsylvania and all across the country.

I welcome the improvements to this new draft of the Chapter 78 rules proposed by the Pennsylvania DEP. It is imperative that the DEP step up and be willing to address the numerous pollution problems that have resulted from this highly industrial process occurring in thousands of backyards across the state.

In 2014, the PA DEP found that 243 private drinking water wells had been contaminated by drilling and tracking since 2008. And these are just the cases we know about, where landowners haven't been gagged by industry lawyers from allowing these records to be public, just so they can have their drinking water supply restored. Travel to Dimock - or many other places in the state -- and residents still don't have potable drinking water. This is outrageous and inexcusable.

Just a few weeks ago -- PA DEP announced that records from 2013 show increases in emissions and contaminants from tracking and associated infrastructure. Toxic levels of sulfur dioxide, known to cause respiratory problems like asthma, increased 57% in one year at the state's production sites. And while air quality is improving due to the decline in use of other dirty fossil fuels, Pennsylvania shale gas emissions continue to increase.

It's time to reign in the rouge oil and gas industry.

Smart decision makers have taken the time to assess the impacts of fracking before allowing their constituents become guinea pigs for industry. Maryland's Governor is about to sign a 2.5 year moratorium on shale gas development. The process has been banned entirely in NY and Vermont due to significant concern over the long-term public health impacts that come with tracking.

So, while the best place for all dirty, dangerous fossil fuels, including fracked gas, is in the ground -- I applaud PA DEP for taking some important steps to better protect public health and the environment. Until we have the political power to end this dangerous process altogether, it's urgent that the PA DEP quickly adopt these rules, along with making some needed improvements. DEP should require all oil and gas development -- whether conventional or unconventional- comply with these rules;

I urge the PA DEP to further engage on implementing many more public health protections, including:

- Rigorous methane control requirements at the well head and for associated downstream infrastructure, such as compressor stations.
- The Wolf Administration, PA DEP and the PA Dept. of Health should fund and conduct a rigorous, peer reviewed public health study that identifies the impact of tracking on public health.
- All public lands and the Delaware River Basin should remain off limits to drilling until the public health study can determine whether fracking can be done safely or not. (299)

Response: Please see the response to comment 2119.

Conventional and unconventional oil and gas operations are required to comply with the laws of this Commonwealth including the 2012 Oil and Gas Act and its applicable regulations. To the extent that the commentator suggests a study be conducted, that comment is outside the scope of this rulemaking.

Regarding air pollution concerns, air emissions are regulated under Article III and are beyond the scope of this rulemaking.

2211. Comment: Although the proposals in chapter 78 and 78a are a great starting point, they do not go far enough to address issues involving a vulnerable portion of our citizens, our children those who have no environmental voice of their own.

Currently Fort Cherry Campus had 2 fully operational well pads in the approximately 1/2 mile zone from its property. Chiarelli and Toward pads were developed between 2011 and 2015.

Hydraulic Fracking and well stimulation methods have led to rapid expansion of oil and gas development in the United States. This expansion has brought oil and gas development closer to backyards, schools, and communities and increased potential for exposure to new contaminants and threats. At the same time Health discussions have focused on mostly water contamination, but are now turning their attention to air pollution issues as well. Although little is known about the environmental and public health impact of unconventional natural gas extraction activities, including hydraulic fracking that occur near residential areas, and schools that the most vulnerable of our population ;the children, attend.

I have included for you to view environmental health perspectives, which is a reported health status of results of a Household Survey done in Washington County published in December 2014, discussing the proximity to Natural Gas Wells and reported Health Symptoms. Their conclusion states: "Although these results should be viewed as hypothesis generating, and the population studied was limited to households with a ground fed water supply, proximity of natural gas wells may be associated with the prevalence of health symptoms including dermal and respiratory conditions in residents living near natural gas extraction activities. Further study of these associations, including the role of specific air and water exposures is warranted.

Although you can argue how and what happens, it is known that children cannot metabolize and process to remove toxins from their system as quickly as adults. These toxins and suspected air pollution emissions, may be coming from any number of well associated activities such as increased truck traffic, fracking process, fracking chemical, and other processes used in the extraction and active drilling processes, that are fully described in the package I have presented to you, under the Process of Natural Gas Extraction.

I am submitting for your examination the medical records of one of these children at risk, my daughter, an active 11 year old who was unremarkably healthy in October 2011, 6 weeks later all that changed. It began with itchy watery eyes (I cannot help but mention that it was later discovered to be the month and time frame that drilling activities had begun on the Chiarelli Pad near the school. Please refer to the photos. This pad is in the near 1/2 mile zone from the school (Fort Cherry).

Please continue to examine the medical records as symptoms continued through 2015 to the present day. Excessive bruising, polydipsia, fatigue, respiratory Infections, fever, headaches, cough, Gastro Disturbances, rashes, bulls eye rashes, a trip to the Emergency Room, right wrist pain, swelling and inflammation of the joints, and the unexpected, unexplained, and unwelcome Bloody Noses. Most 11 year olds do not endure these symptoms; mine endures on a regular basis.

Recently on an X-Ray it was revealed sclerotic distal changes involving the right distal radial metaphysis, which caused the doctor caring for my child to finally consider the possibility of Heavy Metal Exposures and testing was ordered. Having difficulty getting this testing done, these results are not available tonight. The waiting is Terrifying.

DEP and lawmakers including those at local and municipal levels as well as State must recognize the urgency and importance of distancing Industrial Activities from the Gas and Oil Industry including the drilling of well s, Tank Farms, Impoundments, Compression Stations, and operations, and any other pollution causing dangerous activity and our school properties from

each other.

DEP must adopt more aggressive standards to prevent these activities from being located at least one mile from our schools and our children.

One Mile Away ... Is it SAFE enough for our children to STAY? ? ? (385)

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2212. Comment: I am testifying to urge that the strongest possible regulations be placed on the gas industry. I have concluded from all that I have read that fracking cannot be done safely and there should be a moratorium and all new fracking until the industry can demonstrate without question that it can be done safely. Over 400 studies alone have concluded that fracking has human health consequences. It causes pollution of water and the air.

The first and only duty of the Department of Environmental Protection is the protection of the biosphere and all its inhabitants including humans. It has no duty to protect the profits of the gas industry. While the industry wants to externalize its cost to the citizens of our state, protecting the environment should be a legal and moral cost of doing business. If industry can't do this, then they should not exist.

While I would hope that there would be a moratorium on fracking, until that happens we should have the strongest protections possible. The industry in no way should determine what those regulations are. Their only legal obligation to their shareholders is profit, and they pursue that profit by dumping their costs on us and the environment. As Barbara Kingsolver has written, "Global commerce is driven by a single conviction: the inalienable right to earn profit, regardless of the human costs." The carbon extractive industries have proven this again and again. Their cries that the regulations cost too much should fall on deaf ears.

I support strong regulations on the gas industry:

- Operators should be prohibited from any open air pits or tanks for the storage and treatment of any regulated wastes. They are known to leak. This should be applicable regardless of size or location.
- These regulation should apply to all drillers including conventional drillers.

- All waste impoundments must be properly closed immediately on the effective date of the regulation.
- Because of all the potential risks involved with all oil and gas wells, waste storage facilities, and other infrastructure, they're should be a minimum set-back of one mile from any school property. The current set-backs aren't sufficient.
- All abandoned and orphaned wells must be identified before site construction, well construction, and the beginning of drilling.
- Conventional drillers must also develop water management plans. All gas operations require large volumes of water and there is no logical reason why conventional drillers should not be required to plan and document water use.
- Because Brine contains harmful chemicals and salts, it should not be used as a de-icer or a dust suppressant regardless of the type of drilling operation.
- All those who have had their water supplies affected by drilling should have dean, potable water supplied immediately.
- Noise controls should be required. People living near well pads should not have their quality of life deleteriously affected so that others can profit.
- DEP should require all permit applications of the gas and oil industry to be filed electronically. These applications should be made available on DEP's website on the day the application is deemed to be complete.

Again, protecting the environment should be the only duty of the Department of Environmental Protection if its name is not to me meaningless. It is the duty of the State of Pennsylvania under Article I, Section 27 of the Pennsylvania Constitution. (297)

Response: Regarding a monitoring on fracking, see response to comment 2040.

Regarding the use of open air pits and impoundments, see responses to comments 903, 1027 and 1365.

Regarding closure time frames for centralized impoundments, see response to comment 1378.

Regarding differences between Chapters 78 and 78a, see response to comment 2200.

Regarding implementation of the area of review for wells, see the comments and responses on §§ 78.52a and 78a.52a.

Regarding water management plans for conventional operations, see response to comment 1867

Regarding use of brine for de-icing and dust suppression, see the comments and the Department's responses on §§ 78.70 and 78.70a.

Regarding replacement and protection of water supplies, see the comments and the Department's responses on §§ 78.51 and 78a.51.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding electronic applications, see response to comment 215.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety, and the environment.

2213. Comment: I live in the Pine Creek Valley on Okome Mountain. Most people deal with only one or several well pads at a location. However, the permitting process on state forest and state game-lands seems different. Many well pads, wells, retention ponds, collector pipelines, access roads, and now compressor stations are in one area. The conversion of ground use and water use in our area is unprecedented in my lifetime (3 coffer dams in Pine Creek with 2 more approved, [the one new permit allows up to 1.5 million gallons per day]). This was a recreation area. All the ground in this area was classified as forest reserve; now it is nothing more than an industrial site on the top of a mountain. As of today we have 12 pads with about 100 wells, 4 (15 million gallon) "fresh" water ponds, an open pit used flow-back storage pond, a truck and equipment storage area, and miles and miles of collector pipelines and access roads. This is just on the state forest ground to the south of our house; now they are starting to the north side. Where was or is the cumulative analysis of the issues from this much development and pollution on previously untouched forested ground and head water streams?

A.-- One of the concerns is noise. If the well sites were located at a greater distance from residences (or in my case hunting camps) the noise would be mitigated just by distance. They are now able to drill over a mile horizontally, there's no reason to place a pad closer than 'h mile from a residence. Part of the noise is on-site massive generators, these run 24/7 almost from the time of pad development until the pad is complete with pipelines, dehydrators, evaporators and whatever else. This does not even consider the truck traffic which is also 24/7; -this year even Easter Sunday- clanging of pipes and equipment, back up alarms and loud roars of diesel motors. Pad creation does not happen in a short period of time. Start to finish it takes over 6 months to develop a pad on a wooded site with 8- 10 wells on it. Then you get into the routine maintenance of the pad, more truck traffic. Some of the pads in my area have been there for 6 years and trucks continue to go to them almost daily. Beside the noise you also get dust and diesel fumes, which goes into the second issue.

B.-- Air quality in our area has gone from great (go out and smell the pine in the air) to-- at times I don't even want to go outside for dust and odors; not just diesel fumes, but at times chemical smells. It even gets down to the welding of the pipes with the stink from the welding and the generators on the welding trucks. Now we go to the central waste impoundments. This was not permitted on state forest so they bought a 31.5 acre private property adjacent to state forest ground and hunting camps; got a county variance to place a central waste water impoundment and a staging area for equipment. More trucks and noise 24/7. It is an open pit that holds 3.5 million gallons of waste water. You can do the math figuring how many truck trips at 3,500 gallons per truck (it has been filled and emptied at least 3 times). Plus all the trucks bringing equipment for storage I.E.: excess gas pipe, inter-duct, water pipes, stone, and other equipment. More consideration is given to the gas companies than the residents that have to put up with it. The philosophy is: if you don't like it, just move.

C.-- In my opinion part of the planning process for the permitting of gas drilling should be a contact and evacuation plan. Should there be a fire, chemical release, spill, or explosion, nothing is in place to contact the local people. Basically there is one good route in and out from these drilling sites and houses.

In conclusion: More consideration is given for gas drilling jobs (mostly out of area people), and special interest money than the environment you folks were put in place to protect. Where is the relaxing atmosphere for future generations in our area. This was the reason I personally enjoyed coming here and moved here years ago prior to any gas drilling. We have no daily quality of life left in our area. (305)

Response: Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding air pollution concerns, air emissions are regulated under Article III and are beyond the scope of this rulemaking.

Sections 78.55 and 78a.55 require development and implementation of Prevention, Preparedness, and Contingency Plan and in addition to that, § 78a.55a requires unconventional operators to develop and implement emergency response plans. The Department believes these provisions address the commenter's concerns.

To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

See also response to comment 2413.

2214. Comment: All regulations must **apply to both unconventional and conventional drilling.** Conventional wells also use water and chemicals, create waste, and disturb land. Conventional operators, like unconventional operators, cause spills, accidents, and contamination. Due to the inherent risks of all oil and gas development, DEP should require all operators of all wells to follow the same rules. (382)

Response: See response to comment 2200.

2215. Comment: Public resources should be more clearly defined and meaningful protection provided. Set back distances from schools should be at least 1.5 miles. DEP has added schools to the list of public resources that require additional consideration when permitting oil and gas wells and has extended the setbacks of waste storage from school buildings, parks, and playgrounds. Those setbacks are inadequate. Recent evacuation zones have been 1.5 miles, the minimum distance fracking should occur from any school.

This setback should also be applied to locations where other vulnerable populations reside, including nursing homes, hospitals, day care centers.

All the setbacks in the public resource section are too small to provide the needed protection and must be expanded to include more sensitive resources, such as private water wells and all our streams and rivers. Current science supports greater protections; see the compendium from Physicians, Scientists and Engineers for Healthy Energy:
http://www.psehealthyenergy.org/site/show_list/id/151. (382)

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

Regarding protections for public resources, please see responses to comment received on §§ 78.15 and 78a.15.

2216. Comment: If a gas well pad is ever placed on my 234 acres, I'd want it a minimum of 2,000 feet from my house or cabin. Access roads and gathering lines should be a half-mile distant to keep down drilling, rigging & trucking noise as well as dust problems. One successfully drilled well may mean 9 more on that pad; the noise and dust never ends. If my residence were a school, I'd want the pad a mile distant at minimum. (274)

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and drinking water wells. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent, the commentator suggests that the General

Assembly should extend these setbacks, that change should be made through an amendment to the 2012 Oil and Gas Act.

To the extent that the commentator suggests that additional protections are needed, Chapters 78 and 78a, as well as other regulations, permits and policies implemented by the Department under Pennsylvania's environmental laws, establish a comprehensive regulatory scheme for oil and gas well development activities to ensure protection of public health, safety and the environment.

2217. Comment: There should be more public participation in the permitting process for oil and gas surface infrastructures. (345)

Response: Please see the response to comments on applications requirements in §§ 78.15 and 78a.15.

2218. Comment: We need more protections for consumers and the general public concerning oil and gas drilling in PA. Thank you for taking the taxpaying public's views into consideration. (19)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a provide significant improvements to protection of the health and safety and the environment.

2219. Comment: How the DEP should behave:

Communication with the public:

A web site and DEP public communication office should be created that enables the following capabilities to all members of the public:

- 1) Database of well pads, well bores (including laterals), pipelines, compressor stations, transportation routes for water and chemicals, companies involved in these activities, water intake and disposal (e.g. injection sites), and pollution events with spatial (mapping) and temporal records of all major activities. User interface must be top notch, like google earth. Example query:
 - * show me a list of all chemicals used for fracking in 2013 within 1 mile of Beaver Run Reservoir.
 - * show me a map of train trips carrying more than 5 tank cars of fracking chemicals in Armstrong County in 2015.
 - * show me a map of all pollution events in Westmoreland County, ranked by environmental risk.

- 2) Notification service: user outlines a geographic area of interest on a map and activities of interest (e.g. drilling, fracking, pipeline construction, venting) and submits an email address for notification. Examples:
 - * email me when a well is drilled in Allegheny County.
 - * email me when a well is fracked within 10 miles of Ligonier.
 - * email me when a compressor station vents more than 1 cubic meter of VOC within ...

Education:

The DEP should have a relationship with every high school, so that chemistry, biology, and earth sciences classes are deputized as junior environmental monitors and inspectors to measure and graph air, water, and soil quality on a weekly basis, and keep an eye on industry and citizens

make sure we're all protecting the environment, in keeping with the Pennsylvania Constitution.
(16)

Response: To the extent the commentator suggests modifications of the Department website; these comments are outside the scope of this rulemaking. To the extent the commentator suggested suggests Department build a relationship with schools, those comments are outside the scope of this rulemaking.

2220. Comment: Members of the regulated community are negatively impacted by not being allowed to review the comment and response document from the proposed rulemaking that DEP is required by law to share. (309)

Response: The Department acknowledges its obligation to respond to comments and provide IRRC and the standing committees a copy of its responses. The obligation is connected to the development of the final version of the regulation. At the time of publication of the Advance Notice of Final Rulemaking, the comment and response document was not yet final.

Until the final-form rulemaking was completed, the Department continued to deliberate on all comments received, and revise the document accordingly to ensure that the responses reflect the text contained in the final version of the rulemaking. The Department reviewed and considered all comments submitted during the comment response period and has provided a response to each comment in this comment response document. The Department believes that it would have been inappropriate to provide a draft version of the comment response document with the draft final rulemaking.

2221. Comment: In addition to the substantive overreach of the proposed new regulations, the regulations suffer from significant procedural deficiencies. DEP has not conducted a cost-benefit analysis or an analysis on the impact on small businesses. Oil and gas operators have not been allowed to review the comment and response document from the proposed rulemaking - this lack of transparency is illegal and unjustified. Finally, several standards being proposed by DEP are not authorized by law, including new limitations regarding "public resources". The opaque and slap dash process by which these new regulations have been proposed will only lead to prolonged litigation and uncertainty if they are implemented. No one wins in that scenario. I urge DEP to go back to the drawing board and, this time, to include all stake holders in the process. (146)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

In response to the request for release of the draft Comment and Response Document, see response to comment 2220.

2222. Comment: While the bifurcation of the conventional and unconventional regulations are certainly a step in the right direction, the end result of the proposed final rulemaking packages has not adequately addressed previous concerns that were provided as part of the draft comment period in 2014. This action calls into question whether or not the comments submitted as part of the draft rulemaking process were given full consideration as part of this ANFR. I feel that given the significant volume of comments produced as part of the draft rulemaking phase of Subchapter C, should have provoked further communication, which would have produced additional dialogue and clarity between the Department representatives and all stakeholders. In short, I feel the Department has been remiss on offering the public the opportunity to review the “Comment and Response Document” that the Department spent many months preparing, which should have been one of the key documents for the discussion prior to the ANFR finalization. (169)

Response: The Department considered all comments submitted prior to finalization of the rulemaking. In response to the request for release of the draft Comment and Response Document, see response to comment 2220.

2223. Comment: We appreciate the Department’s determination to add this final comment period to the rulemaking process. We appreciate the opportunity to be seated on the TAB and participate fully in the rulemaking process. (170)

Response: The Department acknowledges the comment.

2224. Comment: On behalf of Citizens for Water; Clean Air Council; Clean Water Action—Pennsylvania; Damascus Citizens for Sustainability; Earthworks; Gas Drilling Awareness Coalition (GDAC); Lehigh Valley Gas Truth; Mountain Watershed Association; Natural Resources Defense Council; NYH2O; PA Forest Coalition, PennEnvironment; Pennsylvania Environmental Defense Foundation; Sierra Club, Pennsylvania Chapter; Stewards of the Lower Susquehanna, Inc.; and Upper Burrell CAMP, Citizens Against Marcellus Pollution, we thank the Department of Environmental Protection (“DEP” or the “Department”) for the opportunity to comment on the draft final revisions of 25 Pa. Code Ch. 78a (“Chapter 78a”) and to participate in the lengthy public process associated with this rulemaking. (211)

Response: The Department acknowledges the comment.

2225. Comment: There are numerous forms to be developed by DEP for use in implementing the proposed regulatory changes. Numerous of these forms are specified in the regulation and become a regulatory requirement. The forms have not been made available for review and comment, as is required by Sec. 5(a)(5) of the Regulatory Review Act, so these comments should not be considered complete. It is recommended that all such forms be made available for review and comment during the public comment period, and that the comment period be extended until such time as they are made available for review. (193)

Response: The Department will make forms and guidance documents available prior to adoption of the final rule in order to address this concern. The Department notes that forms and guidance can only be based on the performance standards and requirements established by the final-form rulemaking and do not impose binding obligations independent of that authority.

2226. Comment: We and members have spent significant time, effort and resources since we formed in May 2013 to engage in constructive conversations with the Department about regulatory and policy revisions for conventional oil and gas operations in Pennsylvania. We have seen a few

successes where workable solutions have been developed to meet the objectives of the Department while reducing unnecessary burdens on the industry. We are extremely disappointed that the Draft Final Rule was developed and published without any effort by the Department to work with us or our members to craft rules that make sense for conventional operations. As noted in the general comments above, and the specific comments in the attached , the rulemaking package is replete with fundamental errors and omissions, reflecting a complete absence of attention to the needs of small businesses that are providing a key service to the citizens of this Commonwealth . We ask, once again, that the rulemaking revisions to this chapter be halted and that the Department engage in discussions that it has promised in public and private for the past year. (212)

Response: The Department considered all comments submitted prior to finalization of the rulemaking. See response to comment 2094.

2227. Comment: While the bifurcation of the conventional and unconventional regulations is a step in the right direction, the end product does not address adequately previous concerns identified in 2014 the public comment process. This omission causes me to question respectfully whether the 2014 comments were given full consideration. I believe that the significant volume of comments, should have given rise to a dialogue, which may have produced additional clarity in the draft regulations.

There is also the question of whether the Department considered adequately the dramatic and far reaching economic impacts these regulations will have, especially on the traditional, small conventional operators with limited available staff and resources.

Additionally, the Department continues to reference incomplete forms and guidance documents. These forms and guidance documents must be provided for review as part of this round of public comments. (227)

Response: The Department considered all comments submitted prior to finalization of the rulemaking.

See response to comment 2119.

See responses to comments 2301, and 2302. The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

Regarding the concerns about forms, see the response to comment 2225.

2228. Comment: The mission of the Pittsburgh Airport Area Chamber of Commerce is to promote economic vitality through advocacy, education and services to our members and the business community. One has only to look at the traffic entering and leaving the airport corridor to know that there is a high level of economic vitality there, due in great measure to the natural gas activities located there. It is not just the drillers, but the engineers, land men, surveyors, laborers, transporters, office personnel, professional service providers such as accountants and lawyers, the hotel operators and office landlords, the restaurants and the retail establishments, and the landowners of property where drilling occurs, all are benefitting from this industry. The taxing bodies are benefitting as well as they receive a share of the impact fees generated through drilling and a share of the sales and income tax paid by the workers in the industry. Many view the

Marcellus Shale industry as the goose that is laying the golden egg in Western Pennsylvania and would challenge anyone who seeks to interfere with that process, including the DEP.

As the Chamber works to serve all of its members, we certainly hope that the economic vitality generated by the expansion of the energy industry in our area continues, but we do not want that economic vitality if it means that the operations are occurring unlawfully or without adequate regulation to protect the residents and other businesses in our communities. Rulemaking to govern the oil and gas industry is certainly proper, necessary and authorized by statute, so long as the regulations provide for consistency in operation, and fairly balance the interests of the public and the drillers. The problem with the proposed Final Rules, however, is that they do not meet those standards in all instances.

Time precludes me from addressing all of the areas where there are problems, so I am going to focus on two.

The first is this hearing and the short comment period provided for the Final Rules. When the initial revisions to Chapter 78 were published by the Environmental Quality Board in December of 2013, the public had 90 days to review and offer comments and over 24,000 comments were received, certainly evidencing great interest in the process by the public. These new proposed Final Rules, however, were only published April 4 and all comments are due by May 19 - half the time for public comment from that when the initial draft was published. If the changes between the initially published regulations and the current final draft were minimal, or merely expanded on the same principles, such a limited time period would be appropriate. These Final Rules, however, contained numerous significant changes, some of which were never even mentioned in the initial proposal. Given the significant changes in the proposed Final Rules, the public should have the same length of time to respond to the changes, if the entire process is not to be viewed as a rush prompted more by politics or other reasons, rather than sound rule making practices. (349)

Response: The Department has conducted an unprecedented public participation process for the Subchapter C including a request for comments on the Advance Notice of Final Rulemaking (ANFR). See response to comment 2301 regarding the ANFR public review process.

2229. Comment: Thank you for taking the time to listen to my comments on the changes to the gas drilling regulations. (377)

Response: The Department acknowledges the comment.

2230. Comment: I appreciate your consideration of my comments on behalf of Range Resources. Please note that we will be submitting its official comprehensive comment to the EQB by the May 19, 2015 deadline. (383)

Response: The Department acknowledges the comment.

2231. Comment: Neither our organization nor any of its members has sufficient time during this limited comment period to thoroughly review and respond to the Draft Final Rule, which is extraordinarily broad in its proposed revisions to existing law and would create as yet an incalculable number of new obligations for conventional oil and gas operations. While we would like to provide PADEP, EQB and IRRRC with an evaluation of the purpose, legal authority, expected costs, clarity, and small business impacts of each revision, it is not possible to do so during this comment period. Accordingly, although each of the subsections below raises

significant concerns for our members, the level of detailed review varies as time has permitted. We stands ready to engage in conversations with PADEP on any of the points below to discuss in further detail. (212)

Response: The Department acknowledges the comment.

2232. Comment: The latest reg proposal offered no alternatives for small business which most conventional operators are and for which the DEP has its own ombudsman. The DEP website states “Small business is the back- bone of Pennsylvania,” yet callously disregarded the financial impact on small business by not developing an accurate financial analysis of the costs the new Regs. will impose. (375)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. ,

2233. Comment: It appears that DEP has failed to conduct a cost-benefit analysis for the proposed changes to this rule and they have they have not conducted an analysis of the impact on small businesses, both of which are required by law. (309)

Response: See response to comment 2232.

2234. Comment: You will receive some pointed comment from PIOGA concerning the need to perform an economic impact analysis of the new regulations, including those that were newly included in the ANFR package. We urge the Department to take a very hard look at that, and involve the industry to the greatest extent possible in the analysis.

Our challenge is to achieve the intent and the principles that our legislators embodied into Act 13, by promulgating regulations that are appropriately responsive to the law, create meaningful compliance, and create no additional expense to operators that is unjustified. Our ability to meet this challenge may make or break the incredible opportunity that we, as Pennsylvanians, have, to develop this important clean energy resource, and put Pa on the forefront of economic growth and energy independence. (315)

Response: The rulemaking procedures in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act and others. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2235. Comment: It appears that this rulemaking will result in significant compliance **costs** at a time of historic downward commodity price pressures, making Pennsylvania less competitive with other shale basins while providing little if any commensurate environmental benefits. (309)

Response: See response to comment 2112.

2236. Comment: I am writing to express my concern regarding the notice of final rulemaking to Chapter 78 - Conventional Oil and Gas Wells. My job relies on Pennsylvania having a healthy and robust conventional oil and gas industry. I am concerned that the added burden of increased regulation and associated costs could significantly harm the already strained conventional well industry while providing little or no added benefit to the environment.

Shallow oil and gas wells have been drilled and operated around where we live for many years and their impact on the environment has been minimal. From what I see, Pennsylvania's environment is in good hands with the oil and gas industry. Those within this industry live, work, and play in the same areas where the oil and gas industry operates and all share a passion for protecting the Commonwealth's natural resources. It is obvious that they – like me – want to pass on the legacy of a clean, healthy environment to our children and grandchildren.

I understand that regulations are necessary. However, the costs of regulations cannot outweigh their benefits. It is obvious to me that the onset of Marcellus shale drilling has sparked these proposed changes, so why not concentrate on regulating that portion of the industry and leave the conventional industry as it currently is? After all, isn't that the very idea of the legislation passed by the General Assembly in 2014 which directed all regulations relating to oil and gas to differentiate between conventional and unconventional well operations?

I am concerned that increased regulations will result in fewer oil and gas wells drilled, which equates to fewer jobs in the industry and in the communities that support it, particularly when we desperately need more jobs within the Commonwealth. It will also mean less tax revenue for all levels of government, placing an even greater burden for balancing budgets. Fewer oil and gas wells will also mean less oil and gas supply which will once again increase our dependence on other countries for our energy needs.

Please consider withdrawing the proposed changes to Chapter 78 - Conventional Oil and Gas Wells. Show us that the well-being of our people, the prosperity of our communities, and our energy future are every bit as important as protecting Pennsylvania's environment. (71, 166, 251, 2297-2448)

Response: See response to comment 2112.

2237. Comment: We appreciate the Pennsylvania Department of Environmental Protection's ("PADEP") efforts to protect our natural resources. Pennsylvania has been recognized as having some of the nation's strongest regulations on oil & gas development and we support that. According to STRONGER (the State Review of Oil & Natural Gas Environmental Regulations) the current regulations are "well managed and meeting its program objectives".

However, we are concerned that the Commonwealth is shifting its focus from upholding these high standards to creating a regulatory environment that is punitive and borders on government overreach. We fear that the new proposed requirements, while meant to protect, will instead provide minimal protection of our valued resources at significant costs. This will ultimately cost jobs, harm our company financially and devastate the economy of Pennsylvania. (113)

Response: See response to comment 2112.

2238. Comment: I ask that prior to passing any amendments or revisions that all consequences of such revisions are reviewed extensively. I currently work in the oil and gas industry as do many people that I know. I would hate to see how far Pennsylvania has come with the increased number of jobs take a turn for the worse should stricter guidelines be passed. Many people's jobs are at stake here. We can protect the environment but still responsibly produce natural gas at the same time. (110)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2239. Comment: I lease my land for oil and gas development; I receive royalty payments for production from conventional oil and gas well. It has come to my attention that the Department of Environmental Protection (DEP) has proposed changes in regulations affecting the oil and gas business.

I understand that these new and modified regulations will unnecessarily increase costs for oil and gas companies, and will be particularly costly for companies operating conventional oil and gas wells. While the regulations will significantly increase costs, the regulations will not result in significant environmental benefits in the conventional oil and gas industry.

The oil and gas industry is vital as an economic engine as well as a job supplier. As a taxpayer, I rely on the money I receive from the oil and gas development on my property, especially during these difficult economic times. The increase in costs for the oil and gas industry directly affects my financial situation and will ultimately lessen my income.

Ironically, under existing regulation the conventional oil and gas industry has had a minimal impact on our environmental resources. Why do the new regulations make such significant changes to the conventional oil and gas industry?

I strongly oppose these new regulations. In addition to causing severe economic harm to the oil and gas industry, they will have detrimental effects to the community as a whole. More regulations, at a time when the economy is so unstable, is reckless and will only damage our economy further. And, all of these negative consequences will result from new regulations that will bring insignificant environmental benefits.

For these reasons it is important that these new regulations not be passed in their current form. Please vote "NO" to the current regulations until they are altered to account for the economic well-being of the Commonwealth of Pennsylvania. (88)

Response: See response to comment 2094.

2240. Comment: I am writing to express my opposition to DEP's proposed Chapter 78 regulations. Please accept my comments as a part of the official public record.

The proposed regulations will have a negative effect on my family, my community and the Commonwealth. The oil and gas industry has provided tens of thousands of jobs for our citizens; created hundreds of millions of dollars in new tax revenue - much of which goes directly to communities like mine; and supported local businesses, educational institutions and charities across the state. The proposed regulations are excessive and will have a negative effect on jobs and local economic opportunities.

Pennsylvania citizens and businesses want to see a strong and thriving energy sector that produces jobs and tax revenue for communities, counties and the state. These proposed Chapter 78 regulations, however, will hurt our local communities, not help them. Pennsylvania's oil and gas operators already adhere to stringent rules and regulations, and these proposed changes have not been adequately studied to determine if there will be any actual environmental benefits.

Most importantly, I urge you to consider the tens of thousands of families that work directly in the industry and for the local businesses and suppliers that rely upon a strong energy sector. Pennsylvania played a significant role in leading the country out of the recession based in large part on the expansion of natural gas production. Please do not put this at risk.

I request that the DEP reconsider their proposed Chapter 78 revisions and work cooperatively with the industry, local businesses, non-profits and other stakeholders to devise a better set of regulations that works for all of Pennsylvania's citizens, not just those who oppose shale development. (2449-2847)

Response: See response to comment 2094.

2241. Comment: I am writing to urge that DEP re-consider its proposed regulations regarding unconventional oil and gas development. The proposed regulations would impose unnecessary costs and burdens on an already heavily regulated industry with an exemplary safety record. I am a lawyer in private practice and represent, among others, oil and gas operators in Pennsylvania. I have seen first-hand the positive impact that this industry has had on the commonwealth since Marcellus and Utica production began here - including significant creation of well-paying jobs. The proposed regulatory changes will impose significant compliance costs on the industry with little return on enhanced environmental protection. The rulemaking also singles out the oil and gas industry, requiring new standards for wastewater treatment, noise levels, storage tank standards and waste reporting that do not apply to other industries. With historically low gas prices, incremental costs to produce in Pennsylvania will cause oil and gas operators to develop reserves elsewhere, which will result in lost jobs and lost revenue to the commonwealth. (146)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

The Department believes that centralized impoundments should be regulated in the same manner as other waste transfer facilities are regulated under Subpart D, Article IX. Therefore, the final rulemaking requires all centralized impoundments to comply with permitting requirements in Subpart D, Article IX which will ensure that Chapter 78 does

not result in disparate requirements or disproportionate costs on one particular economic or extractive sector.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding centralized tank storage concerns, see the Department's response to comments submitted on §§ 78.57a and 78a.57a.

Regarding waste reporting concerns, see the comments and the Department's response on §§ 78.121 and 78a.121.

The commenter's concerns regarding wastewater treatment are not clear to the Department. Any wastewater treatment standards included in Chapters 78 and 78a remain largely unchanged from 1989 when Chapter 78 was initially promulgated.

2242. Comment: There is absolutely NOTHING that the DEP proposes to "fix" through the new regulations that is not already covered by existing laws and regulations (i.e. Clean Water Act, E&S regulations, etc.).

The new regulations allow for an unprecedented expansion of DEP power and oversight with no resulting improvement to environmental quality.

The DEP has either not considered, or not cared about the negative economic impact that these proposed regulations will have on industry and the people and communities of the Commonwealth of Pennsylvania.

The conventional oil and gas industry in Pennsylvania will be devastated by these new regulations as most new conventional drilling will become uneconomical under the new regulations.

Under the proposed regulations, the company that I manage will no longer be able to justify development of new oil and gas resources in Pennsylvania.

The economic carnage resulting from these regulations will be borne not only by the conventional producers, but also by the suppliers, service companies, other businesses that rely on the capital spending from the conventional industry, and royalty owners.

The DEP is already abusive with the power that it has assumed by miss-applying existing legislation such as the Clean Steams Act, Act 13, and Act 2. They will follow the same pattern of abuse when applying these newly proposed regulations.

The above bullet points above show why the proposed DEP regulations must be eliminated in their entirety.

At a recent meeting with the speaker of the PA House, the speaker was shocked to hear the PA Act 13 was being applied by DEP to conventional wells because it was the intention of the legislature that this act was only intended for unconventional wells. Comments came from other lawmakers about the DEPs misguided insistence of applying PA Act 2 regulations to conventional oil and gas production, when this was not the intention of the legislation.

It has become clear by the actions of DEP over the past 5 – 6 years that DEP has an agenda of misapplying laws passed by the legislature in order to justify growing their power base and laying traps in order to write notices of violations (NOVs). Through their actions, the DEP has proven that they are not capable of crafting regulations that pragmatically balance environmental protection with promoting a healthy, job providing conventional oil and gas industry.

If these regulations pass in any shape or form, conventional drilling operations in the company that I manage will come to an unfortunate and premature end. Over the past 8 years these drilling operations have resulted in an injection of nearly \$9,000,000 (Nine Million Dollars) into the local economy.

The conventional operations from the company that I manage have never resulted in environmental damage, have provided jobs for families, and have provided significant royalty income for more than 20 landowners - including a large number of retired people, and two widows.

Imagine how much better fit could be for both the environment and for the people and communities of Pennsylvania if the DEP starts working with conventional oil and gas operators as a partner instead of an adversary. Other states have environmental regulators working in harmony with industry for the common good.

Unfortunately for Pennsylvania, the DEP has a different and hostile agenda. I hope that the IRRC makes the right decision and rejects these proposed regulations in their entirety. If they are not rejected, I fear that a very long and expensive legal battle will result. A legal battle that will consume precious capital that could be better employed to fund needed programs in Pennsylvania and to develop conventional oil and gas resources that provide much needed economic benefit to our state. (162)

Response: See response to comment 2094.

2243. Comment: I would strongly urge you to reconsider these changes, and please take into consideration that this will have a catastrophic effect on our community. Our small oil producers and American Refining Group are the life blood of our community! (153)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2244. Comment: There continues to be question on whether the Department considered the far reaching economic impacts that will be created by these regulation packages, especially to the traditional, small conventional operator with limited available staff and resources. (169)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the

rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2245. Comment: I am a property owner with conventional shallow oil development in NW Pa. Additionally, I invest with a responsible operator whom does shallow oil development in the State. I know first-hand the diligence taken to follow the regulations. Over the past 4 years, I have invested \$1MM into conventional oil development in the State. My contribution has supported numerous jobs for hard working tax payers as well as provided significant royalties for land owners many of whom are retired and on a fixed income and some of whom are widows.

The existing regulations are challenging enough and the manner in which they are imposed has been at times quite unreasonable. I have not experienced a pragmatic drafting and application of legislation, which fosters the conventional well industry while simultaneously prudently protecting the environment.

The proposed new regulations exemplify this and will put a complete stop to the majority of the future investment in conventional wells as this business is not viable with the added cost, management and compliance which is inappropriate for the conventional wells. These conventional wells have been the economic life blood of an entire region of the state for decades.

I implore you to not pass further regulations which apply to conventional wells as the economic impact will be significant on the region. (177)

Response: See response to comment 2094.

2246. Comment: I live in the house I grew up in, with my father, who has lived there for fifty years. I graduated from Peters Township High School in 1974 and Pitt in 1978. Nobody was hiring, so I took a job in the oil and gas industry and moved out of state.

I am very grateful that a job created by the oil and gas industry allowed me to move home in 2011. A year ago, my father, who is 86, had emergency back surgery. He is now confined to a wheelchair. He can still live at home, but only because I live there, too. But for a job created by the oil and gas industry here, I would be working and living far away, and my father would be living in a nursing home.

I have worked in the oil and gas industry now or thirty-five years, first as an engineer and now as a lawyer. I am speaking my own opinions tonight, on my own behalf. I signed up to speak because I want DEP to remember that this industry consists of people. We live here, and so do our families. We go to work every day in this industry. Our views are informed by facts, education, and experience.

And the fact is, Pennsylvania already has very stringent environmental regulations over oil and gas activities. I know this from experience, but you don't have to take my word for it. Pennsylvania's regulations were commended in 2013 by STRONGER, a well-respected, independent organization whose review committees include environmental, government, and industry experts.

DEP's December 2013 proposed rule would have imposed even tougher new requirements on the oil and gas industry than the rules commended by STRONGER. Industry did not necessarily like

everything that emerged from the two-year rulemaking process, but at least that process was thorough and fair.

In contrast, DEP's current rush to impose significant, new requirements via a draft final rule abuses the rulemaking process. Industry is not being given enough time to review and comment on the new changes, nor will the EQB, the IRRC, or the legislative committees who are required sign off on the rules.

Pennsylvania needs, and President Obama wants, sensible, cost-effective environmental standards. Abundant, affordable natural gas is fueling investment in US manufacturing and helping sustain this country's remaining steel mills. In addition, it is reducing reliance on energy imports and increasing exports, making us stronger globally against unfriendly governments like Russia and Iran.

That is why President Obama has stated unequivocally that it is "vital that we take full advantage of our natural gas resources." To encourage natural gas production, the President issued an Executive Order instructing Federal agencies to ensure that their rules "set[] sensible, cost-effective public health and environmental standards." Pennsylvania produces fully twenty-five percent of the natural gas in the US. "Taking full advantage" of Pennsylvania's natural gas resources is clearly going to be important to achieving the President's energy goals. Ironically, DEP's draft final rule does exactly the opposite of what the President has ordered Federal agencies to do.

Far from being sensible and cost effective, the new additions to the draft final rule are nothing short of punitive. They impose burdens on the oil and gas industry not borne by any other industry in Pennsylvania or any other state. And for no discernable reason, unless we are to accept the personal preferences of a new Administration as reason enough. Everybody knows that elections have consequences; but changes to agency rules must be justified and fairly adopted. DEP's attempt to adopt significant changes to Chapter 78a as a draft final rule is exactly the type of arbitrary, political whiplashing the Administrative Procedures Act was enacted to prevent.

So who could blame the oil and gas companies if they were to leave Pennsylvania for fairer regulatory climates? And it would be a shame if they were to go; for our nation, state, communities, and families.

I urge DEP to withdraw the new requirements in the draft final rule. If the agency wants to adopt additions to Chapter 78a in the future, it can do that—later, in a fair, regular, and legally sufficient rulemaking process. (203)

Response: See response to comment 2094 regarding the appropriateness of the regulations. See response to comment 2301 regarding the ANFR public review process.

2247. Comment: Did the Department consider the economic impacts that will be created by these regulation packages to the small conventional operator with limited available staff and resources, these operators are the backbone of the Oil & Gas Industry and historically have provided jobs and economic stability to many areas of Northwestern Pennsylvania. (150)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department

conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2248. Comment: PIPP Member Profile – McComb Oil Company - McComb Oil Company, Inc. is located in Stoneboro, Pennsylvania. Richard McComb, co-founder of the company, is a fifth-generation oil producer in Pennsylvania's oil patch. Approximately 15 years ago, Rich's grandfather passed away, leaving him and his family with several wells, only one of which was in production. Rich, along with this father and uncle, decided to invest to refurbish the inoperable wells in order to bring them into production. For the first 7 years, no one took a salary. All of the money generated from the operable wells was invested to fix up the inoperable wells. When the company began to turn a profit, the company incorporated and Rich and his co-owners were able to draw a small hourly salary.

The costs incurred by the company to repair one inoperable well and plug another are substantial under the current regulations. Just last year, the company completely refurbished a 1,275 foot well that was over 100 years old. The company invested in new tubing, casing, a pump jack, stuffing box, and numerous other items. The total cost to refurbish that one well was \$28,302.60. The company also plugged one of its wells last year, which cost \$11,052.00 under current regulations.

Currently, the company has 25 wells in production. Each well produces less than 8 barrels per month. The company sells its oil to a local refinery, who comes and collects the oil from the company's oil tanks. Rich currently receives approximately \$58 per barrel, which amounts to gross revenue of \$464.00 per well monthly. The company's operating costs (excluding major projects such as drilling, refurbishing, and plugging wells) are approximately \$71,000 annually, and consist of the following:

- Repairs and labor (\$17,000)
- Salary for co-owner (Rich's uncle) for well pumping and routine maintenance (\$15,000)
- Building rent (\$12,000)
- Insurance (\$7,200)
- Gas and diesel fuel (\$7,000)
- Accounting (\$6,000)
- Heating (\$4,500)
- Electrical (\$1,400)
- Water disposal (\$900)

When analyzed on a per-well basis, the ongoing cost to maintain each well in production (excluding major projects) is approximately \$236.66 per well, resulting in a pretax profit of \$227.34 per well.

Rich has permits to drill two new wells this summer. The company has already spent \$13,753.13 on the project to comply with the Department's current regulatory requirements. These costs consist of \$4,406.36 in a wetland survey, bond, and permit fees as well as \$9,346.67 in expenses related to the drill pad and road. Fortunately, the new wells are to be located on Rich's property,

meaning he will avoid expenses associated with leasing the property and paying royalties to the landowner.

McComb Oil Company has never received a notice of violation from the Department. They value their good relationship with the Department and look forward to continued cooperation with the Department and its representatives in the years ahead.

As explained above, McComb Oil Company - owned by three members of the McComb family including Rich McComb - currently has 25 wells in production. Each well produces less than 8 barrels of oil per month. Selling oil to the local refinery at \$58 per barrel, Rich receives gross revenue of \$464.00 per month per well. With the on-going costs to maintain each well (excluding major projects like drilling, refurbishing, and plugging wells) currently holding at \$236.66 per well, Rich makes a pre-tax profit of \$227.34 per well per month. In other words, McComb Oil Company is surviving under current market conditions and the Department's existing Chapter 78 regulations.

Now let's look at some of the additional costs that will be generated if the draft final rule becomes law:

Requirement	New/Increased Cost	Amount
Corrosion Control	New	\$1,550 per tank (100 bbl)
Monthly Inspections	New	\$30 per hour per tank
Bonding (Tanks)	New	Unknown
Insurance (Tanks)	New	Unknown
Tank Features/Testing	New	Unknown (extremely high)
Pit Liner (Pit Construction)	Increased	\$949.00 per liner
Soil Scientist (Pit Construction)	New	\$3,000 - \$5,000
Borrow Pit	Increased	\$11,100.00 (per pit)
Electronic Notification	New	\$1,225 first year (if no computer). \$600 after that.
Site Specific PPC Plan	Increased	\$650 per additional plan
Abandoned/Orphaned Wells	New	\$5,430.00
Act 2 Remediation	New	Unknown. If spill of 42 gallons more occurs, remediation will be at least 3-4 times.
Other critical communities	New	\$1,000.00 (plant/animal expert only. Other costs limitless)
Site Restoration	Increased	\$22,000 - \$84,000 per site

As for McComb Oil Company's costs to maintain their existing wells, just the requirement for a site specific PPC plan adds \$650.00 to the cost all of his wells except one, totaling \$15,600 or \$624.00 per site. That will wipe out nearly three-months' worth of profit on 24 of his 25 wells alone.

Tank inspection costs of \$30 per tank per month (10 Oil Tanks, 10 Brine Tanks, 25 Oil/Water Separator Tanks) further cuts into McComb's modest profit. For a total cost of \$1,350 per month,

this removes another \$54 per month per well in profit. Then a deduction must be made for bonding and insurance costs for the company's tank battery, which at this point is undetermined.

Assuming Rich replaces two tanks per year, the additional costs to McComb Oil Company will be \$3,100 extra per year or \$125 per well for corrosion control alone. The costs of outfitting each new tank with monitoring devices, high-level alarms, leak detection, emergency containment system, and the like are unknown, but suspected to be expensive if they are available at all.

The cost of the two new wells the company is planning to drill this summer would rise substantially under these regulations. As explained in Section II, Rich has already spent \$13,753 on the project under the Department's existing regulations. Moving to a 30 mils liner raises the cost to \$15,651 if two pit liners are purchased. A soil scientist to determine the seasonal high groundwater table is another \$3,000 conservatively, raising the tab to \$18,651.00. If the company maintains a borrow pit, that is going to cost an additional \$11,100.00, raising the price to \$29,751. Performing a search for abandoned and orphaned wells prior to drilling will raise the total to \$35,181.00. This represents an increased cost of \$21,428, and the company has not even started drilling yet. At this rate, the increase of \$21,428 alone will take over 47 months of lost profit on each new well to recoup. (201)

Response: The commenter portrays McComb Oil Company with 25 wells as a representative of the conventional well industry, however, the Department notes that only 11.5 percent of the conventional wells in Pennsylvania are owned by well operators with 25 or fewer wells. Most of the conventional wells in Pennsylvania are operated by entities with more than 490 wells.

See response to comment 1070 regarding corrosion protection costs.

See response to comment 1071 regarding tank inspection costs.

The bonding, insurance and tank testing/features mentioned by the commenter are associated with requirements in § 78.57a which has been deleted from the rulemaking. The Department notes that this section did not appear to apply to the situation described by the commenter.

See response to comment 967 regarding pit liner costs.

See response to comment 973 regarding costs related to ensuring that the bottom of the pit is at least 20 inches above the seasonal high groundwater table.

See response to comment 1878 regarding borrow pit costs.

Please see the responses to comments 2318, 2462 and 2463 regarding electronic reporting and application requirements.

See response to comment 881 regarding costs associated with site specific Preparedness, Prevention, and Contingency (PPC) plans.

See response to comment 762 regarding costs associated with area of review.

See response to comment 1724 regarding costs associated with remediation of spills and releases. The Department notes that this cost can be controlled by the operator if the operator does not have any spills or releases, there will be no costs associated with cleanup.

See response to comment 334 regarding the cost of identifying other critical communities.

See responses to comments 1614 and 1615 regarding costs related to site restoration requirements.

The Department believes that many of the examples given by the commenter of requirements that will impose new costs do not impose a new cost at all. In cases where this rulemaking does impose a new cost, the cost estimate provided by the commenter is inflated beyond reason. Overall, the Department disagrees with the commenter's example and analysis of new costs imposed on conventional oil and gas operators by this rulemaking.

2249. Comment: Finally, the sheer number of notifications over those required by Act 13 of 2012 (12) make small business compliance difficult if not impossible to keep up with. Most of our member companies do not have administrative personnel, unlike the billion-dollar corporations engaged in unconventional drilling. (201)

Response: It is not clear to the Department which notification requirements the commenter is addressing in the comment but the Department believes that the notifications required are reasonable, appropriate and necessary to allow the Department to fulfill its mission. The Department also believes that utilization of electronic filings will have the effect of reducing the time spent providing notifications. In addition, it is the intent of the Department to utilize electronic filings and reports to enhance the transparency of the Department activities relative to oil and gas extraction in the Commonwealth. The Department strives to develop applications that are user friendly and reliable for both external users and Department staff. The Department will continue in this effort by releasing enhancements to existing applications based upon user feedback.

2250. Comment: The new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should the standards in the proposed final rule become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This "Wal-Mart" effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professional service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10-15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: See response to comment 2094.

2251. Comment: The 2013 Proposal was not consistent with legislative authority or intent. The underlying legislation requires the promulgation of rules that would "permit optimal development of oil and gas resources of this Commonwealth consistent with protection of the health, safety, environment and property of Pennsylvania citizens." 58 Pa.C.S. 3202(1) (Declaration of Purpose). The 2013 Proposal would have imposed over a billion dollars of new costs upon Pennsylvania's

conventional oil and gas industry, which costs would have had an extraordinary chilling effect. Rather than “permit optimal development” of oil and gas resources, the 2013 Proposal would have brought conventional operations to a virtual halt without measurable environmental benefit or benefit designed to meet any enunciated environmental purpose or need. (212)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking. The Department has made many significant changes to the original 2013 proposal to arrive at this final rulemaking including many cost saving measures identified in the response to comment 2094. Regarding items that have been added or remain from the 2013 proposal, the Department believes that many of the examples provided by the conventional industry of requirements that will impose new costs do not impose a new cost at all. In cases where this rulemaking does impose a new cost, the cost estimate provided by the conventional industry is inflated beyond reason.

2252. Comment: Overall, the many new and expanded provisions of the Draft Final Rule regarding Chapter 78 will significantly burden the conventional oil and gas industry in Pennsylvania to the point of stagnation. The proposed changes as a whole are even more onerous than the originally proposed Chapter 78 regulations that the EQB published on December 14, 2013. They do not provide any meaningful environmental benefit and, in fact, are more stringent than regulations governing other industries. The Draft Final Rule seems to be designed to simply micro-manage the conventional industry and to invite public scrutiny and comment on well permits in a manner that will increase the time and cost for each and every well permit requested in this Commonwealth, potentially paralyzing the issuance of well permits, which would be very much welcomed by many of our industry’s opponents. Several provisions clearly exceed the Department’s legal authority, and others have been added without regard to the required legal steps for doing so, while still others are so ambiguous as to be meaningless. (213)

Response: The rulemaking procedures in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act and others. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2253. Comment: This correspondence is to address my concerns regarding the advanced notice of final rulemaking for Chapter 78, Subpart C – Environmental Protection Performance Standards. I am a resident of western Pennsylvania. I have been employed by a family owned oil and gas operator for the last sixteen plus years in western Pennsylvania. My employer maintains membership in the Pennsylvania Independent Oil and Gas Association (PIOGA) and I serve as a volunteer on PIOGA’s Environmental Committee as co-Chair and therefore I am familiar with the development of this rulemaking.

General concerns are the lack of demonstrated justification for significant additional regulation, lack of legal authority for certain expansions, failure to conform to due process, and disregard for the impact on small business as indicated by failure to adequately analyze such impacts. I wholeheartedly endorse PIOGA’s specific comments regarding these general concerns.

On a personal level I have witnessed the escalation of Pennsylvania specific compliance costs. Over the last three years the roles of nine Pennsylvania coworkers have been eliminated as my employer’s conventional operations have been strained by increasing costs and decreasing commodity prices. The unmerited cost of additional regulation will ensure that these jobs remain

lost to Pennsylvania. I beg your consideration of the additional harm this rulemaking will impose on Pennsylvania oil and gas operators. (234)

Response: The rulemaking procedures in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act and others. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2254. Comment: I am a very concerned oil and natural gas industry employee compelled to respond to the proposed changes to Chapter 78. I support the stand of the Marcellus Shale Coalition's review of the proposed regulation changes, as well as Cabot Oil & Gas Corporation's official statement on the proposed changes.

The proposed regulations are selective and targeted with respect to the unconventional oil and gas industry and are not uniform, consistent or fair relative to other industrial sectors. The unconventional are being singled out because of their fruitfulness... the last I knew, this was a GOOD thing from which all of us benefit. They should not be segregated from other natural resource harvests and further controlled by the government and/or penalized. As such, the proposed legislation is prejudiced, far-reaching and overly-burdensome to the unconventional oil and gas industry sector, with little to no environmental benefit.

The oil and gas industry is such a boon for the state of Pennsylvania, creating thousands of new jobs and contributing an immense amount of money to the promotion, sustenance and prosperity of many local communities, some of which would otherwise be troubled. This goodness spreads or trickles up. I, personally, have been a hard-working employee for 33 years in a few different industries, and I have never worked for a company with more integrity and goodwill toward its employees, communities and earth than Cabot Oil & Gas. I have become unemployed in my past, due to no fault of my own (negative economic changes), and I dread the thought of losing my job because of potential unnecessary changes to oil and gas regulations. I live alone and have NO safety net or family to ease a fall. As a current, faithful employee of Cabot Oil & Gas, I am thriving, paying my taxes, and contributing through spending to the local, regional and national economies.

If you proceed forward with the proposed changes to Chapter 78, you will be responsible for imposing unnecessary obstacles to our already careful efforts to extract natural resources from our god given fertile grounds that are domestically fueling the homes, businesses and lifestyles of this free nation. This will make oil & gas extraction more difficult and costly for the producers, which will result in cutting costs to make ends meet, and thus could result in higher unemployment, more people dependent upon the government, and a faltering economy. The additional costs (financial and otherwise) of this proposed legislation will reverberate right back to the consumers' pocketbook and lifestyle, and will NOT reap an equal or greater benefit to anyone. Please consider the far-reaching consequences of enacting this proposed legislation. What ever happened to being happy and grateful for successful and conscientious free enterprise??? This is what makes for a great economy and prosperous living... Don't ruin it! (235)

Response: See response to comment 2253.

2255. Comment: I am a concerned citizen, and I am writing to voice my opposition to the proposed

changes to the Chapter 78 regulations, currently being considered by your board for Pennsylvania.

Shallow oil and gas wells have operated in North Western PA for over 150 years, and their footprint on the environment has been minimal. As I understand the proposed regulatory changes, they would be very detrimental and too costly for the operators of shallow wells to comply with in the Keystone State.

If Pennsylvania loses its small oil and gas producers, it would cause an increase in unemployment, loss of production vital to local refineries in PA and Ohio, and take millions of dollars out of the already suffering NW PA economy.

Please vote “NO” on the proposed changes to regulations, as they apply to conventional oil and gas wells. Allow the shallow wells to operate under the regulations in place before passage of Act 13 of 2012, and instruct the DEP to apply changes to nonconventional, deep wells ONLY. (266, 267)

Response: See response to comment 2094.

2256. Comment: As a Pennsylvania resident, landowner and tax payer, I am writing to express concern for the Department of Environmental Protection (DEP) proposed revisions to Chapter 78 regulations, and the proposed Chapter 78a. I am from Mars, Butler County, and our county has experienced firsthand the benefits of shale gas development. Between the impact fee dollars coming to our county and township and the revitalization of local businesses, we need to encourage, not discourage, the natural gas industry in Pennsylvania. For me as a landowner and tax payer, I want this industry to succeed.

Because of development on properties near communities like mine, Pennsylvania now produces a quarter of U.S. natural gas supply. This home-grown energy is decreasing our dependence on foreign energy sources at a time when we need to make our country’s energy security a national priority. As an immediate result of this abundant supply, our families are saving money on their energy bills. Pennsylvania residents are experiencing energy prices which are more than 40% lower than the onset of significant shale gas production in 2008, saving homeowners and businesses billions of dollars annually. And this industry is putting Pennsylvanians back to work. Shale gas development is supporting and has made more secure over 200,000 Pennsylvania jobs.

However, we cannot take for granted this industry and the immense benefits it has brought our state. Overly-burdensome regulations will jeopardize this once-in-a-lifetime opportunity. Pennsylvania already has world class environmental regulations that protect my property and my family. I am proud to live in a state where our lawmakers took proactive steps to upgrade the Commonwealth’s environmental and safety standards so that I can feel confident that drilling is occurring safely and that strong regulatory oversight is already in place to ensure the protection of my family and our community. Significantly altering the state’s regulations with additional costly and burdensome requirements, as proposed, without proper evaluation and analysis, which I’ve seen no evidence of, does not help me and my family but puts everything we’ve built our futures on at risk.

Downward gas prices have already reduced activity and curtailed royalty payments. This rule will significantly increase the cost of doing business in the state and drive more investment out of Pennsylvania. Royalty owners and tax payers like me will suffer the brunt of this impact. With that in mind, before proceeding, DEP should conduct a cost-benefit analysis for all of the

proposed changes as required by law, with the knowledge that bad economics for producers will directly affect not just me but thousands of other landowners and tax payers across the state.

Shale development and the spin-off economic benefits in our local communities has been a bright spot over the past 6-7 years as the nation continues to emerge from the recession. This is not the time to push overly-aggressive regulations that will harm our economy, local businesses and the citizens you work for. Now is the time to get gas to market and grow Pennsylvania's economy. Therefore, before moving ahead, please consider the impact of these regulations on Pennsylvania families like mine.

As stated above, I want this industry to succeed and based on my knowledge and observations of the industry and their operations in my area, I do not believe that additional costly and burdensome regulations are necessary. The industry and the organizations that represent it are doing a good job ensuring the protection of the environment and the communities in which they operate within an already existing stringent regulatory framework. Therefore, I also support the other comments being submitted on these proposed revisions, knowing that they are trying to work cooperatively with the DEP to ensure an effective and reasonable regulatory program.

My father drilled gas wells for a living, and I understand completely that the long term benefits of the drilling process outweigh the temporary inconveniences. (254)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2257. Comment: I am greatly concerned about the impact the new regulations you are drafting for oil and gas will have on the many Pennsylvania families who rely on this industry for pay checks.

There are more than 9 million people employed by the oil and gas industry and related fields in the United States. More than a quarter of a million of those are in Pennsylvania.

According to the National Bureau of Labor Statistics, Pennsylvania experienced an increase of 259.3 percent in oil and gas annual employment between 2007 and 2012. For many of us in Pennsylvania who rely on the oil and gas industry, this amazing growth allowed us to weather poor economic conditions and keep others in the Commonwealth from experiencing the worst consequences of recession.

Around 2007, as my husband and I were just starting our family, we, like many other Americans, were hit with the reality of the subprime mortgage disaster. At the same time, shale gas drilling was taking off in Pennsylvania. We were both blessed to find work in this industry; my husband's environmental engineering employer was gaining new clients and I was hired as a community outreach consultant to a drilling firm that had moved into the area. The stable employment and

generous salaries not only saved us from foreclosure, it allowed us to reduce our debt, provide more for our children and move closer to family.

Since that time, my husband has taken work directly in an energy company, which has given me the opportunity to be home with our two daughters as they progress through elementary school and to be actively involved in their development. We have also been blessed to have oil and gas leases for drilling and pipelines on the two properties we own. When we needed to downsize from the large ranch we lived on, it was an oil and gas company that was able to purchase the real estate at a fair price when few others could.

Knowing many others working in oil and gas, I know my family is not the only one that has escaped the consequences of the recession thanks to the development of shale drilling in Pennsylvania. I also know that the benefits go way beyond those working on rigs and in leasing land. Among other businesses I personally know to have benefitted from oil and gas growth : car dealerships, hardware stores, real estate agencies, advertising and public relations firms, law practices, construction outfits, logging services, rental agencies, housing providers, travel/tourism services, conference centers, information technology providers, catering outlets, security services, pipe manufacturers, heavy equipment operators, engineering contractors, environmental scientists, laboratories, surveyors, community colleges, and technical schools, food services, and many others.

We live in an active drilling area, and have visited many others across the Commonwealth. We see farmers who are not only able to keep their land thanks to the royalties they receive from wells on their property, but upgrade their practices and equipment. We see new businesses and industry sectors emerging, like water treatment operations, and see an industry constantly looking for new ways to do things better and safer. Manufacturing is rebounding in the region and consumers are seeing lower energy prices.

Additionally, I have seen firsthand how oil and gas interests open their check books and hearts to the community. When food banks were hurting for donations a few years ago, it was oil and gas companies and their employees who stepped up to supply them. Today, oil and gas money benefits everyone in the region, with millions of dollars in donations to health care, education, recreation, veterans and charities for the less fortunate.

Through my own work in oil and gas, I also learned that energy companies are shrewd when it comes to business. They must be able to make their work - which requires great investment - profitable. There is simply too much proposed regulation in the current Chapter 78 draft that is not backed by the reality of fieldwork, or by any sound science. Some of it is included only to placate opponents of drilling/fracing with specific personal complaints. A number of the "problems" the draft is designed to abate have been completely debunked. For instance, even with thousands of wells now drilled in Pennsylvania, not one case of water contamination from fracing has been confirmed - even by DEP itself. Some of the provisions in the Chapter 78 draft regulations have even been declared unconstitutional by the Pennsylvania Supreme Court!

Oil and gas drilling in Pennsylvania offers the Commonwealth decades of economic opportunity and prosperity. In addition to providing jobs, the use of shale gas in place of other fuels, especially for power generation, has already been shown to lower emissions and improve air quality. But just as drilling and fracing companies must operate responsibly, so must we treat them fairly to keep them working in our state. It is not fair to those of us who rely on oil and gas for our livelihoods for the Commonwealth to treat this one industry differently than other industrial operations, and overreact to its perceived impacts. Do not take our jobs and income

through over-regulation. Please streamline these proposed regulations to keep oil and gas interests here in Pennsylvania. (238)

Response: The Department acknowledges the comment. The Department has documented hundreds of cases of water supply impacts from the oil and gas industry. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2258. Comment: The economic impact associated with the proposed changes to Chapter 78 Subpart C will have a devastating effect on the conventional oil and gas industry and will have a lasting negative effect on the Commonwealth as a whole. The EQB's cost estimate associated with the proposed regulations for conventional operations are drastically understated and differs greatly from the thorough cost analysis done by the Pennsylvania Grade Crude Coalition. Some examples of costly regulations are:

- 1) Additional and expanded definition of other critical communities.
- 2) Secondary containment on tanks.
- 3) Restrictions on pit dimensions.
- 4) The administrative costs associated with all of the proposed additional requirements such as forms, reports, advanced notification, permits, etc.

The increased cost associated with these proposed changes to Chapter 78, Subchapter C in conjunction with weak commodity prices will result in additional layoffs and will likely force many conventional producers out of business permanently. A Forbes article published March 18, 2015 estimates nearly 75,000 layoffs globally as a result of the downturn in the oil and gas industry (see Figure 03). These figures do not include the numerous jobs lost at small companies such as mine. As of April 2015, Ohio lawmakers stripped a proposed oil and gas tax hike from the state's budget bill, citing that such a tax would be untimely due to the slowdown in the industry. Also announced in April, an Asian partnership selected an undisclosed location in Belmont County, Ohio for a multi-billion dollar ethane cracker One can only wonder how this may affect Shell's plans for a facility in Monaca, Pa. Clearly Ohio has acknowledged the value of optimal oil and gas development. Not only will the implementation of these proposed regulations accelerate the departure of unconventional operators out of Pennsylvania, the historic Pennsylvania conventional oil and gas industry will be severely crippled beyond its already fragile state. If the proposed regulations are adopted, it is not only the oil and gas industry that will suffer Residential consumers will be forced to spend more on energy bills, business and industry will become less competitive because of higher prices for energy, making them less competitive, and workers will suffer the loss of good paying jobs. We must strive to achieve balance between appropriate regulation while ensuring the optimal development of oil and gas in the Commonwealth. In its current form, Chapter 78 Subpart C, as defined by the Oil and Gas Act of 1984, adequately regulates the conventional oil and gas industry and does not require wholesale changes and modernization. (251)

Response: See response to comment 2094. Regarding the appropriateness of the rulemaking.

See response to comment 334 regarding the cost of identifying other critical communities.

See response to comment 2463 regarding costs of compliance with electronic notification and application requirements.

The Department has not placed restrictions on pit dimensions at conventional well sites. See response to comment 968 regarding pit construction requirements at conventional well sites.

2259. Comment: These rules are written to regulate production from both shallow (or conventional) wells and the new shale-gas (unconventional) wells found across the state. Separating the legislation into Chapter 78 and 78a was a step in the right direction. However, Chapter 78 remains a concern to ARG on a number of levels in that they would result in regulatory burdens that are both expensive and unreasonable for conventional producers.

The area's small, independent crude-oil producers are a crucial component for the operation of American Refining Group Inc.'s Bradford, Pa., refinery. As such, ARG maintains membership with and support for the area's small producers and their industry organizations. These include Pennsylvania Independent Petroleum Producers (PIPP), Pennsylvania Independent Oil and Gas Association (PIOGA), Pennsylvania Grade Crude Coalition (PGCC), Ohio Oil and Gas Association (OOGA) and New York State Oil Producers Association (NYSOPA), the independent oil and gas associations of both New York and West Virginia (IOGANY and IOGAWVA) and Southeastern Ohio Oil and Gas Association (SOOGA).

ARG is deeply committed to and vested in our communities' well-being. We certainly respect rules and regulations aimed at protecting and preserving our environmental health; we all must be good stewards of this area's most valuable natural resources. We just want to make sure that unreasonable or unnecessary regulations are not imposed that would have unintended negative impacts on the area's crude-oil producers, ARG, its employees or the community.

In 2014 ARG purchased, in Northwestern Pennsylvania and Western New York, \$191 million worth of crude oil and \$30 million in other raw materials (sourced locally whenever possible). ARG employs more than 350 people and paid \$20.3 million in wages and another \$6.3 million in benefits last year. The company also paid just less than \$7 million in utilities and half a million dollars in taxes to the city of Bradford and its schools and to McKean County. At a minimum, this is \$256 million in annual direct economic impact. Furthermore, ARG along with owner Harry Halloran Jr.'s philanthropic foundation contributes millions of dollars to local non-profits, strategically donated to four core, impactful categories: healthcare, education, human services and economic development; all of which are traditionally underserved in our rural area. The decline in new conventional wells has resulted in less investment in our industry, fewer job opportunities and significant declines in revenues. These declines have impacted the overall economy at state and local levels, and certainly have had a negative impact on the generations of dedicated employees that have supported this industry for more than 150 years.

As the only remaining Penn Grade crude refinery in the Commonwealth, we urge the Environmental Quality Board and the PA DEP to work with the industry to achieve a reasonable and common-sense approach to protecting the Commonwealth's natural resources through regulatory compliance. (240)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2260. Comment: I attended Lycoming College, and my wife grew up in the Williamsport area. I own two farms in PA that have natural gas wells. I also have water wells on my property for my domestic water. All this means I am local, I have experience, and I know firsthand that oil and

natural gas development does not hurt the land, air, or water, IF the existing laws are enforced.

I am part owner of Fluid Recover Services, has four water treatment facilities in PA. We have been in business for decades because the energy industry needs to manage water, and because we have had reasonable permits from the state that determine how we manage that water. We have continuously made changes to our processes and services over the years to ensure we are compliant with our permits while serving our customers. We have effectively treated over- one billion gallons in the last 30 years, allowing Pennsylvania resources to be developed and delivered to all of us in this room to heat our homes and power our lives.

FRS employs 32 full time, and has a goal to renew our permits and install new technology to meet the current 500 Total Dissolved Solids requirements implemented several years ago (Chapter 95). It should be noted that the only the Natural Gas Industry is held to this standard in Pennsylvania - all other discharges to Pennsylvania's water are allowed to dispose at higher levels. In order for us to invest in new technologies, we need cooperation with the state. The new technology is expensive and takes over a year to design, manufacture, and install. To make this investment we also need a healthy Industry, able to afford the higher costs associated with higher quality treatment.

The Chapter 78 Final Rulemaking, if implemented as currently written, will have little or no significant benefit to the commonwealth, but it will risk ongoing investment in the PA oil and gas industry and will cause the loss of Jobs.

In 2013, DEP did not include most of the recommendations from the Technical Advisory Board. Any revisions to Chapter 78 should include the recommendations from the Technical Advisory Board, and the newly formed Conventional Oil and Gas Advisory Committee. The State should continue to abide by due process it has followed in the past by involving all stake holders which it is undertaking by engaging the Conventional Oil and Gas Advisory Committee. The Chapter 78 Final Rulemaking should not be rushed, otherwise; we risk the loss of both new energy production and the Pennsylvania-based service companies that depend on a healthy oil & gas industry.

The overall economic situation the industry is currently experiencing due to extremely low prices for oil and Natural Gas should be factored in. Drilling is at a record low, and hundreds of industry staff are being laid off. Many of them are my friends, and I personally talked to a friend last week who said he was leaving PA to a family sustaining- job in Florida, due in large part to the uncertainty associated with today's policy climate. The state must make a full technical and economic evaluation to justify the benefit of additional requirements, before causing additional economic hardship. The state must consider the impact to small business instead of amending the regulations in a vacuum. (300)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking. Revisions to Chapter 95 are beyond the scope of this rulemaking. The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-

form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

As for consultation with TAB and COGAC, the Department believes that the iterative process used to move the final-form rulemaking from the Advance Notice of Final Rulemaking version released on March 6 to the final version discussed with TAB and COGAC on October 27 and 29, respectively, has been very successful. Significant substantive changes were made to the final-form rulemaking on the advice of both TAB and COGAC. The Department will not always agree with or make changes based on the recommendations of TAB And COGAC, but an objective observer would likely conclude that the process was effective.

2261. Comment: ARG Resources owns and operates approximately 1500 conventional oil wells in Highland, PA. It is a water flood operation with approximately half the wells as producers and half as injection. All wells are hydraulically fractured and have been for probably the past fifty years. American Refining Group or ARG as it is commonly known, owns and operates the oldest continuously operating crude oil refinery in the world. The refinery dates back to 1881. ARG acquired the refinery from Witco Corporation in 1997. I was president of ARG from 1997 until my retirement in 2011. Most of the industry gave us six months before we would be out of business and yet here we are 18 years later still a viable operation employing over 360 people (up from about 160 in 1997). The refinery is unique in that it can only process a certain type of crude oil - principally what is generally termed Pennsylvania Grade crude oil. This crude is found in PA, Ohio, W. Va. and NYS. There are some locations, e.g. MI and some from the Utica formation that produce small quantities of acceptable crude oil. When we acquired the refinery in 1997 about 60% of the crude supply came from Ohio and 40% from PA. Over the years we managed reverse that percentage until two occurrences in recent years. First there was the ANF litigation that shut down production in the ANF for a year until the lawsuit was settled in favor of the industry. Just when we were seeing a renewed interest in development, the Marcellus shale was re-discovered and investment that might have gone into shallow well production was shifted to Marcellus development. Today only about 50% of the refinery crude comes from PA and that percentage continues to decline. Increasingly stringent regulations and increased enforcement has resulted in a dramatic increase in cost of drilling conventional wells. Today it costs anywhere from \$115,000 - \$150,000 to drill a shallow oil well and, on average, about \$15,000 to plug a shallow well. These events have all worked to reduce the number of conventional wells being drilled in PA, most of which are drilled by small independent producers. The resulting decline in this “legacy” crude has made it more difficult for the ARG refinery to operate at its target rate. The proposed Chapter 78 regulations will place new pressure on the local supply and will ultimately have a negative effect on refinery operations.

We see the new proposed Chapter 78 regulations as:

- 1) Introducing a new requirement to perform a storm water analysis on every new well. The Industry has previously been exempt from this requirement. This change will require certified expert to examine and report on every site. This is expected to add thousands of dollars of costs to each well.
- 2) Introducing a new requirement to restore new well sites to “original” contours. The term “original” is new in 2015 and is without statutory authority. It is also unattainable in most cases. At the very least it will add substantial additional cost.

- 3) Expanding the Public Resource considerations. It adds municipalities and school districts to the public agencies that can impose requirements. The definition of species literally includes any species that the public resource agencies might choose (all without the benefit of public comment or review process).
- 4) Containing multiple new notices and waiting periods.
- 5) Expressly making the “area of review” burdens applicable to conventional oil and gas operations. The 2013 DEP analysis stated that these burdens did not apply to conventional operators. Yet the 2015 version applies these burdens to conventional operations. The new version is also much more complicated. In some instances it will be impossible to comply with inasmuch as it requires trespass. In all cases it will be very expensive.

The foregoing is just a brief excerpt of the onerous new burdens being placed on conventional producers. The overwhelming conclusion is that the DEP has failed to analyze the financial impact of these burdens, as required by statute. Yet it is obvious that the new burdens will add strain to a supply chain that is already gravely stressed. The financial analysis cannot just be an afterthought. The law requires that the financial analysis and the consideration of alternatives for small business all be a part of the consideration during the drafting of the regulations. The financial analysis is fundamental to the development of reasonable regulations covering an industry that has been the backbone of the economy of northwest PA since the late 1800's. To fix this problem, and to fully comply with the existing statutes, the DEP needs to start the process over again. It has to begin by identifying, with supporting documentation, what, if anything needs to be changed in the existing conventional regulations and why such changes are necessary. (314)

Response: See responses to comments 1582, 1614 and 1615 regarding costs related to site restoration and storm water management requirements.

See response to comment 334 regarding the cost of identifying other critical communities.

See response to comment 2249 regarding notification requirements.

See response to comment 264 regarding inclusion of schools.

See response to comment 762 regarding the need for area of review requirements to apply to conventional operators. The Department always intended the area of review requirements to apply to conventional operators.

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2262. Comment: I am an attorney by trade, and I am also part owner of a small oil company

headquartered in Warren. Our oil company drills conventional, or shallow, wells, and we are a small business with less than 500 employees. We, also, own the first oil well that was fracked in Warren County, Pennsylvania. This particular well was fracked in the early 1960's, and there have been no problems with this well since its inception. This well is located approximately 100 feet from the banks of the Allegheny River -the same Allegheny River that flows into Pittsburgh. No one in Warren or in Pittsburgh or anywhere in between -has suffered any detriment from this well in the 50+ years since it has been fracked.

In addition, my husband is the owner of another oil company, also headquartered in Warren and also having less than 500 employees. The company that my husband owns and operates was started by his grandfather in the 1930's.

Despite the misguided information that has been provided in the media and by various regulatory agencies, the hydro-fracturing process -which has been used for decades - is extremely safe.

Permit me to tell you a little about Warren. Warren is a small city located on the Allegheny River. Warren is also surrounded by the Allegheny National Forest. We live in a beautiful, environmentally rich area, and no one appreciates these natural attributes more than the oil and gas producers do. Despite these attributes, Warren's population is shrinking, and we are experiencing the departure of large industries. The one industry that has remained constant, however, and which has historically provided secure and stable jobs, is the oil and gas industry.

However, the conventional oil and gas industry is suffering as a result of the intrusive and overreaching regulations which DEP is imposing on conventional oil and gas producers. There have been layoffs suffered in the conventional oil and gas industry because the small companies are being trampled by DEP regulations -regulations that are suited for and were implemented to address issues relating solely to the unconventional drillers -not the conventional drillers. These regulations are neither appropriate for nor are they tailored to address issues in the conventional oil and gas industry.

The high cost of the new DEP regulations will only add to the burden from which the conventional industry is suffering. The proposed regulations will have a serious negative impact on future drilling plans. For example, less wells are being drilled, and further layoffs are planned as a result. These layoffs lead to far-reaching economic problems not only for the producers, but, also, to every person who life is touched, directly or indirectly, by someone employed in the oil and gas industry. This, in turn, can lead to the demise of an area which once thrived thanks to the oil and gas industry.

Did you know that in the late 1800's, Bradford, Pennsylvania - a town, much the same size as Warren and which is close to Warren in northwest Pennsylvania, - was the world's largest producer of oil? We should all be proud to have such a viable industry in our state which would enable us to be self-sustaining to a large part if it were allowed to operate efficiently and effectively and without being overregulated.

To be specific with regard to the 2015 regulations:

- The 2015 regulations are overreaching and burdensome to an industry which is crucial to the functioning of every citizen's daily life.
- The 2015 version of the regulations is more complex than the 2013 version.
- Some of the sections of the 2015 regulations are very complex and difficult to interpret which in turn makes them difficult to implement. Examples of this are the regulations

relating to central impoundments and site restoration.

- The 2015 regulations lack a proper financial analysis of costs by DEP. Financial impact is one of the key areas on which we are to be able to give comment. It is impossible to comment on the regulations when this key component is missing.
- The 2015 regulations lack an analysis of alternatives for small businesses. It is impossible to comment on the regulations when this key component is missing.
- The law requires that the regulations allow for “optimal” development of Pennsylvania's oil and gas resources, and I emphasize the word “optimal”. The complexity of these regulations is unnecessary and burdens the conventional oil and gas producers in a manner which is anything but optimal.
- DEP has failed to state what is inadequate about the current regulations. As a result, it is impossible to comment on the proposed regulations if we are uninformed about the goals for change that DEP is seeking.

My request, on behalf of all conventional oil and gas producers, is that DEP stop the current process and go through a thorough and necessary examination to determine if there is even the need for change, prepare the proper financial analysis, and review the alternatives for small, conventional oil and gas producers. (320)

Response: See response to comment 2094. Regarding the appropriateness of the rulemaking.

See the comments and the Department’s responses on §§ 78.59a, 78.59b, 78.59c and 78.65 regarding impoundments and site restoration.

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2263. Comment: While oil and gas development is not new to the Commonwealth, shale development is new to our part of the state. I can say confidently this development has had an enormous positive impact in our community. We have benefitted locally with the creation and growth of many businesses, numerous jobs, improved infrastructure, increased philanthropic giving and a cleaner environment. Shale development has placed Pennsylvania in the national spotlight and now accounts for 25% of the US gas supply which has helped us reduce our dependency on foreign energy sources. Shale development has led to lower energy prices, down nearly 40%, allowing businesses and homeowners to reinvest the billions of dollars of savings back in their community.

The last 8 years of my professional career have been positively impacted by the natural gas industry - from helping local businesses capitalize on this opportunity by starting and growing businesses, to working for an academic institution focused on community education and outreach,

to currently working for a local operator that has invested tens of millions of dollars into this community and looking to invest millions more. And as members of this community - who drink the well water, and breathe the air - no one has a more vested interest in making sure that we protect our environment. My family, and our livelihood, is directly affected by the decisions you make in Harrisburg.

I am concerned that this tremendous opportunity we have been afforded is in jeopardy. The department is proposing a series of requirements that may read well out of a book for those who do not need to live with the consequences of your decisions - but which threaten my livelihood and that of my family.

Because of what you are proposing to do, you have my full attention.

You are proposing brand new standards very late in the regulatory process. Despite claiming to be going “above and beyond” with respect to public input, what the department has actually done is effectively sidestep the legal requirements you are supposed to adhere to. For example, this regulation has no compliance cost estimate; it has no cost-benefit analysis; and it fails to consider the impacts to small businesses, as the General Assembly requires. It does not apply environmental standards consistently across industries. You have proposed new standards for noise mitigation, which does not fulfill any of your environmental obligations and instead intrudes on the decision-making of elected officials here in Lycoming County. You have new standards for storage tanks; site remediation; and waste handling and reporting which treat the natural gas industry differently than every other industry in the Commonwealth. Other standards are vague and inconsistent, such as requirements for considering “other critical communities”, and make it difficult if not impossible for an operator to know how to comply with the law.

In my various roles of helping to create small businesses; educating the public about shale development; and now working to safely produce Pennsylvania's energy resources, I have seen a commitment to protecting our environment. I believe in high, strong and consistent environmental standards because it's the right thing to do, and because it protects my family. But the department must correct its course here. However well-intentioned some of these provisions may have been, they simply continue to strangle the opportunities available for myself and my neighbors here in Lycoming County.

I was born and raised in Lycoming County and hope to live my whole life here. I want the same opportunities - should they so choose - for my children. Respectfully, you have put that future in danger. On behalf of them, I ask you to re-evaluate these rules and come back with more sensible changes that work for the citizens of this community. (307)

Response: See response to comment 2094 regarding the appropriateness of the regulations.

See response to comment 2301 regarding the ANFR public review process.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding centralized tank storage facilities, the Department has removed §§ 78.57a and 78a.57a (relating to centralized tank storage) from the rulemaking.

Regarding, site remediation, the requirements in §§ 78.66 and 78a.66 help to homogenize remediation of spills and releases in PA. See response to comment 1668.

Regarding waste reporting concerns, see the comments and the Department's response on §§ 78.121 and 78a.121.

See response to comment 94 regarding the definition of "other critical communities".

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2264. Comment: We provide professional survey, mapping, and routing services to the oil & gas industry. We're the country's largest pipeline survey firm. To say we have our finger on the pulse of the midstream sector is an understatement. We track, monitor, and pursue nearly every pipeline project in the U.S., Canada, Russia, and Australia.

My job is business development. My role is to ensure our professional survey crews stay employed. In the past 3 months alone I have witnessed an unprecedented amount of uncertainty among my clients and prospects which has led to projects being delayed, rethought, or canceled entirely. All of this from the mere uncertainty of the fiscal and regulatory climate in Pennsylvania.

We have laid-off dozens of survey crews since the downturn began. Couple that with Harrisburg's intent to further tax the industry and now the DEP's move to change the rules- Pennsylvania has effectively created the perfect storm. One that will most certainly kill the golden goose that remains one of the brightest spots in our Commonwealths economy.

I am among the 340,000 Pennsylvanians employed by the oil & gas industry. That number should only grow as some estimate we are only 15 years into a 150 year process. But we will never get the chance to realize those numbers, those jobs, and the economic benefits for all Americans (not just Pennsylvanian's) if we continue to single out an industry with burdensome rules that don't apply to any other industry.

I had dinner the other night with two of your colleagues from the DEP. These two are personal friends and we rarely discuss business. However, I felt compelled to share with them the reality that, to date, there is only one operator in the entire Marcellus Shale play that is currently cash flow positive. After 15 years, only one is cash flow positive- primarily due to the lack of infrastructure to move this product to market. They were astounded. They had no idea and I wonder if you realize just how tenuous this situation is.

Extraction, production, transportation, and distribution is a long and complex process no doubt but one that has been further stressed by regulatory oversight that many believe is overreaching. PA already has world class environmental regulations that have been a model for states across the nation. Protecting the environment is in everyone's best interest. But why should we pay an unfair

price? Some of these proposed standards, like new limitations regarding public resources, are literally unlawful. Why? We have been nothing but good stewards of the land as well as good neighbors.

Just seven years ago we were in near panic over our reliance on foreign energy imports. A precarious position for sure. Today, thanks to an American ingenuity, that was developed by Americans, produced and delivered by Americans, and that benefits every American- is in jeopardy. Piling on additional regulations would be crippling. I, along with my hundreds of thousands of colleagues, implore you to work with us on these proposed standards that, frankly, have little to any commensurate benefits.

Bottom line, rigs are mobile. They have wheels. If they move to other basins around the country and the globe; PA will have lost one of the greatest economic stimulators we have ever witnessed our history.

Hundreds of thousands of jobs are on the line. The ball is in your hands. Our loss is the Middle East's gain. Please don't drop the ball with this game changing opportunity. (313)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry. Regarding public resource concerns, please see response to comment 262.

2265. Comment: I am an oil and gas professional with nearly 35 years of experience in conventional oil and gas operations. My experience covers nearly all aspects of the business. I would like to open with a few general comments on the conventional Chapter 78 rewrite.

The Department has not engaged the conventional industry in these rewrites. That failure results in fatally flawed regulations. The Department has not given the industry enough time to analyze the implications of these regulations. Many of these changes are so open ended and sweeping that we cannot possibly understand the financial impact of the changes.

One issue that fills me with trepidation is the numerous new reporting and notification requirements. In a time when the industry is faced with nearly unprecedented challenges the Department is piling on requirements that will force increased staffing just to comply. The phrase "on forms provided by the Department" is so open ended that I cannot possibly understand the cost of compliance.

It also appears that the Department is moving to paperless reporting entirely, as I do not see provisions for offline reporting written into these regulations. I object to that on behalf of those small operators who do not have the technological means or money to do so.

In conclusion, there are many more points that I could bring up and object to. The Department has done itself a disservice with these revisions and may yet destroy the conventional oil and gas industry in Pennsylvania, along with the thousands of jobs it provides. (361)

Response: The Department has and continues to engage all stakeholders in the development of this regulation. This is exemplified through the development of both broad and focused, technical workgroups, multiple rounds of revisions and public comment, and a commitment

to the development of policy, guidance, forms and reporting platforms ahead of final promulgation. See response to comment 2301 regarding the ANFR public review process.

See response to comment 2463 regarding costs of compliance with electronic notification and application requirements.

2266. Comment: I am speaking to the proposed rules as they relate to Chapter 78 today as our Operations focus on conventional oil and gas production primarily in Northwest, PA, where we employ thirty five employees. As a producer, our company and its thirty five Pennsylvania employees have firsthand experience with and put forth extraordinary efforts to be good stewards to the environment and good neighbors to the communities where we work and live.

Enervest has always supported and is pleased with the development of separate rules governing the conventional and unconventional business models since the advent of the horizontal shale drilling started. We believe the size and scope of operation are in such stark contrast to each other that rules governing such operations should be separated and developed along different paths with the goal of protecting the environment and we applaud the recent separation of these rules in Pennsylvania.

Generally -All reference to hydraulic fracturing in the proposed rules should be deleted as one of the parameters used in defining conventional and unconventional wells. As we know, almost 99 percent of all wells, regardless of formation or type, are fracture stimulated and have been for decades.

In conclusion, we believe there is room for much work and improvement to these proposed rules and if not amended will result in further adverse effects to the sustainability of continued production from the conventional side of our business. The added cost and administrative burden resulting from the rules as proposed combined with forecasted low commodity prices over the next few years will result in decreased future development and shut-ins on existing production. Many conventional operators have already placed their future drilling programs on hold as seen from the permit activity and are currently shutting in wells even as we speak. The conventional side of the business is in a survival mode presently and is experiencing negative margins already and adding additional cost will only increase the burden. (367)

Response: The definitions of conventional and unconventional operations are based upon the statutory definition in the 2012 Oil and Gas Act.

The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2267. Comment: I represent a third generation oil and gas producing family with over fifty years of experience.

Anyone in this business is very hard working, pays taxes, and participates in the local community. We live where we work. My family hunts and fishes near our wells and on our property. Northwestern Pennsylvania, where most of us live and work offers beautiful scenery, lots of flora and fauna, and clean streams.

The small producers and drillers of Northern Pennsylvania supply two refineries, Ergon and

American with good Pennsylvanian Crude, which is wax based not tar based like the oil produced in the west to make black top. The by-products of Penn Grade crude are used in skin softeners, medications, and paraffin candles.

Most who operate shallow oil wells are unable to afford to comply with Chapter 78 regulations. I had recently been given a figure of \$100,000 for just one tank battery that is required by the regulations. Small oil and gas producers are not multimillion dollar companies. They have shallow and legacy wells, some one-hundred years old.

Please do not kill the small oil and gas producers in Pennsylvania with impossible to follow regulations. We are your neighbors and we support our local communities. Do not allow my family get shuffled under by the pretense of modern life!!! (379)

Response: : The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry. The commenter did not provide sufficient details for the Department to evaluate the \$100,000 cost estimate for a tank battery.

2268. Comment: I am providing comments on behalf of the Pennsylvania Independent Oil and Gas Association, as well as myself. I want to first thank the DEP for holding more hearings on what seems to be deja vu, or a re-occurring nightmare, but is actually round 2 of Ch. 78, Subchapter C proposed regulations. I sincerely, thank you for holding these hearings so that our voices and concerns are heard.

I'm a 3rd generation natural gas and oil producer, working as a production/business manager for our small family owned conventional gas company, located in Clarion, PA. I've been in the natural resource arena all 42 years of my life, but have been in the business for 16 years. I must say that I've seen a lot within those 16 years, from the natural gas commodity price starting at around \$2.50, increasing to around \$12.00 and then going back down to where we are at today, \$2.50. I've had the privilege of seeing the Commonwealth become a hot area for Marcellus shale development. This to me has been a blessing and a curse.

The blessings include: bringing jobs back into the Commonwealth, and injecting money into the State economy, in other words growth and prosperity for Pennsylvania. The simple fact is that PA is now considered a hot bed energy resource area for helping the Country take steps toward energy independence. The curse is: more proposed regulation for the smaller producers. Much of the additional regulation, proposed by DEP, is unnecessary for a Conventional producer and is questionable, at best, for shale producers. Honestly, what has happened in the last 10 years to warrant a total revamping of regulations for the Conventional producer? We believe the current regulations, as they exist today, are very suitable and should be followed and enforced. I also understand that Conventional producers aren't environmentally benign, BUT what Industry really is? The point is, we all should operate under smart and common sense regulation. We, the small gas producers, care about the environment because, we live here, we work here and we have families here. We strive to be good stewards of the environment, for we are ultimately responsible for our actions in the end.

I'm a proud Father of four boys and I would love for any one of them to have the opportunity to continue the Family business, or to join our Industry. I'm fearful though, that may not happen when I look at the current landscape.

We are experiencing a valley (a downturn in the industry) and there are numerous small companies striving to survive through these tough times. As I mentioned before, low commodity prices, coupled with high service costs, and now; add additional proposed regulations? Where's the benefit in these new regulations? Where's the economic impact analysis? Anytime there's a new regulation put into motion, or put in place, there's a cost associated with it. Please don't misunderstand me, I believe there should be smart regulation, and it should be based on scientific merit & fact. Not regulation that could have a crippling effect on our industry with little to no merit.

The Department has clearly not taken a serious look at the economic impact of these proposals. Their impact on small business is staggering in scope. Given the current economic realities for this industry in Pennsylvania, our state regulators are either deliberately attempting to turn Conventional development and companies, such as mine, into dinosaurs, or they are completely ignoring the impacts these proposed regulations will have on our small businesses. Neither bodes well for the future of Pennsylvania's conventional producing industry, Pennsylvania's economy or the nation's energy independence. Neither represents sound public policy.

In closing, I want to, again, thank the DEP and EQB for holding these hearings. Thank you for the opportunity to speak this evening. Most importantly, it is imperative that the DEP and the industry work together. We truly can't have one without the other and I strongly urge the DEP to consider the economic impacts and the benefits that these proposed regulations will have on our small Conventional businesses. (362)

Response: See response to comment 2094.

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2269. Comment: Thank you for providing the opportunity for me and others to speak this evening regarding the proposed Chapter 78 regulations.

I am General Partner of Dorso Energy LP, a 2nd generation, family owned and operated conventional oil and gas company founded in 1977 by George O. Scott, my father-in-law. Since George passed away in 2007, I along with my wife Sue and our 7 employees operate over 200 shallow, conventional natural gas wells in 9 SW Pennsylvania counties stretching from the bottom of Clearfield County to the edge of Greene County.

I serve as a board member of the Pennsylvania Grade Crude Oil Coalition (PGGC for short) since 2013. Our company has been a member of PIOGA since its inception. My father-in-law served on the PIOGA Board for many years.

Our company is a typical, small Mom and Pop oil and gas business - just like most of the conventional operators who are locally owned. We live here, our employees live here. We would like to continue to live and work here and continue to be responsible producers of natural gas that serve our local communities, benefit our many landowner families and the other small businesses that support our work efforts.

As most everyone here tonight is aware, the unconventional industry operators (better known as shale drillers) are big players with much bigger staff and much bigger financial resources. Our state and our country are blessed to have this opportunity to develop these natural shale resources that less than a decade ago was only an idea. As the technology for horizontal drilling of the unconventional reservoirs matures, it is logical that newly created regulations would be needed to address the changing methods that continue to improve the shale production process. There is a good opportunity now for the shale industry and the DEP to work together to continue to improve the process with updated regulations for the shale industry to ensure “getting it right”.

By contrast, I am more concerned today than any time in the last 37 years in this industry that our small business may not survive if the current changes to the regulations as proposed for conventional operations are adopted. I echo the testimony already provided by very able shallow well operators and their representatives here today. I will not repeat their comments as they were clearly presented and stressed the dire economic situation for shallow natural gas producers. With the recent rapid drop in oil prices, the shallow oil operators are just now feeling the effects the shallow gas operators, located mainly in the SW PA counties, have been feeling for the last few years.

Our company which historically drilled between 5 and 15 new wells each year since our founding in 1977 utilizing local contractors, local suppliers and materials supplying gas to local markets has no plans to permit or drill a new well this year or next. The last shallow conventional well we drilled was in May 2012 - almost 3 full years ago now. Prior to that, the only year in which we did not drill a new shallow well was 1986 - almost 30 years ago. I believe this current oversupply bubble due to the success of shale drilling may last in the same range of 5 to 10 years. So the low natural gas commodity price will prevent us small operators from drilling new shallow gas wells anytime soon and the significant drop in oil prices will severely reduce new shallow oil well drilling. To add the cost of the proposed Chapter 78 regulations to the conventional operations will be particularly harmful to any new business development of shallow oil and gas.

When Act 13 of 2012 was passed, the DEP began a process that was squarely centered on revising the more complex and evolving unconventional shale operations with very little attention to the small conventional operators. As the process moved along, some administrators contended that separation of the regulations covering the two distinctly different industries was not necessary and may not be possible due to time constraints primarily in the rule making process. As it became clear that these unconventional regulations were destined to flow over onto the unrelated conventional operations, the General Assembly recognized this concept would not work which resulted in the passage of Act 126 of 2014 requiring the DEP to develop a separate set of regulations for conventional operations.

As this bifurcation process has developed, it has become clear that concerned administrators might well have been correct. There is not enough time to:

- properly assess the separate need for any new regulations;
- determine the costs related to these new regulations and how it might affect the continued existence of small oil and gas operators;

- evaluate, as per rulemaking procedures for small businesses, whether there are alternative, safe practices that could be substituted for potentially costly new regulations; and
- frankly, to even interpret the complexity of how the regulations are written.

I submit that the rulemaking process has been short-circuited. Historically, the DEP and the shallow conventional industry have a very good record of working together to formulate best practices regulations that have protected the public, our environment and fostered the continued development of Pennsylvania's shallow natural resources. We have spent much time, effort and money over the last 60 days in an attempt to get a working understanding of what is being proposed. As a board member I can report that we are overwhelmed by the analysis required in some of the proposed regulations - to the degree that we have employed a law firm to assist in their interpretation and also help determine if these proposals have merit based in science and are not without hidden agenda. We are not yet in a position to properly comment on these new rules - there is not enough time provided. I ask - Why the rush?

I compare the current push by the DEP to move the Chapter 78 proposed regulations for the shallow conventional industry to the passage by Congress of the Affordable Care Act - the so called Obamacare became a law that had to be passed - even if few had read it or understood what was in it, how it would be implemented, why it was necessary, what it may cost, and how it may have unintended consequences that could harm hundreds of small businesses, its employees and their families - all that rush even if there were better - less costly alternatives available to achieve the same common goals. Again - Why the rush?

Without the influx of shale operations in the region since 2005, our shallow conventional operations would continue today to be regulated by Act 223. All aspects of our shallow gas and oil operations can continue to be enforced by those current rules.

It was going to be difficult enough to promulgate these new proposed regulations in the timeline available after bifurcation was required. In light of the change in administration in Harrisburg, the replacement of all new TAB members, the creation of a new conventional advisory board (COGAC) by the DEP, coupled with the replacement of 2 DEP Secretaries, and the uncertainty at this time of what is really required in the new regulations that have appeared since the last comment period - how can rushing this set of regulations for the conventional industry that is already on the ropes to final rule make sense?

I respectfully submit that the DEP must step back from the current process because its foundation and imposed time line is flawed. There is no need to rush adoption of poorly understood regulations that may have unknown or unintended consequences - especially with the reduction in conventional drilling & permitting for the foreseeable future. No one would argue that the best regulations are ones that are clear, concise and easily understood by all so as to ensure proper compliance. I am hopeful that the DEP and the long standing shallow well industry can start anew and work together to promulgate any needed new regulations, but with an appropriate timeline following the proper rulemaking framework. (374)

Response: The Department has conducted an unprecedented public participation process for the Subchapter C including a request for comments on the Advance Notice of Final Rulemaking (ANFR). See response to comment 2301 regarding the ANFR public review process.

The Department agrees that it is important to meaningfully collaborate with stakeholders to ensure that regulations are appropriately tailored to risks presented by the activity being

regulated. Neither the Department nor the Governor has any intent to antagonize any industry that has a lawful right to operate in the Commonwealth. It is clear however, that issues surrounding oil and gas development extend far beyond the technical aspects of well drilling – which is the purview of the Technical Advisory Board. It is also clear that the conventional oil and gas industry presents (and is confronted with) very different issues than the unconventional industry. As such, it was necessary and appropriate for DEP to broaden the scope of advisors it listens to during the regulation development process.

2270. Comment: I've been living and working in the Commonwealth for 6 years. I am an avid outdoorsman and a proponent of responsible industrial and resource development in the Commonwealth. I am here today to express my disapproval and opposition of the Chapter 78 revisions.

Presently, I am a Landman with a Pittsburgh area Exploration and Production Company. Health, Safety and Environmental Stewardship are at the heart of our company's Core Values. Having worked in the industry for over eight years, I have found these values to be consistent with most of the other operators in the Commonwealth. Since our inception in late 2011, the commentator's company acquired leases on 80,000 acres across three counties in Western Pennsylvania, paying over \$115 million to landowners. Currently, we have 22 unconventional wells in production with intentions of turning more wells in line in the near term. Through this work we have had a positive impact on the infrastructure in our operated areas by rebuilding two bridges and upgrading over 10 miles of roads.

The oil and gas industry has provided me and literally thousands of other individuals with an amazing opportunity - the ability to stay in the region and build a life. I can remember 10 years ago working a dead-end job with \$3 in my checking account. I can promise you it was not a fun place to be. Through hard work and a desire for knowledge, the industry has enabled me to grow both personally and professionally. I have seen the same effect first hand with hundreds of locals who have taken the initiative to get the necessary training to jump head first into our business. My hope is that these same opportunities will still be available to my four year old daughter when she is ready to enter the work force.

Additionally, we have seen a hugely positive impact on small businesses throughout the region. Hotels, restaurants and convenience stores are all thriving. It doesn't take an economist to understand that many of their successes can be directly attributed to the oil and gas industry.

Very recently, however, I have seen the scary proposition of companies slowing down due to this depressed commodity price environment. I personally know dozens of people sitting at home without jobs. I am citing this situation to make a plea to you to not make this unnecessarily cumbersome on the industry -there is too much at stake for Pennsylvanians and our country. The regulations currently in place are sufficient and not overly burdensome like those being proposed. I want to make it very clear that I am not opposed to regulating our industry. In fact, I think it is extremely important to watch over the industry to protect human health and our environment. My question is, why don't we focus on enforcing the world class regulations Pennsylvania already has in place as opposed to piling on tedious and, ultimately, expensive standards? Why has the DEP not performed the required cost-benefit analysis or attempted to understand the impact these regulations will have on small businesses? Why does it seem as though the industry has to play by a different set of rules? Other industries are held to a much lower standard. Why are we, the industry, not allowed to review the comments for the proposed rulemaking even though it is required by law? Are you going to be able to enforce all of these proposed regulations? If so,

from where is that money going to come? In my humble opinion, the DEP is way out of bounds on a number of issues as it relates to this rulemaking.

Pennsylvania is blessed with some amazing layers of rock thousands of feet beneath us. The Commonwealth needs to remain competitive. If the industry cannot operate efficiently and effectively, the major players will pack up and go elsewhere. Please leave Chapter 78 alone the cost is too great for current and future working Pennsylvanians. (318)

Response: See response to comment 2094. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2271. Comment: As a fourth generation oil and gas drilling contractor, I am here tonight to testify regarding the revisions to 25 PA Code Chapter 78 and 78a Subchapter C. I am currently retired from contracting, but I serve as a consultant for various companies throughout Northwestern Pennsylvania. I own in fee 102 acres of land on which I operate 18 oil and gas wells. I also live on this land and drink water from our water well. I belong to PIOGA, the Pennsylvania Grade Crude Oil Coalition, and NYSOPA. I am a graduate of The Pennsylvania State University and my son is also a Penn State petroleum engineering graduate, which makes us a five generation oil and gas family.

I believe that I have come full circle in the oil and gas industry. As a teenager, with my father as mentor, I learned to operate and drill using a cable tool rig. After my college graduation, I was asked to teach the Oil and Gas Production Career and Technical Course at Bradford Area High School. After three years, I returned to my family business and operated Hill Drilling for 31 years with 3 rotary drilling rigs in Southern Pennsylvania, Ohio, New York, and the West Virginia border. Now, I have returned to operating cable tool rigs and, in recent years, I have drilled my own 10 wells. I am presently drilling the eleventh well. My neighbors have expressed their appreciation for my efforts in not only restoring 8 non-producing wells drilled in the 1960s, but for constantly striving to improve the land on which I drill. My role as consultant has reacquainted me with many owners and operators in Northwestern Pennsylvania. It has also given me the opportunity to review and study current and proposed oil and gas regulations.

The conventional industry has been part of the Western Pennsylvania landscape and an integral part of its economic engine for over 150 years. Now, in an effort to regulate a new and quite different unconventional industry that arrived here in Pennsylvania only a few short years ago, these same local conventional operators are being forced to comply with regulations that were crafted to deal with the unique and challenging issues associated with the drilling and development of the unconventional wells. These proposed regulations that were developed for unconventional oil and gas operations are inappropriate for conventional operations and impose a disproportionate regulatory and economic burden on small businesses, such as my own and other conventional operators. Because many shallow oil and gas wells produce only small quantities of oil and gas, the cost of the proposed regulation, in many cases, will make these wells economically unfeasible to drill and operate. In addition, the proposed regulations are wide-ranging and extremely vague and will require costly attorney fees for their interpretation. The DEP must consider the cumulative impacts of this ever-increasing set of rules, permits and policies on conventional operations. With low natural gas and oil prices, the conventional operations will be further negatively impacted causing unemployment for many businesses

associated with the oil and gas industry. Remember, as I learned in my college biology class, “A smart parasite never kills its host.”

Following several public meetings and recommendations presented in 2014, the Bifurcation Bill was passed through the House and the Senate and became law. Why are our new governor and the newly organized Department of Environmental Protection failing to recognize the separation of conventional and unconventional regulation? Please honor the law to comply with the regulations that are appropriate for the conventional oil and gas operations. (330)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry. Please see response to comment 2119.

2272. Comment: I am a Well-tender (for an Oil and Gas producer). We produce conventional oil and gas wells. My wife and I have two kids together. My job (for an Oil and Gas producer) supports my family. Every year my production declines due to the natural depletion of an oil well. In order to stay employed, my employer drills several new wells a year enabling me to continue to have full time work. If new wells cannot be drilled my job evaporates with the depletion of oil wells.

The regulations we are testifying about will lead directly to that evaporation of my job. It will not be realistic to drill new wells under these regulations. These regulations will bring large new costs that are not necessary. One of the worst costs in the 2015 changes is about stormwater management.

We would now have to think about our well sites as though they were Walmart parking lots and hire experts for thousands of dollars to do calculations that are silly for our small sites. We already bring our new well sites back to vegetation right after they are built. It is wasteful to require all this paperwork and expert's study, and it is those very kinds of costs that will put us out of our jobs.

I am very disappointed the DEP did not take into consideration that my employer and all of the oil and gas companies in our county are small businesses. The DEP should have looked at alternatives for small businesses because it is what the law requires and because it makes sense. What we do now with our roads and locations works well. I see those roads and locations every day, and regardless if it's raining or the snow is melting, we are not having the kind of impact these complicated regulations are geared toward.

My family and I are already worried about the effects of low oil prices. Lots of my friends from other oil and gas companies are already laid off. Our industry is already struggling and the way you have approached the regulations doesn't show any concern about the financial impact. In fact, I could not find any financial estimate from you about your stormwater requirements.

I strongly urge the DEP to stop and do the financial analysis and to stop and look at alternatives for small businesses so that the end result will not create the loss of job for myself or the loss of work to any of my fellow employees. Thank you. (336)

Response: See responses to comments 1582, 1614 and 1615 regarding site restoration and storm water management requirements.

The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input.

2273. Comment: I work a full time job for a small independent oil company with operations in North Western Pennsylvania and Western New York. I also own, operate a handful of wells in McKean County. For the last five years I have had an annual production of less than two hundred barrels a year. I am just one of many small operators that rely on a few wells for extra income. My wells help cover household expenses such as real estate taxes, Orthodontist bills, and rising grocery and gasoline costs.

I stand before you tonight to tell you how the proposed Chapter 78A regulations will affect myself, my family, my community, and the shallow oil and gas industry.

The proposed regulation regarding tanks and secondary containment could mark the end of my lease. A tank replacement and a secondary containment system other than an earthen dyke would cost more than the lease could produce for the next two to three years. This economic forecast will affect all other small operators with leases just like mine. Small leases play a big part in keeping stability in the local economy. As the local refineries are already facing troubled times, crude oil shortages from disappearing leases will have a devastating effect.

Costs associated with the proposed Chapter 78A regulations of drilling and well pad construction regulation are such that my employer may not be able to withstand. With no new drilling my employer will cease to exist. My employer is just one of the many oil and gas companies facing possible ends.

Western Pennsylvania could be facing un-imaginable unemployment levels and a mass exodus from the state. The remaining employed Pennsylvanians will have to pick up the tax burden.

I am asking legislators and DEP to reconsider proposed Chapter 78A regulations. (316)

Response: Chapter 78a applies to unconventional operations only and Chapter 78 applies to conventional operations. When addressing site containment, there are significant differences between Chapter 78a and Chapter 78 due to statutory requirements that apply only to unconventional wells. The secondary containment requirements for oil tanks have not been changed by this rulemaking.

2274. Comment: I'm 15 years old, am currently in the 9th grade at Smethport Area High School and enjoy working in the office at Howard Drilling a few hours a week. I currently file, make PDFs of old records, and do any task that's asked of me. I plan to attend college to better my education with a business degree and have hopes to someday contribute to the business with my hidden talents.

Howard Drilling is a small family owned company that has been in the oil and gas business way before I was born. Howard's have taken a lot of pride in providing a steady job, good health insurance, and a pension plan to its employees. If we are forced to comply with the proposed regulations, I fear something will have to go. Three months ago there a big lay off of employees, and it was sad to see these employees go, what will happen to them if they can't find another job because of these new regulations.

I can't help but notice all the fuss going on with the proposed laws that could have negative impact on this industry. Our small community is already feeling the stress from all the recent layoffs. How can a business that's already limping along under the current economic conditions be slapped with more regulations. What will it be like for me when I'm ready to enter the work force? There is already no youth retention in North Western Pennsylvania; I hope I don't have to leave my home. (360)

Response: See response to comment 2094.

2275. Comment: I am a Community Outreach Manager in eastern Pennsylvania for an association working with regional partners since 2008 and currently comprised of nearly 250 exploration and production, midstream, and service companies committed to developing clean-burning natural gas resources. In 2014, our members were responsible for 96% of the natural gas produced here in Pennsylvania.

Responsible shale development has been among the most transformative turning points in our Commonwealth's history. And indeed, natural gas development can serve to enhance and improve our natural resources.

Significant investments have been made across the Commonwealth by our industry to provide needed habitat and restore lands and watersheds. Partnerships with conservation groups are examples of our industry's willingness and commitment to voluntarily protect and preserve our natural resources. In fact, more than 33,000 acres were added to the state forest system thanks to revenues from shale development which assisted in the ability of DCNR to obtain this additional acreage.

And our industry has raised the bar for shale development further with practices designed specifically to lessen the impact on surface disturbance and provide strategies to improve habitat and landscapes.

The benefits do not end there. Take, for example, the fact that the Commonwealth accounted for over 25 percent of the nation's natural gas production in recent months, according to the Energy Information Administration.

This has led to more revenue. The natural gas industry has paid over \$2.4 billion in taxes since 2008 and \$850 million over four years to communities, counties, and the state in impact taxes.

More than 200,000 new hires in Pennsylvania are supported by industries associated with shale development, according to our Labor & Industry. And despite the rhetoric, these are - myself included - lifelong, tax paying residents of this great Commonwealth.

In addition, there is a great cost reduction in residential fuel. My monthly budget for natural gas which I use to cook with, heat my water and most importantly heat my home is \$70 a month. That is a \$1,800 per year savings to senior citizens and those with lower incomes.

Natural gas is a clean burning fuel source, accounting for nearly 25% of our electric generation supply and heating homes of over 5 million Pennsylvanians and 1h of the United States. It has contributed to improved air quality in Pennsylvania. And thanks to natural gas US CO₂ emissions are at a 20 year low and the EPA has said that toxic air pollutants across the Mid-Atlantic region are down nearly 14%

These benefits, unfortunately, are at risk. Pennsylvania has a complex regulatory environment and an uncertain fiscal climate. These two issues have made doing business in Pennsylvania very difficult. Pennsylvania already has world class environmental regulations that have been a model for states across the nation. These regulations have been reviewed and praised by the independent STRONGER board, a national non-profit organization dedicated to assessing states' regulations, which referred to last fall as “well-managed, professional and meeting its program objectives.” And for that, we applaud both the General Assembly and the Pennsylvania DEP.

With these powerful regulations already in place - and billions paid in taxes -we need to firm up the uncertainty to do business in this great Commonwealth.

At the same time, many of the DEP's proposed regulatory changes to Chapter 78 stretch beyond legislative intent and will undercut the Commonwealth's ability to compete for capital - while providing little or no additional benefit with regard to safe and secure oil & gas development and threaten Pennsylvania jobs and low energy prices.

We are, therefore, very concerned about regulations which seek to hold the natural gas industry to different standards than any other industry; that seek to impose vague and inconsistent standards; which exceed the authority granted to the department by the General Assembly and the courts; and which place Pennsylvania businesses at a competitive disadvantage without a commensurate environmental benefit to our communities or natural resources.

Our over-arching message is straightforward: PA should be a world leader in producing safe and responsible clean energy. So instead of undermining the strong, consistent, and predictable regulatory framework that already exists, we should work cooperatively to revise these proposals to maintain a balance between strong environmental protections and a competitive economic climate. It does not need to be a false choice between the two, and we urge the DEP to continue working with our industry and stakeholders across the Commonwealth on a reasonable, competitive path forward.

Please don't set our economy backwards and threaten good paying jobs and affordable energy for all Pennsylvanians.

Thank you for the opportunity to provide this testimony. (372)

Response: See response to comment 2112. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2276. Comment: I am a 4th generation shallow oil producer in Venango County Pennsylvania. My son who is in partners with me is a 5th generation.

The regulations for Act 13 will put the little oil producer out of business. For 20 some years the regulations for Act 223 have governed the conventional oil and gas industry. There is no need for this ridiculous change in regulations.

If we did not live by the regulations we were fined if need be. Our production water from shallow oil and gas wells has the same density of salt as the 2 oceans that surround us.

The water from 4000ft and below is severely salty and needs to be disposed of properly.

For 150 years our shallow production water has been dispersed on the ground with no serious problems. I shall never forget in 1988 after Act 223 had been passed several of us PIPP members were setting in Gov. Casey's office with people from the original DER Arthur P Davis was the deputy secretary at that time and was in our meeting. They were beginning to discuss the production water problem and one of our members read a document published by the DER that the springs in North western Pennsylvania were the greatest in the state and he asked Arthur Davis how this could be? When for years our production water was dispersed on the ground. Mr. Davis replied we are trying to figure that out.

At this time with oil at approximately \$50 per bbl. For every bbl of oil produced we are spending over half of it for water processing and trucking. There has got to be other systems.

Two years ago we applied for a stream permit to discharge water into a non-high quality stream by treating it. We have been stalled all this time for the permit and the DEP has added approximately \$400 per month for radiation testing making the grand total of \$1200 a month just for testing fees. I now question if we will ever see the permit.

IN my life time of being in the oil business we have seen ups and downs in oil prices but we could always jump to excavating to make a living but the guy we call president has our economy in such a mess that that is no longer possible.

If we lose the oil and gas business Pennsylvania economy will be in a mess. Those that are here tonight wanting to stop drilling and fracking should have walked here instead of driving a car or at least rode a horse and wore wooden shoes because everything they wear has some oil in the process of making it.

SAVE OUR INDUSTRY PUT THE CONVENTIONAL OPERATORS UNDER THE REGULATIONS WE SUCCESSFULLY LIVED AND OPERATED UNDER FOR 20 SOME YEARS. (378)

Response: See response to comment 2094. To the extent that the commenter is suggesting that Chapter 78 should be revised to allow brine dumping, that practice is not environmentally sound as evidenced by the fish kills and dead vegetation it causes. To the extent that the commenter is concerned about NPDES permits for discharges into surface water, that is beyond the scope of this rulemaking.

2277. Comment: Generations Forestry, Inc. is a forest consulting company located in Kane, McKean County, Pennsylvania. Generations Forestry, Inc. is involved in the forest management of approximately 250, 000 acres of forestland, mostly located in Northern Pennsylvania.

I was born and raised in Kane, Pennsylvania and chose to move back to Kane shortly after graduating from Penn State. I have been involved in rural community activities, including service

as a school director throughout three decades. The area I live and work in has been providing natural resources since the time of settlement, over 150 years ago.

In practicing forestry in this resource-rich region for over 30 years I have worked with many conventional oil and gas producers. Though I have not gotten along with all of them all of the time, I can honestly state that I never felt that one of them got out of bed in the morning with the intention of harming the environment. They all want to produce a resource desired by society. I have worked diligently with oil and gas producers throughout my career in reducing the impact of resource extraction on the environment through smaller, better placed well locations and access roads. I am concerned that if the proposed rules are implemented the landscape will experience more disturbance. I believe the rule implementation will require a larger footprint on the landscape, causing a larger and longer overall impact that has been historically experienced.

I urge you to reconsider implementing the proposed rules. The language and potential interpretation of the proposed rules are threatening and intimidating to an industry composed of small, mostly family-owned and operated businesses. These small, traditional oil producers are producing the same oil fields that fueled this Country's energy needs through two World Wars. All the while improving the quality of the water resource of the region. I see no reason to implement new, more complex regulations on this vital industry. In simple terms, if is not broken, do not try to fix it! The 2015 regulation add Municipalities and School Districts to the list of public resource agencies charged with managing public resources. Believe me, as a former school director, the responsibilities of public education are complicated and challenging enough that you need not add the public resources to school directors, who serve as non-paid public officials. Unfortunately time does not allow for more detail. However, I will make myself available at the committee's request for a more detailed discussion. (328)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking. To the extent that the commentator suggests schools and municipalities should not be considered public resource agencies, please see comment 264.

2278. Comment: I am a Warren County Commissioner and a 40 year farmer in Warren county. My wife and I own OGM rights on some of our land and some we do not. We have five conventional gas wells on our farm. While they produce a very modest income, they contribute to the local economy.

Northwestern Pennsylvania has one hundred and fifty years of experience with oil and gas wells beginning with Drake's Well in 1859. The second well was actually drilled in Warren county. Most of these wells are operated by family businesses that may span several generations. These families live and work in the areas where these wells are located. Their concern for environmental stewardship is important to them in their daily operations as they affect the health of their families, neighbors, land, and water.

While oil and natural gas have had a tremendous economic effect in northwestern Pennsylvania, the cost has been very little in environmental harm. The Allegheny National Forest comprises 513,000 acres; and approximately 92% of the OGM's are privately owned. The ANF is located in the heart of Pennsylvania's conventional oil region, with Drake's well located 15 miles from the western edge of the forest. The ANF remains a major producer of conventional oil today, supplying much of the crude oil for products refined at Bradford's ARG refinery (the world's oldest continuously operating refinery employing about 400 people.) Today's estimate is about 12,000 conventional wells currently in production in the ANF.

Despite the long history of heavy conventional drilling, the trees and streams have prospered. Of the 2126 miles of mapped streams within the ANF, fully 72% are rated as high quality or exceptional value for water quality, among the highest quality streams in the state. Multiple studies on water quality since the early 1980's do not detect a negative impact to water quality from the wells.

Most of the conventional oil and gas wells in the region do not generate a large income individually, but collectively they make a huge contribution to the local economy. Not only does the industry support hundreds of jobs that pay well above average wages, but it supports many other jobs to meet the needs of the workers and their families. These hundreds of families support stores, gas stations, school teachers, barbers, health care workers, in fact the whole community. All new wealth springs from the earth and the land through farming, mining, and drilling and manufacturing.

Otherwise, dollars just change hands without new dollars being added. It is said that a dollar generated in a rural community multiplies several times, as much as seven times, before it leaves the community. The wealth is indeed shared by all.

I don't have Warren County's figures, but they are very similar to the numbers in neighboring McKean County. A study in that county shows that their conventional producers and their associated drilling and completions contractors accounted for 2017 jobs in 2011. Those jobs averaged \$78,954 per year -twice the county average income. Warren County's numbers would be similar. The high grade Pennsylvania Crude is only processed by two refineries now. This Penn Grade crude oil is manufactured into lubricants, waxes, and pharmaceutical and cosmetic base stocks. It is a small but important line of products. Without the continued production of conventional oil wells, these refineries would have to close or retrofit to process asphalt-based oils into different products.

Bradford's refinery, ARG purchases Penn Grade crude oil from conventional wells in northwestern PA. In 2013, they purchased \$194,000,000.00 of Penn Crude. The Annual direct economic impact to the area was \$268,600,000.00. The indirect impact was multiplied several times in the community.

This is a lot of money paid to the producers. But, most of the conventional wells in this area are operated by small independent companies. The individual wells for the most part don't produce high incomes. The small companies are efficient and make a good living for the owners and employees, but the income does not support the high cost called for in the new regulations. These costs would force many or most of these companies to go out of business.

The small family oil and gas companies cannot afford to implement the changes called for that are necessary for unconventional deep well drilling and fracking. The conventional wells do not generate enough income to support it. If these companies are forced to close down production, the economic impact to northwestern PA and Warren County will be staggering. With the loss of these jobs, residents will be forced to seek jobs elsewhere and all of the businesses in the community will feel the impact.

We have one hundred and fifty years of history to prove that these changes are not necessary for conventional wells. It was not the intent of legislators to impose these restrictions on conventional wells and they are not needed. If they are mandated, the effect on our community will be devastating. (340)

Response: See response to comment 2094 regarding the appropriateness of the regulations.

2279. Comment: I live in Jefferson Hills, PA. I am here today testifying both personally and professionally on behalf of a small business in Robinson, Allegheny Medical Integrated Health Services. I am here today to address my personal concerns, as well as our company's fear over the significant changes proposed by the Department of Environmental Protection to Chapter 78. The proposed regulations would single out the oil and gas industry with standards not imposed on other industries. These standards will significantly increase costs by hundreds of millions of dollars; while providing little if any environmental benefits. The DEP has failed to conduct a cost-benefit analysis for the proposed changes to this rule, nor has it conducted an analysis on the impact to small business, like the one I represent today. These changes will negatively impact my family and I, as my co-workers and their families who rely on our small business.

We all know that shale gas development has created well over 200,000 Pennsylvania jobs. Pennsylvania residents and businesses are experiencing reductions in energy prices of more than 40% since 2008. It has contributed to improved air quality in Pennsylvania and has provided \$830 million in impact fees that have been distributed to our local communities and environmental programs, as well as \$2.3 billion in additional tax revenue to the state.

My father was a steel worker, and I worked in the auto industry as a manager for General Motors in a plant here in West Mifflin, PA. I have witnessed the fall of both industries, and my family has paid the price because of both. As a single mother, I own my home, pay taxes, and am an active member of the community in which I live and work. Since I lost my job at GM with the fall of the industry, it has been more than a little difficult to replace that income. Two years ago, I was offered and accepted a position of Director of Corporate Health for our small locally owned and operated medical clinic. Due to the growth of the midstream companies, construction companies, environmental companies, etc. we as a small business have grown 47% in two years. All of those businesses need drug and alcohol testing, pre and post-employment physicals, annual medical surveillance to ensure a healthy workforce. So as a small medical provider, we have grown. We have gone from 24 employees to 33 since December 2013. These jobs are doctors, medical assistance, x-ray technicians, and directors positions - family sustaining jobs. However, with the implementation of these regulations, 70% of our customer base will be negatively impacted causing loss of employment and cut backs in service, therefore drastically impacting our small business and potentially causing the same loss of jobs and forced layoffs for our employees.

That is our business story and here is my personal story ... two years ago, I was close to losing my home, behind on my property taxes, struggling week to week to make ends meet. I didn't know if or how I was going to make it. My savings was close to running out, and there really didn't seem like there was much hope. Family sustaining jobs were nowhere to be found. Then luck would have it, I was offered a position where there was potential and growth opportunities because of the gas and oil industry in our area. Two years later, my income is finally at a family sustaining level again. I am no longer worried about making it paycheck to paycheck. I can provide for my children. I am saving money again and able to put money away towards my retirement. Finally, I am living again. What you are proposing to do may just take money from me, my family, and our future.

Pennsylvania already has world class environmental regulations that have been a model for states across the nation. These regulations have been reviewed and praised by the independent State Review of Oil and Natural Gas Environmental Regulations. This rule making will result in significant compliance costs at a time of historic downward commodity pressures, making Pennsylvania less competitive with other shale basins while providing little if any environmental

benefits. These regulations will create job loss, business loss, for me, the customers we serve, as well as within our own business. (341)

Response: The Department complied with the requirements of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2280. Comment: I live in Upper St. Clair, Allegheny County. I have two comments on DEP's proposed new regulations. First, that the Marcellus Shale industry has been an overwhelming positive for our region. Second, that burdensome regulations should not be imposed without a careful evaluation of costs versus benefits.

There is plenty of data about the positive economic impact that Marcellus Shale has had on Southwest Pennsylvania: the jobs created, the impact taxes paid, and the growth in our energy supply. I will focus on my personal observations of the benefits of this industry.

As I mentioned, I live in Allegheny County, which does not have much Marcellus activity. Nevertheless, the benefits of the industry can be seen every day. In Upper St. Clair, new residential units have been built for gas industry workers who want to send their children to Upper St. Clair schools.

I live near the commercial corridor of Route 19 in Peters Township. Stores and restaurants on Route 19 are busier than ever before, reflecting activity driven by the Marcellus Play.

Racetrack Road in the Meadowlands is booming with construction. There are now several hotels there; such hotels would not be necessary if not for the Marcellus activity nearby.

Southpointe in Canonsburg is home to dozens of shiny new buildings, many of which house energy companies like Consol and Range Resources. I gave a presentation several years ago at an energy conference in San Antonio, Texas. Everyone knew about Southpointe and Canonsburg as the center of the country's energy boom.

I work at the Tucker Arensberg law firm in Downtown Pittsburgh. Our firm has grown from 75 attorneys to 90 purely as a result of Marcellus Shale. We have about 15 lawyers who do oil & gas title work full time. This growth is a direct result of the Marcellus play. In my line of work, litigation, I am personally involved in handling 20 cases directly tied to Marcellus Shale development. I assume the growth at other Pittsburgh firms has been similar. If law firms have experienced this kind of growth from the Marcellus, then so have other service businesses, like accountants, engineers and consultants. And for every professional deriving work from the Marcellus, there are clerks, secretaries and other employees.

Ten years ago we complained that economic conditions in the Pittsburgh area did not allow our young people to stay here. They had to leave home to find opportunity. But that is no longer the case. Pittsburgh is now a trendy place for young people, with neighborhoods like Lawrenceville and the South Side becoming more and more fashionable. The energy industry has created economic opportunity, not only for the hardhat guys at drill sites, but also for the young professionals Downtown.

For the first time since the decline of the steel industry, Pittsburgh seems to be on a growth trajectory. Let's not kill this growth with needless regulations.

That brings me to my second point: DEP should not impose new regulations on the Marcellus business without a careful evaluation of costs and benefits.

Pennsylvania already regulates the oil & gas industry. Oil & gas operators already have to meet permit requirements, face inspections of their work, and pay fines for non-compliance. Pennsylvania's existing regulations are a model for oil & gas regulations in other states. So why is DEP now proposing new regulations?

I looked over the new regulations. They are so lengthy and complicated as to defy reading. Which means energy companies will have to hire lawyers and consultants to interpret the regulations, rather than hiring workers to drill wells and develop clean energy for our nation.

This expense might be justified if the industry posed some serious threat to health or the environment. But experience tells us this is not true. Pennsylvanians have been drilling oil and gas wells for over 150 years. The industry has been fracking for 60 years. Fanatical claims about tracking have been shown time and again to be false, based on hysteria rather than fact.

Regulatory burdens cost money. That is why Pennsylvania law requires that the Department conduct a cost-benefit analysis of the new regulations. My understanding is that the Department has not done so. Nor has the Department evaluated the impact of the new regulations on small businesses, as required by law. The Department's failure to perform legally-required evaluations leads one to believe that the regulations could not withstand scrutiny.

Another ground for suspicion is that the Department has inserted new regulations into its final draft rulemaking. Making changes late in the game limits the opportunity of the regulated businesses to study and comment upon the new provisions. It also prevents oversight bodies from submitting comments and objections. If the Department believes the new regulations are justified, why would the Department try to short-cut the rulemaking process?

Conclusion

For the first time in many years, Southwestern Pennsylvania is enjoying a measure of economic prosperity, thanks to the Marcellus Shale industry. The industry has shown that it can develop an important natural resource in an environmentally- friendly way. DEP should not impose costly new regulations (especially now, when gas prices are down) without first assuring us that the regulations would have measurable benefits that exceed their costs. (346)

Response: See response to comment 2112. Regarding the commenter's concern that the rulemaking may be too long and too complex for oil and gas operators to comprehend on their own, the Department notes that Department staff are available during normal business hours to provide assistance. The Department complied with the requirements of

the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department conducted the requisite analyses in developing the final-form rulemaking provisions. These analyses are reflected in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the potential costs, benefits, need, impacts on small businesses, alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's revisions to the rulemaking provisions after careful consideration of all comments received during the rulemaking process and of the additional public input. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2281. Comment: I'm writing to let you know the impact the new regulations will have on me, my family and my business. I have to think about what is different in the last 30 years I have been working in the oil and gas industry. Two words sum it up "harsher regulations". At one time this lease was operated by two or three employees and now I can barely employ one person part time due to the financial burden of the regulations imposed on me. I also wondered what would happen if I had to shut my lease down due to the rising cost of complying and where would I obtain the money to plug my wells and take care of my family. The way my company has been able to comply thus far and still operate is to do most of the work on my lease myself. I can't afford to hire contractors to survey my lease or map wells, etc. In my opinion, it is necessary to educate the lawmakers to understand the difference between a conventional well and a nonconventional well in terms of production, profit and issues pertaining to our environment.

When I think of how I operate my lease, I am as conscientious today as I was when I first started working in this industry. As an operator, I know my lease inside and out. I check my lease on a daily basis. As a sole proprietor, I worry about the effect of having to focus more on paperwork, phone calls and conforming to all the current regulations. As I ponder about what is best for everyone, it is my hope that the penalties imposed are truly justifiable and that the individuals inspecting well locations do understand how each one of our wells operate and the extent that we, as producers, go out of our way to comply. What this all boils down to is how much a small producer can withstand mentally, physically and financially to stay in this business going forward if we have so many more costly and time consuming regulations to comply with in the future. It will be depressing to see the outcome of shutting down the small producer especially knowing how long my own lease has been in operation. I currently produce a well that was drilled in 1889!
(353)

Response: See response to comment 2094 regarding the appropriateness of the rulemaking. See response to comment 762 regarding costs associated with area of review.

2282. Comment: I aspire to become a third generation Oilman. I am 17 years old and as I have always dreamed of continuing on with our quote, unquote "family farm". But these "copy and paste" proposed conventional regulations are a threat to my dream. I know from working in our business that these regulations will bring a lot of unwarranted new expenses. How will we pay for these new expenses? I think these new expenses will lead to fewer jobs and a smaller tax base in my town and that will mean even more cut to my school.

I want to talk about schools because our school district has already been forced to make unprecedented cuts to our educational and extra-curricular budgets. In the last 3 years the school district cut its extracurricular funding by 1/2 and the community now has to raise half the money.

Who in my community is currently paying to field my football, basketball, baseball and track teams? I personally invite the members of this board to come and see for yourselves whose names are on the banners in my gym, and on the fence around my football field. It is the banner that my family's business paid for. It along with the other banners all around it were paid for by the other small businesses in our communities; businesses that are interwoven with our families business and represents the independent "can-do" spirit that has made our country the best place in the world. No business should have to deal with unreasonable regulations, but unreasonable regulations are particularly hard for a small business.

I call them unreasonable because they are fixing a problem that doesn't exist. Our towns in the oil region at surrounded by thousands of conventional wells and at the same time we are also surrounded by the highest percentage of high- value trout streams in the state. The majority of the wells around this community were drilled in the last 31 years under Act 223. The most remarkable change during the last 30 years is that the water quality in the streams surrounding our communities have increased in and around our part of the state. This is just one way the conventional oil and gas industry has already demonstrated we are adequately regulated. If the unconventional oil and gas industry had not moved to Pennsylvania, we would not be here tonight. Act 13 would have never been created or adopted and my future would not be in peril. Please refuse to be a part of these misdirected, unneeded, and very damaging regulatory controls. The regulations that were in effect before the unconventional industry came to Pennsylvania already contained some of the strictest environmental standards in the United States. These new regulations are not needed to protect my family, neighbors, and friends. What is needed is to have you vote "no" so our communities can be protected from the vindictive, devastating "copy and paste" rewrite. Take a look for yourself at the job my family and the other shallow operators have done. Conventional operators who have already provided the environmental stewardship necessary for the sustained beauty you see all around you. And what was the thanks that the Department of Environmental Protection gave to the hard working people in this room tonight? They supplied pictures to the newspaper of problems that were already accommodated for in Act 223 some 31 years ago. The Department tried to paint all the hard working people in this room as polluters and evildoers so they could do what they wanted. That would be like taking pictures of the kids in my school who have got in trouble or made mistakes and then to take their pictures and have them printed in newspapers all over the State to how bad kids are today! Well, it won't work sure there has been some problems but I heard in the last election that "government that works" knows how to protect we good people, while it deals properly with problem situations.

We need our shallow conventional industry to be strong, now, more than ever; it is helping to save our schools in my community. Please think about what you are doing before you unnecessarily destroy the lives of thousands of people living in small towns like mine, for no reason. (365)

Response: See response to comment 2094.

2283. Comment: I am a 26 year old resident of Northwestern Pennsylvania, where I work full-time for a locally owned and operated conventional oil and gas well production company. In my spare time I also operate my own conventional oil and gas production company which I started 3 years ago, consisting of 19 wells, myself, and one part- time employee, and from which I draw no salary. It is a true labor of love.

As I previously stated in testimony provided at a public hearing regarding the 2013 version of these regulations, what the DEP proposes is far out of context with what is necessary for our industry. In fact, although required to by law, the DEP completely fails to provide a statement of

need for new regulations for the conventional industry. Without conducting a careful analysis of research, documentation, and data on the industry in order to provide this required statement, showing a necessity for new regulatory power, how can the DEP even expect to come close to proposing meaningful regulations?

In addition to the failure to provide an analysis of the need for regulatory change, the DEP also fails to fulfill another requirement of the law, which is special consideration for small businesses. According to the Pennsylvania Small Business Act, before new regulations can be imposed, they must be analyzed specifically for the effect they will have on small businesses. The Act states that “small businesses bear a disproportionate share of regulatory costs and burdens”, and that “agencies should seek to achieve statutory goals as effectively and efficiently as possible without imposing unnecessary burdens on small businesses.” The DEP has not offered any special consideration for small businesses in the form of alternative, more relaxed performance standards, or otherwise. In addition to their impact on small businesses, such special considerations are meant to be analyzed for their ability to remain true to the stated objective of the proposed regulations. Again, how can the DEP expect to analyze the effectiveness of considerations for small businesses, when it has already failed to state the necessity and objective of new regulations?

Despite widespread testimony describing the multitude of ways that the 2013 proposed regulations were wildly out of context for the conventional industry, these 2015 revisions are in many cases even further from the land of practicality. For instance, the new requirement that drill sites be returned to original contours, does not make any sense for our industry. We drill well sites on slopes where the contours absolutely must be changed in order to have flat ground to operate on. With perhaps the exception of sites that were originally flat or very nearly flat, not only will this requirement be extremely costly, it will in many instances be simply unattainable. As another example, the new requirement for site specific PPC plans is out of touch for an industry which is composed of hundreds of thousands of highly similar sites, producing and storing small amounts of the same materials. Under existing regulation, the lack of variation between sites has allowed for the efficient use of generic PPC plans containing the pertinent information required in case of emergency. What advantage will site specific PPC plans provide, when individual sites are virtually identical? As with many other examples which I could list, the DEP fails to consider the enormous cost of implementing such regulations, while simultaneously failing to demonstrate the benefit.

With all of these failures: the lack of demonstration of necessity for new regulations, lack of consideration for small businesses, and lack of cost versus benefit analyses, how can I hope for anything but failure from these proposed regulations? When it comes to Conventional oil and gas, all the DEP has demonstrated is disregard for proper procedure and an unwillingness to consider the operational practicalities of a long established industry. I ask the DEP to regulate my job and my business, not destroy them. (301)

Response: See response to comment 2094 regarding the appropriateness of the regulations. The Department disagrees with the comment. The rulemaking procedures in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act and others. The Department developed a regulatory analysis form which provides justification for the regulation and an analysis of the potential impacts to small businesses. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

See responses to comments 1582, 1614 and 1615 regarding site restoration and storm water management requirements.

See response to comment 881 regarding concerns associated with site specific PPC plans.

2284. Comment: My family owns a 400 acre farm and an additional 300 acres in the area of Glade Township. We grow some small grains and produce mostly hay for feed and mulch. Also our 400 acre farm is open to all public hunting. We sell a large percentage of our produce (approximately 35%) to several local oil producers in the form of small bales of mulch hay and straw. We also sell seed oats that they mix in with their grass seed that helps their seedings get established quicker and acts as a nurse crop. Every producer that we deal with does an outstanding job with restoring the land.

We have **conventional shallow wells** on our property that has supplied us with natural gas and oil for the last 40 years. Most of the land we rent also has conventional shallow wells. Along with being active in the community I have served on the Warren County Conservation District Board of Directors for the past 32 years. During this time I have seen many changes. Most notably the establishment of the Department of Environmental Protection (DEP) from the old Department of Environment Resources, the DER. There is a much better working relationship with **the conventional (shallow well) producers** today than there was with the old, confrontational, DER. As a District we used to receive many oil and gas complaints. Those have all but disappeared today.

Back in the 1970's and 1980's there was a huge difference in the way oil producers worked. But through cooperation and education, the wells and well sites of today are designed to prevent damage to the environment and especially water quality; all have a Chapter 102 plan. Streams of the past that used to run brown with mud when there was oil activity in the area are now crystal clear and streams of high quality fishing.

I would like to thank the Department of Environmental Protection for this opportunity to testify on the amendments to Chapter 78 and 78a. **The separation of Conventional wells (shallow) Chapter 78 and unconventional (deep) wells 78a** was greatly appreciated but I think you have missed the point. The conventional shallow well producers have been doing an outstanding job with the current DEP regulations. We are people who live in the community and want to be good neighbors and do what is right for the environment. It is our land and we want to be good stewards.

All of your amendments of:

- 1.) Improve protection of water recourses
- 2.) Public resources considerations
- 3.) Protect public safety
- 4.) Address landowner concerns
- 5.) Enhance transparency
- 6.) Improve data management

are addressed in your current regulations.

It appears that this is another way to slowly shut down an industry, through regulations, that provides many jobs to the area.

I would hope that a thorough and “transparent” explanation of your changes would be forthcoming. The 120 pages of Amendments to Chapter 78 that I read, were very confusing. I hope this isn't a way for “Environmental Activist” to have more of a say in the oil industry than the men and women who work in the industry every day and are true “Active Environmentalist”. (329)

Response: See response to comment 2094. See the response to comment 262 regarding public resource considerations. The Department believes that it is appropriate to improve data management and enhance transparency by requiring electronic submission. See response to comment 2463 regarding costs of compliance with electronic notification and application requirements.

The Department also believes it is appropriate to improve protection of watercourses, protect public safety and address landowner concerns. The reasons for these changes are explained in the Regulatory Analysis Form, the Preamble and throughout this comment response document.

2285. Comment: The new proposed standards will have an adverse effect on competition because small, independent conventional well operators will be driven out of business should these standards become law. With small conventional well operators extinct, the marketplace for oil and natural gas will only be served by large conventional and unconventional well operators. This “Wal-Mart” effect will stifle competition and limit the options of area refineries who purchase Pennsylvania crude oil for processing. It will also have an adverse effect on local businesses that depend on small conventional well operators to survive, including: (1) oil and gas service providers that assist oil and gas producers in drilling, leasing, logging, marketing, and well management; (2) professionals service firms that provide engineering, consulting, accounting, and legal services; and (3) hotels, restaurants, and other service businesses that cater to the 10-15 workers typically present at conventional well site during the extraction process. It will also have an adverse effect on royalty owners. (201)

Response: See response to comment 2094.

2286. Comment: I live in Hazel Hurst PA. I am a hunter, fisherman, and outdoorsman. I am an environmentalist. I live and play in the great outdoors of McKean County in the midst of the Bradford oil fields. I get to see firsthand the impact the oil and gas industry has on our area. It is a positive impact. I have worked in the local oil and gas industry for 34 years. Many of my friends and neighbors also depend on the local oil and gas industry for their income. Those who don't have friends and family who do. Oil and gas is truly vital to the economic wellbeing of our area.

In regard to the proposed regulations for conventional oil & gas producing, I would like to request that the department return to the regulations set forth in Act 223, known as the Oil and Gas Act of 1984. Until the Marcellus industry arrived, the conventional producers operated under Act 223; the environment was protected, and producers could economically operate. As I try to read the proposed regulations, I am bogged by the additional paperwork and reporting requirements that would be required. The proposed regulations appear to be a “cut and paste”

version of regulations designed for the new non-conventional drilling industry, not for an industry that has been operating in Pennsylvania for over 150 years. Why now, would there be any benefit to producers reporting where the stone came from to fix well roads? What is the benefit of reporting where the fresh water came from to cement a string of casing? Why require a soil scientist to determine if the bottom of a pit is 20' above the seasonal ground water when the determination is currently made by DEP inspectors who are not soil scientists? Why require site specific PPC plans when the current control and disposal plan requirement has adequately served the industry and environment? Why require 3 days notification before constructing a pit when there are times that an operator does not foresee the need for a pit prior to commencing serving or plugging? The situation can arise when a pit quickly constructed and lined is necessary to control a changing situation. Is it really necessary to hire a registered professional engineer every time a producer constructs a tank battery? What is the additional cost to equip tank batteries with alarms and monitoring equipment? Properly constructed secondary containment provides more environmental protection than any monitor or alarm.

On another note; there was recently an article in the Pittsburgh Post-Gazette regarding these proposed regulations. It contained pictures that were supplied by the DEP to justify the need for more regulations. One picture showed a newly cemented gas well with a fire beside it. The rig crew was burning plastic thread protectors on site. The DEP identified it as an oil fire. As I looked at the other pictures, I wondered how they showed the need for new regulations. All of the incidents were violations of old regulations (Act 223).

I am somewhat puzzled as to why we are going through this public comment process again. The public provided input to the technical advisory board last year regarding the proposed regulations. When the technical advisory board suggested that the DEP not adopt the regulations as proposed, they were terminated. It appears as though the DEP has no intention of listening to the public or considering neither the impact that the proposed regulations will have on the conventional oil and gas producers nor the economic impact to our communities. (317)

Response: See response to comment 2040 regarding changes to the 2012 Oil and Gas Act.

See response to comment 2094 regarding the appropriateness of the rulemaking.

Many borrow pits operated by conventional oil and gas operators are large scale operations spanning many acres that are in operation for many years with a significant potential to cause pollution and public health and safety issues. See response to comment 1770 regarding the authority to regulate borrow pits.

See response to comment 881 regarding concerns associated with site specific PPC plans.

Well development impoundments must be restored within 9 months of completion of hydraulic stimulation of the last well service by the impoundment. In order for the Department to track impoundment use and ensure compliance with this requirement, operators must report this information to the Department.

See response to comment 2249 regarding notification requirements.

See response to comment 1018 regarding emergency pit construction.

The tank alarms and monitoring equipment as well as the requirement to consult a professional engineer mentioned by the commenter are associated with requirements in

§ 78.57a which has been deleted from the rulemaking. The Department believes that the commenter misinterpreted the intent of this section.

See response to comment 2301 regarding the ANFR public review process.

2287. Require industry to list ALL chemicals to be used in the drilling process prior to drilling and keep inventories of names and amounts of chemicals used during drilling and extraction processes. Require industry to place markers in all chemical mixtures used in the drilling and fracturing processes. (13)

Response: Operators are required to report all additives and amounts used during the well drilling and stimulation process in the Completion Report (Form No. 8000-FM-OOGM0004b). This information is available to the public through the Department's website in eFACTS. The chemical analysis and tracking of wastewater from Oil and Gas Operations is accomplished by the Department via existing regulatory mechanisms, i.e. the requirements of the Form 26R and Wastewater Source Reduction Strategy required by 25 Pa. Code § 95.10(b)(2). Operators have been notified of their waste reporting obligations, as well as the guidelines for the development of the reduction strategies.

2288. Comment: The toxic chemicals used in drilling for shale oil and gas are well documented in Congressional hearings. These toxic chemicals are pumped at high pressure into wells which are known (from industry-sponsored university research) to have multiple fractures along their length; approximately one joint in 10 ends up leaking according to one such study of lateral displacement on pipe joints. Such fractures inject toxic chemicals into our groundwater, thus poisoning water supplies that form spring water and farm water and which support the multi-billion dollar farming industry in this state. These chemicals should be closely monitored and limited in their application; with preference given to the use of non-toxics. Even if non-toxic costs are a little higher for the drilling operator, the long term community cost will surely be much lower. So please strengthen your regulations on these chemicals. (102)

Response: Operators are required to report all additives and amounts used during the well drilling and stimulation process in the Completion Report (Form No. 8000-FM-OOGM0004b). This information is available to the public through the Department's website in eFACTS. Sections 78.51 and 78a.51 list the requirements for the protection of the water supplies. The Department believes that the revisions to Chapters 78 and 78a provide appropriate protections for public health and safety and the environment.

2289. Comment: PADEP should take physical possession of Drill Bore Cuttings and Flowback contaminants: Both drill cuttings and flowback contain dissolved solids, salts, heavy metals and radioactive elements absorbed at depth. Current regulations leave it to the drillers to dispose of these waste products. This sets up a perfect storm scenario for illegal dumping by third party hauling sub-contractors, while leaving the producing gas company in a position of plausible deniability. Because the natural gas industry is self-reporting, there are no reliable and verifiable methods to quantify how much dumping is occurring. Transport to out of state landfills simply makes it some other public's future headache. To solve this dilemma, Pennsylvania should take physical possession of these hazardous wastes and build plants to process and properly contain the end products. To compensate for the **costs** of processing and storage, the state should **collect a per-gallon or per cubic yard fee** collected at the well head. Since the gas company will already have then paid to dispose of these wastes, the incentive for illegal dumping would be greatly reduced. (17)

Response: The Department disagrees with your comment. There are existing adequate regulatory controls on the disposal of drill cuttings and flowback contaminants. Requiring the Department to take physical possession of drill bore cuttings and flowback contaminants is unreasonable and beyond the scope of this rulemaking.

2290. Comment: All temporary and permanent impoundments, storage tanks, pits, that collect discharges from wells must be tested at least quarterly (129)

Response: It is not clear to the Department what the commenter is suggesting. To the extent that the commenter is referring to discharges from pits, tanks and impoundments, there are to be no discharges from impoundments, storage tanks or pits except in accordance with §§ 78.60 and 78a.60 which require testing prior to discharge.

2291. Comment: All liquid and solid materials transported to permanent sites such as landfills and injection wells, must be tested and clearly labeled, regardless of whether the destination state requires such labeling. (129)

Response: The transportation of waste materials from oil and gas operations must comply with the applicable requirements in Article IX including testing and labelling requirements.

2292. Comment: Fracking waste pits are a blight on our communities and our environment. They leak toxic chemicals into our water and poison our air. I support your proposal to end on-site drilling waste pits, factor schools into the permitting process of fracking sites, and require companies to restore contaminated drinking water sources. And I urge you to go further in protecting communities from fracking by ending all use of massive open air waste pits. (149)

Response: The Department acknowledges the comment. See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

2293. Comment: Pits and Centralized Impoundments, both waste and “freshwater” impoundments, should be prohibited unless the container is equipped with a sealed lid for all fluids used on sites and at centralized locations. All containers should be equipped with filtering systems to prevent the emission of air pollutants and secondary containment systems that do not allow the discharge of materials they are meant to contain unless permitted under the National Pollution Discharge Elimination System. Areas where oil and gas development is occurring, storage at impoundments are located, and oil and gas operations are occurring should be equipped with air monitoring of the region’s air that could potentially be affected by emissions from the storage areas to assess the cumulative impacts of oil and gas development. Clean air standards must be enforced at local and regional levels to protect the public and the environment from air pollution related to these activities.

The State Review of Oil and Natural Gas Environmental Regulations Inc. (STRONGER) recommended in its most recent state review of DEP oil and gas regulations (September 2013): “The review team recommends that the DEP consider adopting regulations or incentives for alternatives to pits used for unconventional wells in order to prevent the threat of pollution to the waters of the Commonwealth”. (182)

Response: Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

Sections 78.64 and 78a.64 address the requirements for secondary containment requirements around oil and condensate tanks. Section 78a.64a lists the containment systems and practices at unconventional sites.

2294. Comment: Waste Burial Legacy Sites. In our March 2014 comments we requested the addition of a program to address sites where onsite burial of waste materials from oil and gas development had been allowed. With the addition of the suggestions proposed in the Earth Justice comments, the proposed Chapter 78a regulations will require restoration of each site to conditions existing prior to oil and gas development for new and existing sites subject to the new Chapter 78a regulations. However, this leaves potentially thousands of now-closed or abandoned sites where onsite disposal or burial was allowed. The threat of contamination potential from these disposal or burial sites becomes an environmental legacy that may cause considerable damage from release and migration of contaminants in the future.

To mitigate the environmental risks from these pre-Chapter 78a burial sites, we propose that a program be added to specifically address these risks. This program would have several components, including: 1) identifying the location of each waste burial site; 2) determining the type and volume of waste in each burial site; 3) determining the waste site design and burial method used; 4) testing the waste to determine whether any constituent exceeds applicable or relevant and appropriate federal, state or local environmental quality criteria; 5) testing soils, groundwater and surface waters in the vicinity of the burial site to determine whether waste constituents have already migrated from the burial site; 6) removal of all waste materials from the burial site, all soils contaminated from contaminant migration, and remediation of impacted groundwater and surface waters; 7) transportation with a manifest system for tracking shipments of wastes and contaminated soil to waste handling, treatment and disposal facilities licensed to accept such wastes; 8) establishing a record keeping and reporting system for the owner/operator (if known) to provide PADEP with the information identified above; 9) making all of this information available to the public through the PADEP website; and 10) payment by permit applicants of a fee to establish a fund to address orphan burial sites. Our 2014 comments addressed the details related to this proposed program. We have attached a copy of these 2014 comments for your convenience. (223)

Response: The Department has amended the final rulemaking to ban the use of pits for temporary waste storage at unconventional well sites. The Department has determined that it is appropriate to remove this practice because it is not commonly used by unconventional operators. Additionally, the typical type and scope of use by unconventional operators is generally incompatible with technical standards for temporary pits prescribed under §78.56. As a result, unconventional operators will no longer be permitted to dispose of residual waste including contaminated drill cuttings in a pit at the well, unless the pit is authorized by a permit or other approval is obtained from the Department. Conversely, the typical type and scope of use by conventional operators is generally compatible with the technical standards for temporary pits prescribed under §78.56. The Department has allowed the disposal of residual wastes including contaminated drill cuttings in a pit at conventional well sites for decades without significant harm to public health and safety or the environment and consequently has not banned the use of pits for temporary waste storage at conventional well sites in this rulemaking. Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

2295. Comment: These comments address the Draft Final Regulation as they appear on the Department's web site and as referenced in the ANFR noticed in the Pennsylvania Bulletin on April 4, 2015. We are a leading independent operator with a leasehold position of over one million acres across western and north central Pennsylvania. We are one of the top five producers of natural gas by volume in Pennsylvania and is the leading producer of natural gas liquids in the state. We have drilled several hundred unconventional wells since drilling the first commercially viable Marcellus well in 2005.

We also operate several thousand conventional wells in northwestern Pennsylvania. We are a member of both the Marcellus Shale Coalition (MSC) and the Pennsylvania Independent Oil & Gas Association (PIOGA). We endorse and incorporate by reference the extensive comments submitted by both organizations. Rather than repeat those detailed comments, comments herein will be limited to key provisions in Chapter 78a to which we wish to draw additional attention. Failure to comment on any section of either Chapter 78 or 78a of the Draft Final Regulation in this document should not be construed as agreement with the proposed language. We also incorporate and restate our comments submitted on March 13, 2014 in response to the Proposed Regulations. We request that the Department's comment response document required by the Regulatory Review Act (RRA) (71 P.S. §745.1 et seq.) address all of these comments. Section 3202 of the 2012 Oil and Gas Act (58 Pa.C.S. §3202) declares the Legislative purpose of the Act to be to "Permit the optimal development of oil and gas resources ...consistent with protections of health, safety, environment and property ...". The Draft Final Regulations fail to further that legislative purpose. When viewed in totality the Draft Final Regulations cannot be seen as anything other than an attempt to stifle the natural gas industry in Pennsylvania. The RRA requires an agency to consider the "least burdensome acceptable alternative" (71 P.S. §745.5(a)(12)). Given the wide-ranging rewrites to numerous provisions in the Draft Final Regulations, adding new requirements, and the multitude of new provisions, such an evaluation should have been included in the ANFR. Frankly, we doubt the statement required by the RRA could be made. The Draft Final Regulations are deficient in that: 1) many of the requirements are so ambiguous and subjective as to make it impossible to determine how to achieve compliance and leave judgment regarding compliance to the opinions of individual agency staff; 2) several sections impose standards and obligations more onerous than imposed on other industries for similar activities without any basis, ignoring already existing regulatory programs; 3) some provisions impose requirements that interfere with efficient operations without creating any substantive environmental benefit or, in some cases, without any nexus at all to the environment; and 4) several provisions plainly exceed the Department's legal authority as determined by the Legislature and/or the courts, including a wholesale disregard for the Regulatory Review Act. (191)

Response: The Department reviewed and considered all comments submitted during the public comment period prior to finalizing this rulemaking. See the responses to comments 2301 through 2335 regarding the Regulatory Review Act. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry. This comment does not provide any specific suggestions on how to improve the rulemaking but the Department notes that this commenter provided comprehensive comments on the ANFR and refers the commenter to the responses to those specific comments.

2296. Comment: How can the toxic waste generated by Marcellus well drilling be labeled "Residual Waste?" The chemicals used for fracking are trucked to the well site in vehicles with "placards"

stating the toxicity of these compounds. They are then mixed together rendering a toxic contaminating solution that is now more toxic than the original individual chemicals. There is no way of knowing just how toxic or what effects to human health they pose. They are then injected under great pressure into the well where they mix with other toxic elements that occur naturally at Marcellus well bore depths along with radioactive materials.

I would like to see proper “hazardous waste” placards on these vehicles. We all know this is now a very hazardous fluid being hauled through our neighborhoods that should actually be stopped. Many spills have occurred thus far with consequences to be seen in the future. If this toxic slurry is allowed to continue to exist at all it should require disposal in a Class I injection well. (214)

Response: See response to comment 2291. The Department agrees that Class IID UIC wells represent one viable alternative for management of produced fluids in association with oil and gas development.

2297. Comment: As an overarching comment, Chapter 78 should encourage the processing, recycling, and beneficial reuse of fluids and waste at well sites. The regulations should provide an avenue for the operator to document, move, or reuse water from one site to another. (213)

Response: The Department does support the processing, and beneficial reuse of fluids and other waste materials at well sites. However, certain waste management activities present enough of an environmental hazard that the Department believes additional oversight is appropriate. The final rulemaking language balances recycling and reuse with necessary environmental protections. The final rulemaking is consistent with and implements section 3273.1 of the 2012 Oil and Gas Act, which establishes the relationship between the Solid Waste Management Act and the Oil and Gas Act oversight of waste management activities on well sites.

2298. Comment: The revisions to sections 78.57-.59 dealing with open impoundments for the storage of natural gas waste are an improvement, but don’t go far enough. I urge you to take the proposed rule a step further by banning the use of all frack pits regardless of size or location. To ban open impoundments for wastewater storage on well sites, but to still allow the industry to use huge open pits off-site to service multiple wells does not make sense. In Pennsylvania, open frack pits have been known to leak when the plastic liner tears. They’ve also been known to cause spills when they overflow from flooding or other high water events. These issues have led to contaminated surface water and resulted in you levying the largest fines against drillers in Pennsylvania, both over \$4 million, to Range Resources and XTO for water contamination due to leaking. (229)

Response: See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

2299. Comment: Amend Title 25 Chapter 78 of the Rules and Regulations to ban the use of all open air impoundments for hydraulic fracturing waste in the state. Protect the Clean Water Act, please? (269)

Response: See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

Additionally, the Department has not banned the disposal of residual waste including contaminated drill cuttings in a pit at the well site. As long as the requirements in §78.62 are

met, the disposal of residual wastes including contaminated drill cuttings at conventional well sites will not result in significant harm to public health and safety or the environment.

2300. Comment: PA DEP already has good specifications to contain and store the liquids used in the drilling and hydraulic fracturing in the oil and gas industry. To move to above ground storage for all of the storage is not necessary. This puts many more lives at risk.

A properly designed and installed lined lagoon that can be tested at any time to confirm that it is still a fully functioning system is the best method. PA DEP already uses this system when landfills are designed. There are a lot more hazardous materials in some of the specialty landfills. Our employees are required to be 40 hour hazardous waste trained to get in some of the worst sites.

We have installed many landfills in the past 22 years and they are still used to contain much more hazardous materials than the brine water used in Oil and Gas exploration. Impoundments have been used in the storage of the mustard agent that is being disposed of at various military bases in the U.S. The commentator's company has installed many of these systems, without any releases.

Problems with aboveground storage systems, as in the spill last year at the Elk River chemical spill near Charleston, WVA. It wasn't just one hole that was found after the release, but actually many. The same company that ran the facility where the leaks occurred had at least 3 other releases within a few years.

There is a great source of information at Drexel University and the reports that have been written are specific about the use of in ground impoundments. Dr. Robert Koerner and Dr. George Koerner are considered to be the best in the field. If there are any failures or problems around the world, the Koerners are called to lead the investigation and find the cause of failure. A document that was sent to PA DEP is attached.

The impoundments can be inspected and tested in place to assure containment of the liquids. There is a method where a low voltage current is used to scan the entire lining system and can find a hole the size of a pin. This test can be run at any time in the life of the impoundment.

The biggest problem with the impoundments in the past has been the lack of a concise specification. Using a solo 30 mil liner on top of a rough subgrade is going to fail. A double lined system that is tested and documented will give years of service, the same as the landfills that are in use in every state and in every county in the United States.

There already is a good specification in the requirements that has a double lined system with a testing layer for quality control.

In closing there are better ways of storing the liquids used in Oil and Gas production. Take advantage of the specifications and details that are already in use by the PA DEP Waste Division for Landfill use. **Please see Appendix 4 for attachments** (366)

Response: See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

2301. Comment: The Use of the Advance Notice of Final Rulemaking to Incorporate Significant and Substantial Revisions to a Draft Regulation Sets a Troubling Precedent for the Future Development, Review and Promulgation of Regulations – and DEP Must Pay Close Attention to

the Internal and External Costs of This Regulatory Package

Throughout its existence, the General Assembly has delegated various powers and duties, including the development of regulations, to various agencies in the executive branch. Act 181 of 1982, or the Regulatory Review Act, was a clear expression by the General Assembly to “establish a procedure for oversight and review of regulations adopted pursuant to this delegation of legislative power in order to curtail excessive regulation and to require the executive branch to justify its exercise of the authority to regulate before imposing hidden costs upon the economy of Pennsylvania. It is the intent of this act to establish a method for ongoing and effective legislative review and oversight in order to foster executive branch accountability [and] to provide for primary review by a commission with sufficient authority, expertise, independence and time to perform that function.”

The Regulatory Review Act established a clear process which executive agencies must follow when drafting and promulgating regulations. Within this process is the requirement that the Independent Regulatory Review Commission (IRRC) must review and comment on an agency’s proposed regulation. IRRC must also review and take action on the final version of the regulation before it is published as a final rule. Executive agencies are provided the option to notice publicly intended changes from the proposed version of a regulation to its final version via an Advance Notice of Final Rulemaking. But, importantly, as IRRC notes in its 2015 Regulatory Review Process in Pennsylvania Manual, the ANFR is “not a part of the formal rulemaking process under the RRA.” While executive agencies may use an ANFR, they may not abdicate the requirements of the Regulatory Review Act, particularly the requirement to provide an estimate of the direct and indirect costs that will be borne by both state government and the regulated community as well as a preamble explaining the need for and statutory basis of the regulations. The Department notes in its ANFR notice that the “draft final rulemaking contains significant changes in several areas.”

It is troubling that the Department has not provided an updated preamble or cost estimate to IRRC outlining what the costs of these “significant changes” will be to both the regulated community and the state, nor an updated demonstration of need as to why these regulations should be promulgated. The Department operates its oil and gas program on restricted revenue accounts funded by permit fees, penalties, and fines. Various regulatory obligations and an increase in oil and gas activity have led the Department in recent years to conduct two substantial oil and gas permit fee increases to staff its oil and gas program. DEP has also needed an infusion of revenue via the impact fee established by Act 13 of 2012 to keep its complement funded. It can also be surmised that, given one tenet of Governor Wolf’s severance tax package is to provide DEP with an additional \$10 million for oil and gas oversight, current and/or future revenues will not be sufficient to fund the Department’s oil and gas program. The Chamber questions if it is appropriate for the Department to propose additional, significant regulations with this ANFR without a proper accounting of the cost to the Department. Further, the substantial changes to the regulation will very likely impose considerable additional costs to the regulated community. To not provide an update cost estimate that includes the cost of the newly proposed regulatory requirements violates the clear intent of the Regulatory Review Act.

More broadly, using the ANFR process to add various increased regulatory burdens or substantially change what was originally proposed circumvents the Regulatory Review Act and essentially obviates the intent of the Regulatory Review Act. The ANFR notice outlined many substantial changes to the original Chapter 78 Subchapter C regulatory package. IRRC and the standing committees of the House and Senate have not been formally able to comment on these changes. While the Chamber appreciates the opportunity to comment on the regulations, as well

as the briefly extended public comment period, the Department must respect IRRC's role as defined by the Regulatory Review Act, which is to ensure that the executive branch justify its authority before imposing costs on the economy. The legislative intent section of the Regulatory Review Act notes the Act was passed due to "regulations being promulgated without undergoing effective review concerning cost benefits, duplication, inflationary impact and conformity to legislative intent." Without an updated cost statement and a chance for IRRC to formally review the significant changes outlined in the ANFR notice, this regulatory package can be reasonably said to have been promulgated without effective review concerning costs and conformity to legislative intent – the very same type of concern that spurred the creation of the Regulatory Review Act.

The Chamber is troubled by such a dangerous precedent that would be established here that allows regulations to be significantly altered between the proposed and final stages without formal review by IRRC. It is vital that IRRC's crucial role in providing oversight of certain executive branch activities continue to be respected. (236)

Response: The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act, the Commonwealth Documents Law, and others.

The Department published notice of availability of the ANFR in the *Pennsylvania Bulletin* on April 4, 2015, at 45 *Pa.B.* 1615. The ANFR represented the Department's draft revisions based on consideration of the more than 24,500 comments received during the public comment period on the proposed rulemaking. The Department did not intend for the ANFR to replace a proposed rulemaking; the ANFR was an additional, discretionary step in the rulemaking process by which the Department sought additional public comment on draft final-form rulemaking revisions. In the notice of availability of the ANFR, the Department highlighted the significant changes to the proposed rulemaking in the ANFR. See 45 *Pa.B.* 1615-1616.

In the *Pennsylvania Bulletin* notice for the ANFR, the Department expressly solicited comment on the ANFR. The Department established a 30-day public comment period (see 45 *Pa.B.* at 1616), and later extended it by 15 days as well as three public hearings in Washington, Williamsport and Warren (see 45 *Pa.B.* 1951 (April 18, 2015)). The Department received almost 5,000 comments during the public comment period and at the public hearings on the ANFR.

After carefully considering comments received on the ANFR, the Department removed several provisions from the final-form rulemaking that it had identified in the notice of availability of the ANFR as "significant changes." For example, the Department removed § 78a.41 (relating to noise mitigation), and §§ 78.57a and 78a.57a (relating to centralized tank storage). Please see the Department's responses to Question 14 in the Regulatory Analysis Form for the final-form rulemaking as well as the Department's responses to comments number 2119, 2302, and 2312 in this Comment-Response document. The Department also revised various provisions, as described throughout the Regulatory Analysis Form and this Comment-Response document.

In addition to following statutory procedures, the Department had additional, extensive communications with the regulated community and others during development of the final-form rulemaking. The Department's response to question 14 in the final regulatory analysis form details outreach involving the proposed rulemaking.

The Department conducted the requisite statutory analyses in developing the final-form rulemaking provisions. These analyses are reflected throughout this Comment-Response document and in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the need for the regulation, the potential costs, the benefits, the potential impacts on small businesses, possible alternatives, and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s careful consideration of all comments received during the rulemaking process and all additional input received. The Department complied with the letter and the spirit of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

Please also see responses in the “Proposed Rulemaking” portion of this Comment-Response document regarding the proposed rulemaking procedures.

2302. Comment: Our members recognize the importance of strong environmental protections and accept them as an essential part of operations. However, we believe that the DEP significantly underestimated both the operational and economic burden that the Proposal Regulations would impose on the unconventional gas industry. That burden has been multiplied several times over by the additions and changes in the Draft Final Regulations. The Draft Final Regulations make such fundamental changes from the Proposed Regulations that they should not become final form regulations without full compliance with the RRA. At a minimum, the Department should not proceed to finalize the new Sections 78a.15(1)(f)(vii) and (viii) (new public resources), 78a.41 (Noise), 78a.57a (Centralized Tank Storage); the new definitions of “Other Critical Communities” and “Public Resource Agency”; and the totally rewritten sections 78a.59c (centralized impoundments), 78a.65 (site restoration) and 78a.69 (water management plans) but should withdraw those provisions and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA.

Moreover, we urge the Department to undertake an objective assessment of the real need for this extensive, but flawed, regulatory package. Act 13 provided significant enhanced environmental protections, many of which are self-executing and do not need to be repeated in regulation and cannot be changed by regulation. Environmental protection will not suffer since these provisions are and have been applicable and enforceable for three years. Regulatory programs for residual wastes, tanks, stream and wetland protection and others that are applicable to all other commercial and industrial operations already exist and there is no environmental reason to impose different requirements on the oil and gas industry. In short, many of the provisions in the Draft Final Regulations are not needed.

These Draft Final Regulations introduce a level of burden, ambiguity and arbitrariness that will make it extremely difficult for our members to continue to commit capital to operations in Pennsylvania faced with such potential costs and uncertainty.

Although we strongly believe that the Draft Final Regulation should not proceed to final regulation, we offer the following section-by-section comments for your consideration, should you elect to proceed. (210)

Response: The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the

Regulatory Review Act, the Commonwealth Documents Law and others. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

With regard to the specific ANFR provisions referenced in the comment, the Department notes the following. After carefully considering comments received on the ANFR, the Department removed several provisions from the final-form rulemaking that it had included in the ANFR. For example, the Department removed § 78a.41 pertaining to noise mitigation, and §§ 78.57a and 78a.57a pertaining to centralized tank storage. Please see the Department’s descriptions in the Regulatory Analysis Form for the final-form rulemaking as well as the Department’s responses to comments number 2119, 2301, and 2312 in this Comment-Response document for further information. For an explanation of how the other provisions mentioned in this comment were included in the final-form rulemaking, please see the Regulatory Analysis Form and the Department’s responses to comments throughout this Comment-Response document.

The commentator additionally asserts that many of the provisions in the ANFR are not needed in the final-form rulemaking because they already exist in Act 13 or Department regulations. The Department responds that the final-form rulemaking is intended to provide a clear and comprehensive approach to regulation of conventional oil and gas wells and unconventional wells.

2303. Comment: Cost of Compliance: Our comments regarding the Proposed Regulations noted the gross underestimation of the costs of compliance in the Department’s RAF and those comments are hereby restated and incorporated herein. The RRA clearly requires the promulgating agency to include “estimates of the direct and indirect costs...to the private sector”. 71 P.S. Section 745(a)(4)]. While we believe that this requirement was inadequately implemented for the proposed regulations, it is entirely missing for the new provisions of the Draft Final Regulations and for the radical changes made to some originally proposed provision that totally rewrite them. This failure impedes the ability of the regulated community, general public, and legislative oversight committees, to offer meaningful and informed comments on the proposed regulatory changes within the context of evaluating its economic costs and benefits and prevents the IRRC from being able to carry out its statutory duty to determine whether the rulemaking satisfies the requirements of the RRA.

In its April 14, 2014 letter to the Department, the IRRC recognized the importance of an accurate assessment of the cost of compliance. The IRRC stated on page 4: “We are concerned that there is such a large disparity between cost estimates prepared by Environmental Quality Board (EQB) and the cost estimates prepared by the industry as a whole. There appears to be a basic misunderstanding of what this proposal will require and when those requirements will become effective. As this proposal moves forward, we strongly encourage EQB to consult with both conventional and unconventional operators and their associations so that all parties can gain an understanding of what will be required, when it will be required, and what it will cost to comply with the rulemaking...”. No consultation has taken place, at least not with the industry.

In our comments regarding the proposed regulation, we estimated that the cost of compliance would likely be \$200 million to \$300 million per year. The new and rewritten provisions in the Draft Final Regulation will undoubtedly add more cost. However, by employing the ANFR process and avoiding the requirements of the RRA, DEP has failed to provide any information on increased costs. Moreover, it is difficult for the industry to make an exact cost estimate with so

many vague and arbitrary provisions. How does one estimate the cost to “minimize” noise without a standard? How does one guess when DEP will “determine” that some river or stream contains mine influenced water, requiring additional approvals? How will we know which species will be considered “taxa of conservation concern” requiring additional actions? (See comments below). Nonetheless, we believe that the new and rewritten provisions will increase the cost of compliance to nearly \$900,000 per well. Even accounting for reduced drilling under the current economic conditions, these regulations have the potential to impose a \$900 million annual burden on the industry.

It is imperative to note that these proposed regulatory revisions are occurring in the midst of a significantly depressed natural gas market. Nationally, natural gas index prices are currently \$2.50 - \$2.70 per million British thermal units, down nearly 50% from a year ago. In Pennsylvania, this suppressed price is even more pronounced, as a shortage of critical infrastructure has led to natural gas prices which are currently \$0.90-\$1.10 per million British thermal units. These sustained, suppressed prices have already resulted in billions of dollars of reduced capital expenditures into Pennsylvania, as well as the loss of jobs and general contraction of the industry. The General Assembly’s directive to agencies to consider the economic impacts of regulations it seeks to promulgate clearly implies that the underlying economics of the regulated industry must be factored into the evaluation of the regulations. To this end, it is worth noting that the Administration which oversees the department is also, in addition to imposing new costs associated with these regulations, seeking legislative approval for an additional severance tax on natural gas production that, under its current design and market conditions, approaches an effective tax rate in excess of 19%. (210)

Response: Please see the Department’s responses to comments 2301 and 2302.

2304. Comment: Statement of Need: The RRA also requires a statement of need for the regulations 71 P.S. Section 745.5(a)(3). The original RAF was cursory and inadequate in its statement of need and just as the ANFR is lacking in any assessment of the cost of compliance, it is also lacking in any statement of need for the new radical changes and additions proposed. For example: 1) what is the need for a new provision on noise minimization when many municipal ordinances regulate noise; 2) what is the need for extensive new provisions for centralized storage tanks when regulations already exist governing the storage of residual waste in tanks; 3) what is the need for different spill remediation procedures for oil and gas operations, when a robust and nationally copied remediation program already exists; and 4) why is it necessary to require the closure of centralized impoundments that have been or will be built to current Department specification? Closely related to the statement of need is the requirement for a statement that the “least burdensome acceptable alternative has been selected” (71 P.S. Section 745.5(a)(12)). Given the wide-ranging rewrites to numerous provisions in the Draft Final Regulations which added new requirements and a multitude of new provisions, such an evaluation should have been included in the ANFR. Frankly, we doubt the Department could justify any Statement of Need. (210)

Response: Please see the Department’s responses to comments 2301 and 2302.

2305. Comment: Forms: The RRA also requires that on the same date that a proposed rulemaking is sent to the Legislative Reference Bureau for publication in the Pennsylvania Bulletin, a statement of the required reporting procedures “including copies of forms or reports” (71 P.S. Section 745(a)(5) must be sent to the IRRC and the legislative committees as part of the Regulatory Analysis Form. This requirement was ignored with the proposed regulations and continues to be ignored with the Draft Final Regulations. There are numerous provisions which require something to be submitted on a “form provided by the department” or “forms provided through

its website,” yet no forms are provided. However, the situation has worsened. In this version there are at least 30 different reports required to be submitted electronically without any information being provided on the content of those reports or the manner of submission. Moreover there is significant uncertainty as to whether the Department has a web-based system capable of handling that volume. (210)

Response: The Department will make forms and guidance documents available prior to adoption of the final-form rulemaking in order to address this concern. See response to comment 2455 regarding the Department’s IT capabilities. Please see the Department’s responses to comments 2301 and 2302.

2306. Comment: Compliance Date: The RRA also requires a statement regarding the compliance date for the regulations (71 P.S. Section 745.5 (a)(7)). However, as currently proposed, it is unclear as to how the new and revised requirements will apply to existing oil and gas well sites and related operations. It would put an undue burden on the oil and gas industry both financially and practically to require that the ANFR’s new operational and design criteria apply to existing operations already working within the scope of DEP’s current regulations. Moreover, a requirement to retrofit or update existing operations would put Pennsylvania at a competitive disadvantage with respect to other states. As such, DEP should include a clear “grandfathering” provision in the Proposal. DEP’s “grandfathering” provision should state that the new standards should not apply to well sites, impoundments, or other related operations that have already been constructed; to oil and gas well sites where wells have already been drilled; or to well sites, impoundments, or other related operations for which permit applications have been submitted to DEP by an operator prior to the effective date of the final rulemaking. (210)

Response: Implementation requirements and grandfathering provisions are addressed throughout the rulemaking, as appropriate. The Department intends to establish an effective date for the new regulations that will provide sufficient time for the regulated industry to meet any new requirements. New requirements will be applicable to new activities and facilities constructed prior to any effective date will be grandfathered in for purposes of the new regulations. Please see the Department’s responses to comments 2301 and 2302.

2307. Comment: In summary, the Department continues to act contrary to the RRA. At a minimum, it has not provided an adequate statement of need nor considered less burdensome alternatives; has not provided an estimate of cost to the regulated community; has not provided the required forms and has not met any of the other requirements of the RRA for these new or totally rewritten provisions (210)

Response: Please see the Department’s responses to comments 2301 and 2302.

2308. Comment: It appears that DEP is sidestepping the ability of the legislative oversight committees and the Independent Regulatory Review Commission to formally comment on the sweeping regulatory changes proposed in the Advanced Notice of Final Rulemaking. (309)

Response: Please see the Department’s responses to comments 2301 and 2302.

2309. Comment: During my 38 years in land management, I always had ongoing lease, right of way and well permit projects for conventional well drilling programs to work on until the proposed new regulations were published for review. The regulatory complexities and compliance costs arising out of Chapter 78, Subchapter C, and the changes proposed by DEP, are having a

devastating effect on the conventional industry.

The conventional oil and gas industry has been a part of the landscape for over 150 years and was previously governed by oil and gas regulations that made regulatory, environmental and economic sense for over 30 years. In an effort by the DEP to regulate the unconventional industry, the DEP included both the conventional and unconventional industries in the rulemaking.

The 2015 version of the new regulations are harder to understand than the 2013 version. Some of the sections of the 2015 version are so complex that it is difficult to understand the requirements for centralized impoundments and site restoration. In the past we had regulations that were easy to follow and the majority of the permitting and regulatory compliance work was performed in-house. Now it takes a team of attorneys to try to interpret the new regulations and the inconsistencies.

Unfortunately we are unable to comment on the financial impact, because the regulations lack a proper financial analysis of costs and alternatives for small businesses. By letter dated July 18, 2013 the Oil and Gas Technical Advisory Board advised the Environmental Quality Board, that the DEP has not critically analyzed or accommodated the anticipated impact of the proposed rules on small businesses under the Regulatory Review Act. The Regulatory Review Act, as amended on June 29, 2012, requires DEP to provide a comprehensive analysis of the actual costs that small businesses would incur as a result of the new regulations, including the legal, accounting and consulting compliance cost that would be incurred (Act 76 of 2012, Act of June 29, 2012, P.L. 657, No. 76; and 5). Under the statute the DEP must also consider the establishment of less stringent compliance requirements for small businesses throughout Chapter 78. These omissions by the DEP should stop the current regulatory process in order to do the necessary examination of the need for change, financial analysis, and alternatives for small businesses. (321)

Response: The commentator references concerns with the proposed rulemaking, for which the Department refers the commentator to the Department's responses to comments in the Proposed Rulemaking portion of the Comment-Response document.

With regard to the final rulemaking, please see the Department's responses to comments 2301 and 2302.

2310. Comment: In addition, the passage of Act 126 requires all regulations promulgated in 58 Pa. C.S. relating to oil and gas, to differentiate between conventional oil and gas wells and unconventional gas wells. Separating Chapter 78 into two distinct chapters in the middle of the current rulemaking does not follow the statutory procedures for the promulgation of a separate rule for conventional oil and gas operations.

It is difficult for me to understand why the DEP has not fully complied with the Regulatory Review Act and Act 126, other than an attempt to use costly regulations to eliminate small businesses from drilling and operating conventional wells in Pennsylvania. We hope that this is not the case and that the DEP will comply with both Acts and the law requiring regulations that allow for "optimal" development of Pennsylvania oil and gas resources. (321)

Response: See response to comment 2119.

2311. Comment: As per Executive Order 1996-1 and Section 5.2 of the Regulatory Review Act, the PADEP is required to complete a full Regulatory Analysis of any new regulation that includes a

cost/benefit analysis and submit such to the Environmental Quality Board (EQB) and the Independent Regulatory Review Commission (IRRC). The PADEP has not completed such action for all elements contained in the proposed revisions to Chapter 78, specifically, as it relates to the noise mitigation proposal and the centralized tank storage provision. (113)

Response: After carefully considering comments received on the ANFR, the Department removed § 78a.41 pertaining to noise mitigation, and §§ 78.57a and 78a.57a pertaining to centralized tank storage. Please see the Department's Regulatory Analysis Form for the final-form rulemaking as well as the Department's responses to comments 2119, 2301 and 2302 in this Comment-Response document for further explanation.

2312. Comment: As per Section 5.1 of the Regulatory Review Act, the PADEP is required to provide a comment and response document along with the final form regulation to IRRC upon completion of its review of comments. We submitted written comments and verbal testimony on January 13, 2014, to PADEP and our ability to comment upon the additional changes is weakened without the Comment and Response Document. We request such be made available. (113)

Response: The Department will submit the Comment-Response document to the Environmental Quality Board, the IRRC and the applicable legislative standing committees as part of the complete final-form rulemaking package, consistent with Pennsylvania statutes and agency practice. Please also see the Department's responses to comments 2301 and 2302.

The Department has committed to convening technical workgroups prior to final promulgation to provide the necessary guidance and policy documents for public comment. Language relevant to the cost-benefit analysis and the technical basis is provided in this document and the Regulatory Analysis Form. Please see the responses to comments 2301 and 2302.

In response to the request for release of the draft Comment and Response Document, see response to comment 2220.

2313. Comment: Our coalition and our members have consistently supported rigorous environmental controls that are based on facts, data, and sound science. Our role in helping to shape Act 13 of 2012, which substantially raised the bar by enacting numerous enhanced environmental standards – many of which have been copied by other states and even other nations - is ample evidence of that commitment. Few of the provisions set forth in the Proposed Regulations that were published Dec. 14, 2013 are necessary to implement Act 13, which is largely self-executing. Nonetheless, the we suggested improvements to the text in extensive comments and participated in the workshops conducted by the Department and the Technical Advisory Board in a good faith effort to balance legitimate environmental concerns with the ability of the industry to operate efficiently to produce a valuable resource essential to meeting the energy needs of the Commonwealth and nation. Some provisions of the Proposed Regulations were opposed as excessive, unnecessary, unreasonable or contrary to law. Our comments regarding the Proposed Regulations submitted to the Department on March 14, 2013 are hereby repeated and incorporated herein. Unfortunately, the Draft Final Regulations as they appear on the Department's website and as referenced in the ANFR noticed in the Pennsylvania Bulletin on April 4, 2015 exacerbate the problems that appeared in the Proposed Regulations. Therefore, it is necessary for us to submit additional comments.

Governor Wolf has been repeatedly quoted in the media as saying that he wanted the unconventional shale gas industry to succeed in Pennsylvania and he has personally made the same statement to some of our members. The Draft Final Regulations run counter to the Governor's expressed wishes. Taken as a whole, these regulations appear to be designed to burden the industry to the point of paralysis, rather than enable the responsible development of the resource. The Draft Final Regulations are deficient in that: 1) many of the requirements are so ambiguous and subjective as to make it impossible to determine how to achieve compliance and leave judgment regarding compliance to the whim of individual inspectors or anti-industry activists; 2) several sections impose standards and obligations more onerous than imposed on other industries for similar activities without any basis, ignoring already existing regulatory programs; 3) some provisions impose requirements that interfere with efficient operations without creating any substantive environmental benefit or, in some cases, without any nexus at all to the environment; and 4) several provisions plainly exceed the Department's legal authority as determined by the Legislature and/or the courts,, including a wholesale disregard for the Regulatory Review Act (RRA) 71 P.S.Section745.1 et seq. (210)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. This comment does not provide any specific suggestions on how to improve the rulemaking but the Department notes that this commenter provided comprehensive comments on the ANFR and refers the commenter to the responses to those specific comments.

To the extent the commentator asserts the provisions in this final-form rulemaking lack authority, the legal basis for this rulemaking is stated throughout this comment response document in response to various comments.

Regarding the aspect of this comment related to the Department's legal authority and the Regulatory Review Act, please also see the Department's responses to comments 2119, 2301, and 2302, of this Comment-Response document.

To the extent that the commentator contends that the requirements in this rulemaking lack clarity, and to the extent that further clarity is needed, the Department has committed to convening technical workgroups prior to final promulgation to provide the necessary guidance and policy documents for public comment. Language relevant to the cost-benefit analysis and the technical basis for this rulemaking is provided in this document and the Regulatory Analysis Form.

Additionally, because the commentator incorporates its comments on the proposed rulemaking into this comment on the ANFR, the Department incorporates its responses to those comments, which are found in the Proposed Rulemaking portion of this Comment-Response document.

2314. Comment: The ANFR: The Department's publication of its proposed regulatory revisions on April 4, 2015 has been advertised as an Advanced Notice of Final Rulemaking (ANFR). The ANFR is not a formal component of the RRA, but has historically been used by agencies to permit the regulated community and general public to review and comment on changes to the originally proposed regulations that were made in response to specific commentary on the original proposed regulatory language. However, the ANFR is not a substitute to fulfilling any of the formal steps of the RRA or the accompanying requirements imposed on the promulgating agency. An ANFR is not and cannot be a substitute for compliance with the RRA for new

provisions added or radical changes made to the proposed regulations. Examples in the ANFR include a new definition of “other critical communities”; new standards for centralized storage tanks; site remediation; prohibition on the use of centralized wastewater impoundments and pits; noise mitigation requirements and others discussed in greater detail in the attached comments. In the ANFR, the Department itself notes that many of these provisions are new and/or significant changes on which it solicits comments. However, the call for comments cannot substitute for compliance with the RRA. As the Department is aware, agencies are generally prohibited from introducing new matters into a final rulemaking. Use of the ANFR process to evade these prohibitions, and to allow an abbreviated opportunity for public comment without the benefit of the accompanying data and information the Department is required to generate, is not consistent with the letter or spirit of the RRA or the Commonwealth Documents Law, and also allows these new provisions to evade review and comment by the legislative oversight committees and the Independent Regulatory Review Commission (IRRC). (210)

Response: Please see the Department’s responses to comments 2301 and 2302.

2315. Comment: Under Act 13 of 2012, the Department is tasked with making regulatory changes to Chapter 78 (Oil and Gas). Unfortunately, the Department has gone beyond its statutory authority and made far-reaching changes without properly consulting the impacted industries. I have serious concerns on the process to which the Advanced Notice for Final Rulemaking (ANFR) has been submitted and with the substantive changes made under this rulemaking.

The ANFR is not part of the formal rulemaking process and doesn’t afford the standing committees or IRRC an opportunity to comment. My understanding is that this process is used to make slight modifications based off of the public comment period, not wholesale changes never before discussed or considered under the proposed rule.

Furthermore, the Department has clearly violated the Regulatory Review Act throughout this process. First, they refuse to disclose the responses to the 24,000 comments received during the proposed rulemaking as required by law. This has severely compromised the ability of all interested parties to comment during this comment period without understanding as to why the Department has made the substantial changes. Second, the Regulatory Review Act requires the Department to do an economic cost analysis and small business impact analysis, which has not been done with the new additions under the ANFR. This limits the EQB, the standing committees and IRRC’s ability to fully understand the true economic impact of this regulatory package.

Substantively, the changes that I’m most concerned with are the new noise standards, expanded public resources considerations, bans of certain drilling practices and new standards for storage tanks. Several of these new requirements exceed the Department’s authority granted by the General Assembly or violate the Supreme Court’s ruling in the Act 13 decision. I feel these changes should either be withdrawn or offered as a separate proposed rulemaking, which will allow for a thorough review, more public participation and provide clarity to the economic impact.

The regulatory process is clear in that it specifically states that it is intended to curtail excessive regulation and to require the executive branch to justify its exercise of authority to regulate before imposing hidden costs upon the economy of Pennsylvania. The Department has not followed the spirit, or letter, of the law and in doing so, has severely jeopardized the legitimacy of the process.

Thank you for your attention to these important matters. (181)

Response: As described in the Department's responses to comments 2119, 2301, 2302, and 2312, the Department has not gone beyond its statutory authority. The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act and the Commonwealth Documents Law. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

To the extent the commentator suggests that this final-form rulemaking violates the Pennsylvania Supreme Court decision in *Robinson Twp. v. Commonwealth*, 83 A.3d 901 (Pa. 2013), please see responses to comments related to §§ 78.15(b.1), 78a.15(b.1), 78.15(f)-(g) and 78a.15(f)-(g). Specifically, please see response to comment 262.

In addition, the Department has conducted extensive public outreach during this rulemaking process. This is outlined in the Department's response to comment 2301 and in the Regulatory Analysis Form. With regard to the Department's responses to comments, the Department will submit the Comment-Response document to the Environmental Quality Board, the IRRC and the applicable legislative standing committees as part of the complete final-form rulemaking package, consistent with Pennsylvania statutes and agency practice.

The economic cost analysis and small business impact analysis referenced in the comment are described in the Regulatory Analysis Form for the final-form rulemaking and throughout this Comment-Response document.

With regard to the noise and storage tank standards referenced in the comment, after carefully considering comments received on the ANFR, the Department removed § 78a.41 pertaining to noise mitigation, and §§ 78.57a and 78a.57a pertaining to centralized tank storage. Please see the Department's explanations in the regulatory analysis form as well as the Department's response to comments pertaining to these provisions in this Comment Response document and to comments 2119, 2301 and 2302.

The commenter's specific concern regarding bans of certain drilling practices is not clear to the Department.

- 2316.** Comment: The Pennsylvania Independent Petroleum Producers Association (PIPP) has been the voice for small, independent oil and natural gas producers in northwestern Pennsylvania since 1985. Our nonprofit association consists of over 350 independent producers, supply companies, industry personnel and supporters who have been responsibly developing Pennsylvania's shallow oil and natural gas reserves for generations. The vast majority of our members are small, family-run businesses who depend on the modest income derived from the conventional extraction of oil and gas from new and legacy wells to help supplement their incomes and feed their families. Our members live in the most rural parts of Pennsylvania, with limited access to the Internet. In fact, approximately 45% of our members do not even own a computer. In many ways, our members have more in common with Pennsylvania's Amish population than they do with large, billion-dollar unconventional well operators whose proliferation across Pennsylvania is the driving force behind the Department's regulatory effort.

Today's independent conventional oil and gas producers operate in harmony with Pennsylvania's natural environment. Unlike some employed in the unconventional oil and gas industry, conventional operators and their families have called Pennsylvania home for over five

generations. As a result, we are inherently inclined to operate in a manner- that preserves and protects our natural environment. Like any industry, accidents happen. When they do, today's conventional operators work in good faith to effectively remediate the damage. The strides that the conventional oil and gas industry have made since 1859 are evident from a recent study of the environmental impacts of conventional oil and gas well development on the Allegheny National Forest (ANF), situated in the heart of Pennsylvania's oil patch. The study concluded that despite the long history of conventional well development in the region, the ANF's streams, trees, and other natural resources have prospered. Indeed, despite the approximately 12,000 wells currently in production in the ANF, a full 72% of the 2126 miles of mapped streams in the ANF were rated in the study as high value or exceptional value for water quality. This study was consistent with findings from the United States Forest Service, in its five-year Monitoring and Evaluation Report issued in November 2014, that concluded: "The majority of streams on the ANF are meeting state water quality standards. Impairments are most frequently related to acid deposition or acidity from natural sources." This follows a 2007 statement from the USFS that characterized the water quality in the ANF as "among the highest in the state."

One of the key objectives of the regulatory review process is to ensure that all citizens who will be adversely affected by proposed changes in government regulations have meaningful notice of the proposed changes and a full and fair opportunity to be heard. Unfortunately, the process that the Department has chosen to follow to solicit comments on the Chapter 78 draft final rule ("draft final rule") has greatly prejudiced our members. Simply stated, the Department has not afforded enough time to properly educate our members on the massive changes published for the first time in the draft final rule and solicit meaningful input. Time is a precious commodity in short supply for our members, many of whom work seven days a week and live without the modern conveniences of computers and Internet access. Under these conditions, a proper vetting of this draft final rule requires me to contact our members either in person or over the telephone to describe all of the proposed changes and solicit their views. That is simply impossible under the compressed time frame dictated by the Department.

Compounding the problem is the lack of input on the draft final rule from a lawfully constituted Oil and Gas Technical Advisory Board (TAB). This is clearly evident from the language of the rule, which reflects little or no understanding of the differences between conventional and unconventional well operations. The Department's erratic treatment of the TAB—including the abrupt replacement of TAB members who expressed concerns about the regulations as originally proposed, the appointment of non-statutory board members, and the Department's aborted attempt to bypass the TAB through the creation of the Conventional Oil and Gas Advisory Committee (COGAC)—has contributed to a widely-held view that the concerns of conventional operators are secondary to the concerns of unconventional operators, whose proliferation across Pennsylvania is the stated reason for this rulemaking in the first place.

The fact that the Department previously held nine public hearings and received over 24,000 comments to the proposed regulations does not cure these deficiencies. The Department has yet to release its written response to the comments it received to the proposed regulations. Equally important, the draft final rule is dramatically different from the proposed regulations. What we were left with was a mere 45 days from official publication to submit written comments to the draft final rule and 15 minutes (over the course of three additional hearings) to provide verbal input to the Department. This is a mere fraction of the time that was allotted for written and verbal comments to the proposed regulation published in 2013. More troubling, however, is that fact that many of our members who have a strong interest in the outcome of this regulatory effort received postcards from the Department notifying them of the hearings after the hearings were

held. If the election of Governor Tom Wolf was supposed to mark a new era of transparency in state government operations, it is not at all evident from the Department's actions.

This letter is not intended to identify every concern that the conventional oil and gas industry has with the proposed final rule. We lack the ability to accomplish such a task in the compressed time frame dictated by the Department. Instead, we intend to speak to the most pressing concerns of our members in the time we have been allotted, who are the smallest conventional operators in the industry. We incorporate by reference the comments of the Pennsylvania Independent Oil and Gas Association (PIOGA) and Pennsylvania Grade Crude Oil Coalition (PGCC), who are better able to speak for the industry as a whole. We also incorporate by reference the comments of the Pennsylvania Chamber of Business and Industry, who is better able to speak to the impact of the draft final rule on Pennsylvania's economy.

This letter consists of four parts. First, we will identify several legal objections to the process being employed by the Department to promulgate these regulations. Second, we will feature one of our member companies —McComb Oil Inc. — to enable the Department to understand who they are regulating. Third, we will outline our most pressing concerns with the proposed final rule within the context of the Regulatory Review Act. Fourth, we will describe the impact of the proposed final rule on McComb Oil Inc., so that the Department can better understand the impact of the proposed final rule on a real family in this business. (201)

Response: The Department has conducted an unprecedented public participation process for the Subchapter C including a request for comments on the Advance Notice of Final Rulemaking (ANFR). Please see the Department's responses to comments 2301, 2302, 2312 and 2315.

Please see the responses to comments 2318, 2462 and 2463 regarding electronic reporting requirements.

With regard to the aspect of the comment regarding the Oil and Gas Technical Advisory Board, see responses to comments 2097 and 2260.

In response to the request for release of the draft Comment and Response Document, see response to comment 2220.

Because the commentator incorporates by reference the comments of the Pennsylvania Independent Oil and Gas Association (PIOGA), the Pennsylvania Grade Crude Oil Coalition (PGCC) and the Pennsylvania Chamber of Business and Industry, the Department incorporates the Department's responses to the comments of those organizations found throughout this Comment-Response document.

The commentator states that its comment letter is in four parts. Please see the Department's responses to comments 2301 - 2315 in the ANFR portion of this Comment-Response document for those comments and the Department's responses.

The specific comments received by the Department have been reviewed and considered. The Department has provided responses throughout this comment response document and refers the commenter to those comments and responses.

With regard to the membership of the Oil and Gas Technical Advisory Board (TAB) and the formation of the Conventional Oil and Gas Advisory Committee (COGAC), see response to comment 2097.

With regard to the role of TAB and COGAC in the development of the final-form rulemaking, see response to comment 2260.

The Department strongly disagrees that the final-form rulemaking “reflects little or no understanding of the differences between conventional and unconventional well operations.” Any objective review of Chapters 78 and 78a reveals significant and fundamental differences between the treatment of each side of the industry in the final-form rulemaking. Where appropriate and reasonable the regulations do mirror each other; for example, replacement of water supplies impacted by oil and gas operations is a responsibility that both sides of the industry share equally and it is appropriate for sections 78.52 and 78a.52 to reflect that obligation. Even those sections do make distinctions between unconventional and conventional operators based on the rebuttable presumption of liability imposed by section 3218 of the 2012 Oil and Gas Act. See response to question 27 in the final-form rulemaking Regulatory Analysis Form for a detailed description of these significant differences.

- 2317.** Comment: The process being employed to promulgate the Chapter 78 draft final rule is unlawful. First, the Department's analysis is not in compliance with the Regulatory Review Act as amended by Act 76 of 2012 requiring an economic impact statement and a regulatory flexibility analysis to accommodate the needs of small businesses engaged in conventional oil and gas operations. Second, the Department violated Act 126 of 2014 by failing to promulgate regulations governing the conventional oil and gas industry separately from the regulations governing the unconventional oil and gas industry. Third, the Governor and the Department violated Act 13 of 2014 by failing to properly constitute the Oil and Gas Technical Advisory Board (TAB) and failing to consult with a lawfully-constituted TAB on the formation and drafting of the draft final rule. As a result, the Department should restart the regulatory process anew. (201)

Response: See the responses to comments 2119, 2301 and 2302 regarding Regulatory Review Act and Act 126 compliance.

With regard to the membership of the Oil and Gas Technical Advisory Board (TAB) and the formation of the Conventional Oil and Gas Advisory Committee (COGAC), see response to comment 2097.

With regard to the role of TAB and COGAC in the development of the final-form rulemaking, see response to comment 2260.

- 2318.** Comment: The Department did not comply with the provisions of the Regulatory Review Act or the regulations of the IRRC in promulgating the proposed standards in the draft final rule requiring the use of a computer to satisfy the rule's reporting requirements. (201)

Response: The Department believes that not including this analysis in the proposed rulemaking Regulatory Analysis Form was appropriate. The 2011 well construction and completion final rulemaking established the requirement for operators to submit both resource and waste production data to the Department electronically. That requirement applies to both conventional and unconventional operators and will have been in effect for more than five years by the time the final-form rulemaking is effective. Therefore, operators

currently have an obligation to provide electronic reports for all producing wells in the Commonwealth to the Department. The concept of mandatory electronic reporting is not being established for the first time for this industry by this final-form rulemaking. To comply with current law, all conventional and unconventional operators must have computer access and must have registered with the Department's Greenport system. Because of this, there is no new cost/benefit or small business analysis needed relating to mandatory electronic reporting, notification or submissions. At the most, the analysis would only have to consider the additional burden placed on small businesses due to having to submit electronic reports more frequently or related to different subjects. The Department did not believe that those marginal increases warranted discussion in the specific sections of the proposed rulemaking Regulatory Analysis Form, especially for those areas where reporting or notification is already required by the regulations (see, for example, existing § 78.122 (relating to well record and completion report)). After reviewing the comments submitted on the proposed rulemaking and the Advance Notice of Final Rulemaking, and considering the existing electronic reporting obligation, the Department continues to believe that additional analysis on this issue is not warranted in the final-form rulemaking Regulatory Analysis Form. In addition, please see the responses to comments 2462 and 2463 regarding electronic reporting requirements.

See the responses to comments 2301 and 2302 regarding Regulatory Review Act compliance.

2319. Comment: The Department's regulatory analysis form reflects an inaccurate and incomplete understanding of the direct and indirect costs of the proposed standards requiring electronic notification. In the form, the Department frames the requirement as a savings in postage costs for conventional well operators, without any consideration to the nearly 50% of our members who do not own a computer. When the costs of purchasing a computer and Internet access (where available) is factored in (approximately \$1,225 in first year, \$600 per year in later years), the new electronic notification requirement is a net loss, not a net gain, for many of our members. (201)

Response: Please see the Department's response to comment 2318.

2320. Comment: The Department's regulatory analysis form does not reflect consideration of less stringent, less costly or less intrusive alternative methods to achieving the goal of enhancing efficiency in reporting for both the industry and the Department. This is clear from the Department's approach in making the same standards applicable to both small, independent conventional well operators and large, corporate unconventional well operators. The Department should consider making electronic reporting optional rather than mandatory for conventional well operators. (201)

Response: Please see the Department's response to comment 2318.

2321. Comment: Act 126 of 2014 requires EQB to promulgate rules separately for conventional oil and gas operations.

Following passage of Act 126 of 2014, which requires EQB to promulgate "proposed regulations and regulations relating to conventional oil and gas wells separately from proposed regulations and regulations relating to unconventional gas wells," we offered to assist the Department of Environmental Protection in drafting a separate rule for conventional operations. In a response letter of September 9, 2014, the Department noted that it would be developing two sets of regulations to be presented to the Technical Advisory Board and would reach out to us to discuss

“additional changes that should be made to the proposed regulations.” Despite inquiries and renewed offers to assist, we have never heard from the Department to engage in those discussions.

We believe that the Department's approach since Act 126 was passed is legally incorrect. The new draft rule, as presented at the September 25, 2014 TAB meeting, simply separated the previously proposed revision of 25 Pa. Code Chapter 78 that was already published for public comment in 2013. Neither the initial posting of the separated rule or the publication of a Draft Final Rule through the ANFR provides the statutorily required analysis and justification for the proposed rule (such as a statement of need for the many changes to conventional regulations or the small business analysis required under the Regulatory Review Act). The Department has not provided the public with sufficient notice or an opportunity to comment on this rulemaking for conventional oil and gas operations.

It is clear that Act 126 required DEP and EQB to undertake numerous statutory steps for any promulgation of a separate conventional rule. In particular, the Commonwealth Documents Law requires an agency to give public notice of its intention to promulgate, amend or repeal any administrative regulation. Such notice must provide the text of the regulation, state the statutory authority, explain the change, and request written comments by interested persons. Promulgation of a separate rule for conventional oil and gas operations clearly falls within this statutory requirement and requires a new notice and comment period.

Now that the legislature has required EQB to promulgate separate rules for conventional oil and gas operations, the current notice and comment process is not legally sufficient to satisfy the substantive or procedural requirements for the newly proposed rule, which requires its own justification and regulatory analysis under the Regulatory Review Act. The draft final rule published in the ANFR exacerbates, rather than rectifies, the fundamental failures to comply with the Regulatory Review Act through the addition of numerous new revisions without any explanation, justification, or regulatory analysis. Accordingly, the Draft Final Rule should be entirely withdrawn. (212)

Response: See the responses to comments 2119, 2301 and 2302 regarding Regulatory Review Act and Act 126 compliance. With regard to the role of TAB and COGAC in the development of the final-form rulemaking, see response to comment 2260.

2322. Comment: My name is Bruce Grindle and I am here tonight to testify as Co-Founder and President of Oil & Gas Management, Inc. and as Vice President of the Pennsylvania Grade Crude Oil Coalition (PGCC) regarding the revisions to 25 Pa Code Chapter 78 & 78a Subchapter C.

My partner and I founded our company in 1990 and we now own and operate approximately 300 conventional wells in southwestern Pennsylvania with a staff of only seven people. We strive to be good environmental stewards and corporate citizens. The vast majority of conventional wells are drilled and operated by small locally owned companies just like ours, many of which are family owned businesses.

Our association was formed in the summer of 2013 by 20 producers and refiners of conventional oil and gas to advance local economies and energy independence by promoting conventional oil and gas production in a safe and environmentally sound manner. We now have over 100 members, all of which are small businesses.

The proposed regulations are wide-ranging and extremely complex. As proposed, they have created confusion as to how they will operate with both the regulator and the regulated community. The hallmark of good regulation is simplicity and clarity.

In accordance with the requirements of the Regulatory Review Act, as amended on June 29, 2012, the Department is required to evaluate the negative impacts to small businesses that would result from proposed regulations, perform a regulatory flexibility analysis that would provide for the establishment of less stringent compliance requirements for small businesses and give consideration to the exemption of small business from all or any part of the proposed regulations where it is consistent with health, safety, environmental and economic welfare.

Although, the Regulatory Analysis Form submitted with the regulations did make some estimates as what the costs to the Conventional industry would be, the analysis falls woefully short of the actual costs that would be incurred. In addition, there are no substantive recommendations for mitigating the impact on small businesses or serious consideration given to the exemption of small business from all or any part of the new requirements contained in the proposed regulations.

The procedure for promulgating this new rule (25 Pa Code Chapter 78a Subchapter C) for Conventional Oil and Gas Operations is fundamentally flawed for the following reasons;

1. The Department has not provided evidence along with supportive data that would demonstrate there is a compelling need for sweeping revisions to the regulations for the Conventional Oil and Gas Industry.

In the comments to the proposed rule provided by the Independent Regulatory Review Commission on April 14, 2014, the IRRC made the following recommendation;

7. RRA Section 5.2(b)(3)(iii) - Need for the regulation.

Section D of the Preamble to this rulemaking relates to background and purpose. It notes the following: "The 2012 Oil and Gas Act contains new environmental protections for unconventional wells and directs the Board to promulgate specific regulations. For these reasons, the [EQB] initiated this proposed rulemaking." (Emphasis added.)" Commentators representing the conventional oil and gas industry believe this rulemaking will have a serious negative impact on their businesses. While we understand that EQB has the authority to amend its regulations relating to conventional wells, we ask for a detailed explanation of why more stringent regulations for the conventional oil and gas industry are needed at this time. Has EQB witnessed an increase in environmental mishaps or violations from conventional well operators? What problem is EQB attempting to correct through this proposal with respect to conventional wells?

2. The Department has not complied with the requirements of the Regulatory Review Act.

Once again in the comments to the proposed rule provided by the Independent Regulatory Review Commission on April 14, 2014, the IRRC made the following recommendation;

9. RRA Sections 5(a)(12.1) and 5.2(b)(8) - Whether a less costly or less intrusive alternative method of achieving the goal of the regulation has been considered for regulations impacting small business.

Section 5(a)(12. 1) of the RRA (71 P.S. § 745.5(a)(12.1)) requires promulgating agencies to provide a regulatory flexibility analysis and to consider various methods of reducing the impact of the proposed regulation on small business. Commentators, including legislators, do not believe that EQB has met its statutory requirement of providing a regulatory flexibility analysis or considering various methods of reducing the impact the proposed regulation will have on small business in its responses to various sections and questions on the RAF. While we appreciate the effort put forth by EQB to meet its “small business” obligations under the RRA, we agree that more information is needed in the RAF. We ask EQB to provide the required regulatory flexibility analysis for each section of the proposed rulemaking.

3. The Department has not complied with Act 126 of 2014.

The Act requires the Department to “promulgate proposed regulations and regulations under 58 Pa.C.S. (relating to oil and gas) or other laws of this Commonwealth relating to conventional oil and gas wells separately from proposed regulations and regulations relating to unconventional gas wells. Act 126 also requires that all regulations under Pa C.S. 58 differentiate between Conventional oil and gas wells and Unconventional gas wells. The General Assembly adopted Act 126 to address the impropriety of regulating conventional and unconventional oil and gas operations as a single industry. Simply dividing the rule into separate subchapters in the middle of the current rulemaking process does not follow the statutory procedures for the promulgation of a separate rule for conventional oil and gas operations.

The Department must stop the current process, start from the beginning and do the necessary examination of need for change, financial analysis, and alternatives analysis for small business. It must also follow the statutorily mandated procedure for the promulgation of a separate rule for conventional oil and gas operations. (323)

Response: Please see the Department’s responses to comments 2119, 2301 and 2302. Regarding the IRRC comment referenced by the commenter, the Department has provided a regulatory flexibility analysis that is reflective of the final rulemaking in the final regulatory analysis form.

2323. Comment: On June 29, 2012, Governor Tom Corbett signed Act 76 into law substantially amending the Regulatory Review Act to accommodate the needs of small businesses. The legislative findings specifically articulated in the Act say much about the shortcomings of the regulatory process in existence at the time:

(c) This act is intended to improve State rulemaking by creating procedures to analyze the availability of more flexible regulatory approaches for small businesses in accordance with the following findings:

- (1) A vibrant and growing small business sector is critical to creating jobs in a dynamic economy.
- (2) Small businesses bear a disproportionate share of regulatory costs and burdens.
- (3) Fundamental changes that are needed in the regulatory and enforcement culture of agencies to make them more responsive to small business can be made without compromising the statutory missions of the agencies.
- (4) When adopting regulations to protect the health, safety and economic welfare of the Commonwealth, agencies should seek to achieve statutory goals as effectively and efficiently as possible without imposing unnecessary burdens on small business.

- (5) Uniform regulatory and reporting requirements can impose unnecessary and disproportionately burdensome demands, including legal, accounting and consulting costs upon small businesses with limited resources.
- (6) The failure to recognize differences in the scale and resources of regulated businesses can adversely affect competition in the marketplace, discourage innovation and restrict improvements in productivity.
- (7) Unnecessary regulations create entry barriers in many industries and discourage potential entrepreneurs from introducing beneficial products and processes.
- (8) The practice of treating all regulated businesses similarly may lead to inefficient use of regulatory agency resources, enforcement problems and, in some cases, to actions inconsistent with the legislative intent of health, safety, environmental and economic welfare legislation.
- (9) Alternative regulatory approaches which do not conflict with the stated objective of applicable statutes may be available to minimize the significant economic impact of rules on small businesses.
- (10) The process by which State regulations are developed and adopted should be reformed to require agencies to solicit the ideas and comments of small businesses, to examine the impact of proposed and existing rules on such businesses and to review the continued need for existing rules.

71 P.S. § 745.2. The term “small business” is defined “in accordance with the size standards described by the United States Small Business Administration’s Small Business Size Regulations under 13 CFR Ch. 1 Part 121 (relating to Small Business Size Regulations) or its successor regulation.” 71 P.S. § 745.3.

First, Act 76 requires an agency to identify the types of small businesses that will be affected by the proposed regulation. 71 P.S. § 745.5(a)(9). The Department satisfied this requirement.

Second, the Act requires the agency to identify the “financial, economic and social impact” of the proposed regulation on small businesses and, when practicable, “an evaluation of the benefits expected as a result of the regulation.” Id. § 745.5(a)(10). The Department did not satisfy this requirement. The Department’s analysis in its regulatory analysis form consists of a mere four sentences —none of which discuss the impact on small business. While the Department does mention that the proposed regulations will increase costs, there is no discussion to what degree or the effect those increased costs will have on small businesses. The Department also states that “The majority of the proposed regulations have been designed as performance based standards, allowing each individual operator to determine which practices they will employ for extraction activities.” As demonstrated in Section III of this letter, this is no longer true, if it ever was. For example, Section 78.66 strips all discretion from the operator when remediating a spill of more than 42 gallons, requiring the operator to remediate only in accordance with Act 2 standards. This is just one of many huge costs that are not included in the Department’s analysis.

Third, the Act requires the agency to prepare an economic impact statement for any proposed regulation that may have an impact on small businesses that includes: “(i) An identification and estimate of the number of the small businesses subject to the proposed regulation; (ii) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record; (iii) A statement of the probable effect on impacted small businesses; [and] (iv) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.” Id. § 745.5(a)(10)(i)-(iv). The Department did not satisfy this requirement. For example, with regard to (ii), the Department fails to consider in analyzing reporting costs the costs of electronic reporting for the 45% of PIPP members who do not own a

computer, or the costs brought about by the reporting requirements of Section 78.57a governing centralized tank storage. Also, with regard to subsection (iii) and (iv), the Department represents that it minimized costs for small businesses by exempting them from several sections of the proposed regulation. The Department then refers to a list of regulatory requirements contained earlier in the form that apply to conventional operators, which omits the most costly sections in the proposed final rule, including Sections 78.55 (control and disposal planning), 78.56 (temporary storage), 78.66 (reporting and remediating releases and spills), and 78.57a (centralized tank storage) to name a few.

Fourth, the agency is required to prepare a regulatory flexibility analysis in which the agency “shall, where consistent with health, safety, environmental and economic welfare, consider utilizing regulatory methods that will accomplish the objectives of applicable statutes while minimizing adverse impact on small businesses.” Id. §745.5(a)(12.1). In preparing the regulatory flexibility analysis, the agency “shall consider, without limitation, each of the following methods of reducing the impact of the proposed regulation on small businesses:”

“(i) the establishment of less stringent compliance or reporting requirements for small businesses; (ii) the establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses; (iii) the consolidation or simplification of compliance or reporting requirements for small businesses; (iv) the establishment of performance standards for small businesses to replace design or operational standards required in the proposed regulation; and (v) the exemption of small businesses from all or any part of the requirements contained in the proposed regulation.” Id. § 745.5(a)(12.1)(i)-(iv). We concur with the IRRC in their comments of April 14, 2014, that the Department's analysis is lacking. Much of the regulatory flexibility analysis conducted by the Department consists of three assertions: (1) most of the proposed regulations are based upon performance standards with protection of the environment as a goal; (2) the ability of conventional operators to request alternative methods of compliance with environmental mandates; and (3) the exemption of conventional operators from numerous sections of the regulations, representing that “many activities that have additional requirements only apply to unconventional operations.” However, these statements no longer appear to be true under the draft final rule, if they were at all. For example, Section 78.66 strips all discretion from the small conventional operator to use alternatives to Act 2 remediation standards when faced with a spill in excess of 42 gallons. Section 78.55 (control and disposal planning) contains no flexibility in the requirement of “site specific” PPC plans, nor do the multitude of sections mandating electronic reporting. Moreover, as explained herein, there are some sections in the draft final rule that were simply lifted word for word from the draft final rule governing unconventional operators, with no flexibility in thought given to the differences between small conventional well operators and billion-dollar corporate unconventional operators. See Section 78.57a. (201)

Response: Please see the Department’s responses to comments 2301, 2302 and 2318.

Please see the responses to comments 2318, 2462 and 2463 regarding electronic reporting requirements.

See response to comment 881 regarding costs associated with site specific PPC plans.

Please see the comments and the Department’s responses on §§ 78.66 and 78a.66 relating to remediation of spills. See also the response to comment 1724 regarding costs associated with remediation of spills and releases. The Department notes that this cost can be controlled by the operator if the operator does not have any spills or releases, there will be no costs

associated with cleanup.

Regarding centralized tank concerns, requirements in § 78.57a have been deleted from the rulemaking.

2324. Comment: Almost without exception all of the conventional operators in Pennsylvania are small businesses as that term is used in the Regulatory Review Act (RRA). Section 12.1 of the RRA requires DEP to conduct a regulatory flexibility analysis in which it must consider methods that would accomplish the objectives of the applicable statutes while minimizing adverse impacts on small businesses. Such analysis must include consideration of: 1) less stringent compliance or reporting requirements; 2) less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishment of performance standards to replace design or operational standards; and 5) the exemption of small businesses from all or any part of the requirements contained in the rule. That regulatory flexibility analysis was not performed, and its absence is obvious. (281)

Response: Please see the Department's responses to comments 2301 and 2302.

2325. Comment: The ANFR: An ANFR is not and cannot be a substitute for compliance with the RRA for new provisions added or radical changes made to the proposed regulations. Examples in the ANFR include a new definition of "other critical communities"; new standards for centralized storage tanks; new site remediation procedures; a prohibition on the use of centralized wastewater impoundments and pits; noise mitigation requirements and others discussed in greater detail below. In the ANFR, the Department itself notes that many of these provisions are new and/or significant changes on which it solicits comments. However, the call for comments cannot substitute for compliance with the RRA. As the Department is aware, agencies are generally prohibited from introducing new matters into a final rulemaking. Use of the ANFR process to evade these prohibitions and allowing an abbreviated opportunity for the public to comment without the benefit of the accompanying data and information the Department is required to generate, is not consistent with the letter or spirit of the RRA or the Commonwealth Documents Law and also allows these new provisions to evade review and comment by the legislative oversight committees and the IRRC.

It is obvious that the ANFR process fails to provide an updated and accurate cost of compliance; fails to include a statement of need to the new and radically rewritten provisions; fails to provide information on the multitude of forms that must be utilized; and fails to consider the least burdensome alternative approach, rather seeking out the most burdensome. The Draft Final Regulations make such fundamental changes from the Proposed Regulations that they should not become final form regulations without full compliance with the RRA. At a minimum, the Department should not proceed to finalize the new Sections 78a.15(1)(f)(vii) and (viii) (new public resources), 78a.41 (Noise), 78a.57a (Centralized Tank Storage); the new definitions of "Other Critical Communities" and "Public Resource Agency"; and the totally rewritten Sections 78a.59c (Centralized Impoundments), 78a.65 (Site Restoration) and 78a.69 (Water Management Plans) but should withdraw those provisions and proceed with a separate proposed rulemaking in order to fully and properly comply with the RRA. The Department should not rush forward with problematic regulations. No void in environmental protections will be created if the Department elects to start over with these regulations. The enhanced environmental protections in Act 13 are largely self-implementing and do not need to be repeated in regulations and existing regulations covering such area as residual waste, tanks and spill remediation already effectively regulate these areas. Rather than make radical changes and additions at the end of the process, the

Department should engage in the consultation that was strongly recommended by IRRC in its April 14, 2014 letter (page 4).(191)

Response: Please see the Department's responses to comments 2301, 2302 and 2305.

2326. Comment: Neither our association nor its members has had sufficient time to review the vast revisions proposed in the Draft Final Rule from the 2013 Proposal. The number of subsections affected, which exceeds 45, and the short time offered for review and comment, preclude a thorough examination of the meaning, let alone the implications, impacts or costs of the revisions. We have offered detailed cost analysis in the past, analysis that took months to prepare and refine for accuracy, but is unable to provide such information for each new revision to the rule. That being said, there are several general comments that the Department should consider as applicable to the entire rulemaking package.

First, none of the procedural flaws discussed above has been addressed or resolved with the publication of a Draft Final Rule. The 2013 Analysis remains flawed and has not been replaced. The April 4, 2015 notice in the Pennsylvania Bulletin was entirely lacking in any explanation of why the Department made revisions to its 2013 Proposal, provided no regulatory analysis or the Department's response to the 24,000 comments received from the IRRC, legislators, and members of the public, including our association. Due to the lack of analysis by the Department regarding the purpose and need for the 2015 revisions, we and our members are hampered from conducting an informed review that would result in constructive alternatives to assist the Department in achieving its goals. It is impossible for us to comment upon the balance between the substantial 2015 changes and the interests being considered, because the ANFR is entirely silent as to those interests. Regulations should only address compelling public interests, and definable public health, safety or environmental risks. If any revisions to the existing Chapter 78 rule are necessary for conventional operations, DEP and EQB should make such a proposal and fully inform the public regarding the purposes, impacts, necessity and justification for such a rulemaking.

Second, we, along with the IRRC, is concerned with DEP's and EQB's proposals that are either contrary to or exceed legal authority. Many required procedural steps were not taken, and the Draft Final Rule includes several provisions beyond DEP's or EQB's statutory authority.

As noted above, Robinson enjoined Sections 3215 (b) through (e) of Act 13, which removed any authority to promulgate rules under those sections. The Draft Final Rule, however, includes numerous provisions purportedly proposed under those sections, including new definitions for public resources and public resource agencies and a process that would create new obligations for well permit applicants to provide notice, consult, and inform DEP about steps to be taken to mitigate impacts to public resources. These provisions, as noted in our prior comments, also exceed the bounds of Pennsylvania property and contract law and would interfere with existing legal relations between operators and landowners. Further examples of specific provisions in excess of legal authority are discussed in detail below, including the proposal to require operators to identify and monitor abandoned and orphaned wells for which operators have no legal responsibility. No rule for the conventional oil and gas industry can be finalized where legal authority is lacking.

Third, the Regulatory Review Act was revised in 2012 to require deliberate and detailed analysis of impacts of rulemaking on small businesses. Section 12.1 of the Regulatory Review Act ("RRA") requires DEP to conduct a regulatory flexibility analysis in which it must consider

methods that would accomplish the objectives of the applicable statutes while minimizing adverse impacts on small businesses. Such analysis must include consideration of:

- 1)less stringent compliance or reporting requirements;
- 2)less stringent schedules or deadlines for compliance or reporting requirements;
- 3)consolidation or simplification of compliance or reporting requirements;
- 4)establishment of performance standards to replace design or operational standards; and
- 5)the exemption of small businesses from all or any part of the requirements contained in the rule.

DEP failed to provide an adequate Regulatory Flexibility Analysis under the RRA and provides NO express accommodations for small businesses in any section of the rule. Simply referring to operational differences and provisions that may or may not apply to conventional operations does not substitute for an alternative for small businesses. Please see our prior comment for a detailed analysis of the 2013 Analysis of the 2013 Proposal. The Draft Final Rule is equally flawed in this respect because no exemptions or alternatives for small businesses have been provided.

Fourth, and as noted in our prior comments, DEP's estimated costs for the 2013 Proposal were either entirely lacking or shockingly incomplete. The DEP's 2013 estimate put the total compliance cost between \$5 million and \$12 million. We estimated the initial compliance alone would cost \$.5 billion to \$1.5 billion. The Draft Final Rule removes two of the cost-generating provisions, but it also contains several dozen new provisions-many of which also impose grave costs. One of these new provisions alone will add new costs of \$74 million to \$272 million per year as detailed below. While we have not had time to analyze each of the new provisions in the same depth it analyzed the 2013 Proposal, it is safe to say the cost of the provisions that remain from the 2013 Proposal and the costs new 2015 provisions analyzed to date place the compliance burden at the same starting range of \$.5 billion. This is an unbearable sum both because the DEP has failed to identify any need or benefit would which justify such an amount and, because at today's reduced commodity prices, the entire sales generated by the conventional oil and gas industry is less than \$.5 billion per year. In other words, even the entire gross revenue from all annual sales (before payment of any salaries, supplies, or other costs) would be inadequate to meet the costs of complying with the proposed new regulations.

Fifth, no rule for oil and gas operations should be adopted without appropriate data, analysis and justification. DEP admitted in its 2013 Analysis that no data was utilized to draft the 2013 Proposal. We suspect that empirical data and analysis is equally lacking for the Draft Final Rule, which undermines the DEP's entire rulemaking process. We have tried, unsuccessfully, to obtain data, analysis or studies that were used in drafting the proposed rules, both in 2013 and in 2015. The Department responded that no such records exist or that they must be withheld under exceptions in Pennsylvania's Right to Know law.. Either response is particularly problematic in the context of a comprehensive rulemaking process or further demonstrate its fundamental failings. Subjective or uninformed requests from the public to regulate this industry more strictly cannot be the driving force for revisions when the existing rules address all of the issues regarding impacts to land, water, air and species. Absent data demonstrating a need for revisions, DEP should stand firm to defend its program and its administration of existing law. (212)

Response: Please see the Department's responses to comments 2119, 2301, 2302, and 2312.

Regarding the comment on public resources, please see the response to comment 262.

The Department provided a detailed cost analysis of the final rulemaking in the final regulatory analysis form.

2327. Comment: I am secretary of the Pennsylvania Grade Crude Oil Coalition (PGCC) and my remarks are made on its behalf.

We have three general comments about the regulations revealed in 2015:

First, we are shocked at the number of new burdens added, as well as the complexity of same;

Second, we assert the procedure used to arrive at the proposed regulations is fatally flawed.

Third, the number and magnitude of the burdens is so large that we have not completed its study; we conclude the time for comment is not adequate;

Concerning that comment, we note the new provisions are complicated and make reference to numerous regulatory provisions outside of Chapter 78. Not only is this inconsistent with the expectation of simplicity contained in the Regulatory Review Act, it means that we have not had time to fully analyze the consequences of the new burdens. In 2013 we spent several months compiling a 60 page cost analysis. It is impossible to do similar work in the compressed timeframe allowed this spring.

Concerning procedure, we observed that Act 126 of 2014 requires EQB to promulgate “proposed regulations ... relating to conventional oil and gas wells separately from proposed regulations relating to unconventional gas wells.” This process was not followed. Instead, the separate conventional rule was crafted by merely separating the Chapter 78 revision that was already published for public comment in 2013.

This failure of process deprives citizens of the statutory steps required under law. The Commonwealth Documents Law requires an agency to give public notice of its intention to promulgate or amend regulations; the law contains several safeguards not honored with the amendments before us.

The Regulatory Review Act requires a “statement of the need for the regulations.” When the proposed 2013 regulations were issued, DEP's statement of need focused on the burgeoning unconventional oil and gas industry. When the 2015 changes were unveiled a month ago there was no statement of need. Without a statement of need for revised conventional regulations it is impossible to meaningfully comment on whether the proposed conventional regulations meet a real need or even a legislative purpose.

The Regulatory Review Act also requires the DEP to provide an estimate of costs for proposed regulations. We have already commented on the inadequacy of the DEP's financial analysis that accompanied the 2013 proposed regulations. When the 2015 changes were published the DEP provided no financial analysis. Nevertheless, those 2015 changes involve many new burdens. When we take into account that in 2013 the DEP failed to provide a financial analysis of over 80% of the proposed provisions, and that in 2015 the DEP made NO financial analysis of the newly introduced provisions, we see that the DEP performed a financial analysis of virtually NONE of the new provisions now being proposed for the conventional industry. The failure to analyze these provisions is not in accord with law and makes it impossible to engage in a meaningful comment process. Stated another way--it is impossible to comment upon a financial analysis that does not exist.

The Regulatory Review Act also requires the DEP to conduct a “regulatory flexibility analysis” that examines alternatives suitable for small businesses. The Act requires specific consideration of small business alternatives in the following areas:

- 1) compliance standards;
- 2) reporting; and
- 3) schedules

The Act also specifically directs the DEP to consider “exemption of small businesses from all or any part of the requirements.”

This regulatory flexibility analysis has never been performed for the separate conventional regulations and the many new burdens introduced in the 2015 version. We offered to meet with DEP to discuss the very types of alternatives contemplated for small businesses. While a meeting was promised, none occurred.

I want to spend my remaining time commenting on at least one of the burdens newly introduced in 2015. Historically, when disturbing five acres or less, oil and gas activities have been exempt from the complicated stormwater analysis in chapter 102.8(g). Under the 2015 regulations, however, all conventional drilling sites would be subject to the analysis. The analysis must be performed by certified professionals and we are in the process of obtaining quotations from engineering firms for compliance. Ballpark estimates put the new cost at several thousand dollars per well. This is an untenable cost- made more so by the lack of any statement of need for this new burden.

Remarkably, the 2015 changes are much broader than the stormwater provision. We count over 30 new obligations contained in the new conventional regulations. We will discuss those in more detail in written comments which it is submitting. However, all of the proposed changes are tainted by the serious procedural failures. The only way to correct the failures is to begin a fresh process for conventional oil and gas regulations that launches with a statement of need for why changes should be made to the existing conventional oil and gas regulations. (332)

Response: Please see the Department’s responses to comments 2119, 2301 and 2302.

The Department has conducted an unprecedented public participation process for the Subchapter C rulemaking. See the response to question 14 in the final regulatory analysis form. The Department is not aware of when or how the meeting request referenced by the commenter occurred but maintains that it has allowed more than adequate opportunities for public comment and discussion of this rulemaking.

Regarding the comments on Section 78.65(a)(2) the Department agrees that the specific requirement to comply with section 102.8(g) is inappropriate and has modified the language to generally require compliance with section 102.8. Under 102.8, when a site is fully restored or reclaimed, or the permitted activity involves earth disturbance of less than 1 acre, the obligation of long-term PCSM operation and management may not be necessary. The obligation for long-term operation and maintenance has been met if the site is restored and there are no permanent structures or impervious surfaces.

2328. Comment: I am writing to you to express my opposition to the passage of this illegal rewrite of the Chapter 78 regulations as proposed. I urge you to vote NO to these “copy and paste” regulations that are in direct opposition to the spirit and legislative intent of the 2014 Bifurcation

legislation. Please vote NO to this attempt by DEP to destroy the communities that have been a part of the oil region since 1859. Please reject this misuse of power and public trust that was granted to them to serve Pennsylvanians and allow conventional wells to operate under the effective regulations in place before the passage of Act 13 of 2012.

The legislature heard the difference and understood that the path the DEP was on would unnecessarily decimate communities all across our state and wipeout countless beneficial Pennsylvania businesses. The legislature acted quickly and decisively to mandate DEP to properly propose regulations for the conventional industry. The mandate by the legislature was to start the process over and legally propose conventional regulations that are based on need. At the first COGAC meeting the DEP was asked to produce the Regulatory Analysis Form that was used to frame up the new conventional regulations. Instead of producing a properly generalized regulatory analysis we heard the DEP spokesperson tell us that the need for the 2015 conventional rules were now to be based on a few pictures. Pictures that were somehow leaked to the press and because of that stunt, we now know that those pictures do not reflect the overall compliance rate of 99% which the conventional industry has earned over the past decade. The mandate by the legislature was also to start over and legally propose regulations that were developed using of an accurate cost analysis so that any needed changes would not become deleterious to small businesses in Pennsylvania. And if needed to develop alternatives so any associated costs to small business could be managed and jobs would not be lost to unneeded standards. Instead, DEP has purposefully rejected this statutory obligation to properly complete a Regulatory Flexibility Analysis for the 2015 Conventional Regulations altogether. Moreover, we now have in this 2015 “copy and paste” version numerous new obligations that were not even in the combined regulations a year ago. It would now seem a properly conducted Regulatory Flexibility Analysis and a properly completed Regulatory Cost Analysis have both been magically transformed into an “emotional analysis”. It would now seem that the procedure to conduct an “emotional analysis” is to play on the fearful emotions of those who don't understand the problems or the solutions. This tide of fear is apparently fueled by the DEP and they have now incorporated the liberal media to distribute their Cinerama of fear.

With the passage of the Regulatory Review Act also known as the Small Business Act by the legislature the regulators are also mandated by statute to do the hard and arduous work of determining the economic impact of the proposed Chapter 78 regulations on small businesses like ours in the state of Pennsylvania. This is to be done in conjunction with the bifurcation legislation of 2014 and it is abundantly CLEAR that the necessary level of due diligence to comply with these laws were not even considered let alone done. I urge this board not to be a part of any regulation that breaks the existing laws of Pennsylvania. We should have had every reason to expect the DEP and this board to desire to be willing to fully comply with the Laws of Pennsylvania as we conventional operators have been expected to do for decades. The only reasonable course of action due to your own non-compliance with this statute would be to cease, and desist and exempt all conventional activities from this proposed rulemaking. Who are those in our government that have abused and misused the power granted them to such an outrageous extent. They were granted power to promulgate needful regulations that protect our environment using science and nonbiased professionalism. Instead, they have again betrayed their office to produce another set of proposed regulations with no basis in fact or in law to decimate an industry they deem unwanted. I would suppose they are still proud of their work, even though they should be ashamed.

In closing, I ask that you, our state's Environmental Quality Board assure that the full economic impact of the proposed rule is properly analyzed and that the final regulations fully comply with

the Bifurcation legislation of 2014 and the Regulatory Review Act. Don't put your good name and reputation on the line for those that are too lazy to do their job properly. (358)

Response: Please see the Department's responses to comments 2119, 2301 and 2302.

2329. Comment: PA DEP has failed to conduct a cost-benefit analysis for the proposed changes and failed to conduct an analysis of the impact of these rules on small businesses – both of which are required by law. (3094-3121)

Response: Please see the Department's responses to comments 2119, 2301 and 2302.

2330. Comment: (Chpt 78) This rulemaking package strays far from the principles of good regulation, which must be justified by compelling necessity, balanced by careful consideration of costs and impacts on the economy, and capable of providing clarity and predictability to the regulated community. These revisions accomplish none of these critical goals, which are also stated in the Department's Policy For Development, Approval and Distribution of Regulations. We offer comments on specific sections of the Draft Final Rule as it pertains to the conventional industry in the attachments that follow, but we have general overarching comments that fall into the following three categories.

1. There Is No Demonstrated Need for the Revisions in the Draft Final Rule

It is a fundamental principle of rulemaking and sound administrative agency practice that regulations must be developed transparently on the basis of good law and science, not by reaction to unfounded fear and speculation of harm. The Department's obvious failure in this regard was to plow ahead and make the Draft Final Rule significantly more restrictive without responding to the voluminous comments the Department received in response to the 2013 Proposal. The Department has not released a Comment/Response Document. The notice published in the Pennsylvania Bulletin on April 4, 2015 did not explain why the Department revised the 2013 Proposal. It did not provide any regulatory analysis. Neither the industry nor the public is able to discern why the 2013 Proposal has been revised so substantially. In short, the Department and EQB have the responsibility and legal obligation to fully inform the regulated community of the necessity, justification, costs and impacts of the Draft Final Rule. Without this, we cannot provide fully informed comments on the Draft Final Rule. The Department should conduct this rulemaking in the open, not amend proposed rules behind closed doors without clear explanation.

In addition, the Regulatory Review Act requires a statement of need for regulations, and a statement of the necessary reporting procedures including copies of all new forms or reports. The Department did not provide a statement of need in the ANFR for the newly added regulations nor did it provide the forms to be used to comply with the Draft Final Rule. There are approximately 20 new forms referenced under proposed rules that simply state that information is to be submitted on a "form provided by the Department." Yet no forms or other manner of electronic submission has been provided for comment with the Draft Final Rule. Without seeing the forms, we cannot determine whether they conform with the regulations and are reasonable or whether they impose unjustified additional burden on operators. And even if this information were available, a 45 day comment period is not nearly sufficient time to offer comments on the excessive number of revisions in the Draft Final Rule.

2. The Draft Final Rule is Procedurally Flawed

Neither EQB nor the Department has complied with Act 126 of 2014. That act requires EQB to promulgate “proposed regulations and regulations relating to conventional oil and gas wells separately from proposed regulations and regulations relating to unconventional wells.” Following Act 126, the Department merely separated the 2013 Proposal into Chapter 78 and Chapter 78a and posted it on the website for the Oil and Gas Technical Advisory Board in advance of the September 2014 meeting. Neither separating Chapter 78, nor publishing it as a proposed Draft Final Rule through the ANFR, followed the proper legal process. Among other shortcomings, the Department did not adhere to the Commonwealth Documents Law, which requires agencies to give public notice of their intent to promulgate rules, explain the change, and request written comments. The Chapter 78 component of the Draft Final Rule, therefore, must be withdrawn and go through a new notice and comment period, beginning with submission to the EQB as a new proposed rule for consideration by the EQB. The Department does not have the legal authority to proceed further with Chapter 78 in this rulemaking.

And even if the Environmental Quality Board may proceed in this manner, the Draft Final Rule is procedurally flawed in several other ways. First, the Regulatory Review Act requires the Department to conduct a Regulatory Flexibility Analysis and estimate the direct and indirect costs of a proposed rule on the private sector. 71 P.S. § 745.5(a)(4), (12.1). There must be special consideration of impacts on small businesses, including an evaluation of less stringent compliance standards and deadlines, simplification of reporting requirements, and exemptions from regulation where appropriate. The Regulatory Analysis Form for the 2013 Proposal was woefully deficient and is missing entirely from the Draft Final Rule. This failure impedes our ability to comment in a meaningful manner, and it compromises the ability of the Independent Regulatory Review Commission and the legislative standing committees to do the same.

Second, although not part of the rulemaking process described in the Regulatory Review Act, an ANFR has been used by agencies to solicit additional public comment on revisions to originally proposed regulations that were amended in response to initial public comment.

However, an ANFR does not permit the Department to propose, as a substitute for fulfilling its formal rulemaking obligations prescribed by the Regulatory Review Act, Commonwealth Documents Law, and other statutes, entirely new provisions or substantial changes to previously proposed regulations. Chapter 78 is replete with new and substantially changed provisions, including centralized tank storage (§ 78.57a); the definition of “other critical communities” (§ 78.1); and prohibition of centralized wastewater impoundments (§ 78.59c). These and similar provisions must go back through the rulemaking process from the start.

3. The Draft Final Rule Has Many Legally Unsupported and Excessive Requirements

The Department has strayed far beyond its legal authority in several areas. The Pennsylvania Supreme Court invalidated Sections 3215(b) through 3215(e) in its December 13, 2013 decision in *Robinson Township, et al v. Commonwealth of Pennsylvania*, 83 A.3d 901, 999 [V], 1000 [VI(D)], 1009 [Baer concurring] (Pa. 2013). The Department has disregarded our Supreme Court’s decision and included provisions in the Draft Final Rule – for example, the definitions of “Other Critical Communities” and “Public Resource Agency” in § 78.1 and the revision to § 78.15(f)(iv) to incorporate these amended definitions into the permit application process - to implement these enjoined sections of the statute. These regulatory changes are legally wrong under *Robinson* and they improperly create a binding regulatory requirement from the 2013 “Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation” (021-0200-001), to the extent that “other critical communities” refers

to species on the Pennsylvania Natural Diversity Inventory database that are not designated by rulemaking.

Many of the other new or expanded provisions of the Draft Final Rule exceed the Department's legal authority or impose an excessive burden without justification. These include the proposal to require operators to identify and monitor abandoned and orphaned wells for which they have no legal responsibility (§ 78.52a) and the requirement to restore a water supply to a higher standard than Safe Drinking Water Standards, if the water supply was of a higher standard before disruption, and to restore a water supply to Safe Drinking Water Standards, if the water supply did not meet that standard before disruption (§§ 78.51(d)(2) and 78a.51(d)(2)). The cost to install treatment technology to achieve predrilling conditions for individual parameters better than Safe Drinking Water Standards, or to achieve better than pre-drilling conditions for parameters that were worse than Safe Drinking Water Standards, even if possible, may be prohibitively expensive. No such requirement is imposed on any other industry. We discuss these and other excessively stringent regulations in more detail in the attachments to this letter.

In summary, Commentator continues to have serious concerns about the legal basis underlying the Draft Final Rule, as well as the enormous adverse effects on conventional oil and gas operations that would be imposed without clear environmental benefits. The Draft Final Rule would impose costs and burdens on conventional operators that would likely put many of these small businesses out of business, which would harm a long-standing core of Pennsylvania's economy without justification. This is unacceptable. The Department has not demonstrated that the Draft Final Rule is necessary or justified.

Commentator also endorses comments submitted on behalf of conventional operators and encourages the Department to consider the full impact of the proposed regulations on conventional operators individually and in the aggregate and on Pennsylvania's economic future. (213)

Response: The Department conducted the requisite statutory analyses in developing the final-form rulemaking provisions. These analyses are reflected throughout this Comment-Response document and in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the need for the regulation, the potential costs, the benefits, the potential impacts on small businesses, possible alternatives, and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's careful consideration of all comments received during the rulemaking process and all additional input received. The Department complied with the letter and the spirit of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

In response to the request for release of the draft Comment and Response Document, see response to comment 2220.

The final rulemaking requires water supplies to be restored to the quality and quantity of the water supply as it existed prior to being affected by the operator. The SDWA Standards are based on scientific fact as far as what is, and is not, in a water supply to determine to ensure it is safe for human consumption. If the water quality has been documented prior to being affected by oil and gas operations, that water quality, even if it is of a higher quality than SDWA standards, must be re-established by the operator. The Department disagrees

with the commentator that the language in the proposed rulemaking presents an opportunity for litigation.

See response to comment 2094 regarding the appropriateness of the rulemaking.

See response to comment 2221 regarding the comment response document.

See response to comment 762 regarding costs associated with area of review.

2331. Comment: (Chpt 78a) This rulemaking package strays far from the principles of good regulation, which must be justified by compelling necessity, balanced by careful consideration of costs and impacts on the economy, and capable of providing clarity and predictability to the regulated community. These revisions accomplish none of these critical goals, which are also stated in the Department's Policy For Development, Approval and Distribution of Regulations. We offer comments on specific sections of the Draft Final Rule as it pertains to the conventional industry in the attachments that follow, but we have general overarching comments that fall into the following three categories.

1. There Is No Demonstrated Need for the Revisions in the Draft Final Rule

It is a fundamental principle of rulemaking and sound administrative agency practice that regulations must be developed transparently on the basis of good law and science, not by reaction to unfounded fear and speculation of harm. The Department's obvious failure in this regard was to plow ahead and make the Draft Final Rule significantly more restrictive without responding to the voluminous comments the Department received in response to the 2013 Proposal. The Department has not released a Comment/Response Document. The notice published in the Pennsylvania Bulletin on April 4, 2015 did not explain why the Department revised the 2013 Proposal. It did not provide any regulatory analysis. Neither the industry nor the public is able to discern why the 2013 Proposal has been revised so substantially. In short, the Department and EQB have the responsibility and legal obligation to fully inform the regulated community of the necessity, justification, costs and impacts of the Draft Final Rule. Without this, we cannot provide fully informed comments on the Draft Final Rule. The Department should conduct this rulemaking in the open, not amend proposed rules behind closed doors without clear explanation.

In addition, the Regulatory Review Act requires a statement of need for regulations, and a statement of the necessary reporting procedures including copies of all new forms or reports. 71 P.S. § 745.5(a)(3), (5). The Department did not provide a statement of need in the ANFR for the newly added regulations nor did it provide the forms to be used to comply with the Draft Final Rule. There are approximately 20 new forms referenced under proposed rules that simply state that information is to be submitted on a "form provided by the Department." Yet no forms or other manner of electronic submission has been provided for comment with the Draft Final Rule. Without seeing the forms, we cannot determine whether they conform with the regulations and are reasonable or whether they impose unjustified additional burden on operators. And even if this information were available, a 45 day comment period is not nearly sufficient time to offer comments on the excessive number of revisions in the Draft Final Rule.

2. The Draft Final Rule is Procedurally Flawed

The Draft Final Rule is procedurally flawed. First, the Regulatory Review Act requires the Department to conduct a Regulatory Flexibility Analysis and estimate the direct and indirect

costs of a proposed rule on the private sector. 71 P.S. § 745.5(a)(4), (12.1). There must be special consideration of impacts on small businesses, including an evaluation of less stringent compliance standards and deadlines, simplification of reporting requirements, and exemptions from regulation where appropriate. The Regulatory Analysis Form for the 2013 Proposal was woefully deficient, and is missing entirely from the Draft Final Rule. This failure impedes our ability to comment in a meaningful manner and it compromises the ability of the Independent Regulatory Review Commission and the legislative standing committees to do the same.

Second, although not part of the rulemaking process described in the Regulatory Review Act, an ANFR has been used by agencies to solicit additional public comment on revisions to originally proposed regulations that were amended in response to initial public comment. However, an ANFR does not permit the Department to propose, as a substitute for fulfilling its formal rulemaking obligations prescribed by the Regulatory Review Act, Commonwealth Documents Law, and other statutes, entirely new provisions or substantial changes to previously proposed regulations. Chapter 78a is replete with new and substantially changed provisions, including noise mitigation (§ 78a.41); centralized tank storage (§ 78a.57); the definition of “other critical communities” (§ 78a.1); and prohibition of centralized wastewater impoundments (§ 78a.59c). These and similar provisions must go back through the rulemaking process from the start.

3. The Draft Final Rule Has Many Legally Unsupported and Excessive Requirements

The Department has strayed beyond its legal authority in several areas. The Pennsylvania Supreme Court invalidated Sections 3215(b) through 3215(e) in its December 13, 2013 decision in *Robinson Township, et al. v. Commonwealth of Pennsylvania*, 83 A.3d 901, 999 [V], 1000 [VI(D)], 1009 [Baer concurring] (Pa. 2013). The Department has disregarded our Supreme Court’s decision and included provisions in the Draft Final Rule – for example, the definitions of “Other Critical Communities” and “Public Resource Agency” in § 78a.1 and the revision to § 78a.15(f)(1)(iv) to incorporate these amended definitions into the permit application process - to implement these enjoined sections of the statute. These regulatory changes are legally wrong under *Robinson* and because they improperly create a binding regulatory requirement from the 2013 “Policy for Pennsylvania Natural Diversity Inventory (PNDI) Coordination During Permit Review and Evaluation” (021-0200-001), to the extent that “other critical communities” refers to species on the Pennsylvania Natural Diversity Inventory database that are not designated by rulemaking.

The proposed noise mitigation provision of § 78a.41 is another example where the Department has exceeded its legal authority. Under Pennsylvania law, a regulation will be deemed void for vagueness, “if it a) traps the innocent by failing to give a person of ordinary intelligence reasonable opportunity to know what it prohibits so that he may act accordingly or b) results in arbitrary or discriminatory enforcement in the absence of explicit guidelines for its application”. *Krichmar v. State Bd. of Veh. Mfgs.* 850 A.2d 861, 865 (Pa. Commwlth. 2004). Proposed §78a.41(a) would require an operator to prepare and implement a site specific noise mitigation plan, “to minimize noise during drilling, stimulation, and servicing activities” without specifying any objective standard, criteria or method for determining when noise would be sufficiently minimized so as to avoid violation. Proposed §78a.41(c) would grant the Department the extraordinary remedy of suspending an operator’s operations if during the course of drilling, stimulation or servicing activities, the Department determines (again without statement of any objective basis or standard for such determination) that the operator’s noise mitigation plan is not adequate, in the Department’s sole discretion, to minimize noise.

Many of the other new or expanded provisions of the Draft Final Rule exceed the Department's legal authority or impose an excessive burden without justification. These include the proposal to require operators to identify and monitor abandoned and orphaned wells for which they have no legal responsibility (§ 78a.52a) and the requirement to restore a water supply to a higher standard than Safe Drinking Water Standards, if the water supply was of a higher standard before disruption (§ 78a.51(d)(2)) and to restore a water supply to Safe Drinking Water Standards, if the water supply did not meet that standard before disruption (§§ 78a.51(d)(2) and 78a.51(d)(2)). The cost to install treatment technology to achieve predrilling conditions for individual parameters better than Safe Drinking Water Standards, or to achieve better than predrilling conditions for parameters that were worse than Safe Drinking Water Standards, even if possible, may be prohibitively expensive. No such requirement is imposed on any other industry. We discuss these and other excessively stringent regulations in more detail in the attachments to this letter.

In summary, PIOGA continues to have serious concerns about the legal basis underlying the Draft Final Rule, as well as the enormous adverse effects on unconventional oil and gas operations that would be imposed without clear environmental benefits. The Draft Final Rule would impose costs and burdens on operators that would likely put many small businesses out of business, which would harm a long-standing core of Pennsylvania's economy with justification. This is unacceptable. The Department has not demonstrated that the Draft Final Rule is necessary or justified.

PIOGA respectfully submits the attached comments for the Department's consideration in its review of the proposed Chapter 78a Draft Final Rules. We will also provide these comments to the Independent Regulatory Review Commission and the applicable standing committees of the House and Senate, which is critical in light of PIOGA's concerns with the inadequacy of the Regulatory Analysis Form. PIOGA also endorses the Marcellus Shale Coalition's comments on behalf of unconventional operators and encourages the Department to consider the full impact of the proposed regulations on unconventional operators individually and in the aggregate, and on Pennsylvania's economic future. (213)

Response: The Department conducted the requisite statutory analyses in developing the final-form rulemaking provisions. These analyses are reflected throughout this Comment-Response document and in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the need for the regulation, the potential costs, the benefits, the potential impacts on small businesses, possible alternatives and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department's careful consideration of all comments received during the rulemaking process and all additional input received. The Department complied with the letter and the spirit of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

Regarding the request for release of the draft Comment and Response Document, see response to comment 2220.

See response to comment 2330 regarding water supply restoration.

Regarding the comment on public resources, please see the response to comment 262.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41. This section has been deleted from the rulemaking.

Regarding centralized tank concerns, requirements in § 78.57a have been deleted from the rulemaking.

See response to comment 2094 regarding the appropriateness of the rulemaking.

See response to comment 762 regarding costs associated with area of review.

Please see the Department's responses to comments 2119, 2301 and 2302 regarding the procedural concerns.

2332. Comment: As an initial matter, We note that the Draft Final Rule contains an excessive number of references to new forms and new electronic reporting requirements. Under the Regulatory Review Act, all such forms were to have been provided to the EQB and IRRC with the proposed rulemaking. The Department has failed to comply with the express requirements of that act in this rulemaking and cannot finalize the rule without providing all such forms for review and comment. (213)

Response: The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

2333. Comment: I ask that you, our State's Environmental Quality Board to vote "NO" until the process surrounding these conventional regulations is legally and legislatively compliant. I also ask you to vote "NO" until the full economic impact of this "copy and paste" rule is properly analyzed and that the final regulations fully comply with the Regulatory Review Act. Don't put your good name and reputation on the line for those that are too lazy to do their job properly. (281)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2334. Comment: I am a student at W&J where I am president of the Jefferson College Republicans. I'm also a senior but will be graduating and looking for a job after next semester.

It is extremely concerning to me as well as many of my classmates that upon graduation there will not be opportunities for us to find a job in today's Pennsylvania workforce. It is well documented that the unions chased the steel industry out of our region many years ago. I see a remarkable parallel with the energy industry, except this time it's not the unions, it's Obama's EPA and Tom Wolf's DEP that are run by ideologues hell-bent on killing the fossil fuel based economy.

The Green Monsters at DEP are killing precious job opportunities for everyone at this school and for every student across the commonwealth.

Regarding the new regulations, both conventional and unconventional operations are already struggling because of the diving gas prices and the current burdensome regulatory framework in which they are forced to operate in.

The DEP has repeatedly failed to state what is inadequate about the current regulations before asking for more. Again this seems like another senseless attack on job creators by environmental zealots.

This is not just about the “big guys” this is very much about the “little guys” too that are affected both directly and indirectly by the over-reaching arm of the DEP.

The proposed regulations will cost even more money, and I request that the DEP stop the current process and go back and do the necessary examination of need for change, financial analysis, an impact on small businesses.

I would respectfully ask Governor Wolf and his gestapo DEP to stop over-regulating oil and gas and the fossil fuels based industries because I would like to stay in Pennsylvania to work and raise my family, for many generations to come. (371)

Response: The Department conducted the requisite statutory analyses in developing the final-form rulemaking provisions. These analyses are reflected throughout this Comment-Response document and in the Regulatory Analysis Form, preamble and other rulemaking documents. Among other things, the Department considered the need for the regulation, the potential costs, the benefits, the potential impacts on small businesses, possible alternatives, and other potential impacts of the rulemaking provisions. The final-form rulemaking represents the Department’s careful consideration of all comments received during the rulemaking process and all additional input received. The Department complied with the letter and the spirit of the Regulatory Review Act and other applicable Pennsylvania statutes. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2335. Comment: The regulations would require a total of 31 notifications which would require additional resources – both for companies and the PA DEP – to properly monitor and review with little environmental benefit. (3094-3121)

Response: The Department acknowledges the comment.

2336. Comment: Source Water Protection Zones (SWPZs) and Source Water Protection Plan (SWPP) should replace wellhead protection zone and wellhead protection plan every place it appears in the Chapters. This will allow the inclusion of water suppliers relying on surface water sources in the notification process too. (237, 246, 249)

Response: The wellhead protection program is established under § 109.713 and allows for an objective and identifiable area. The Department acknowledges that surface water sources should be protected and believes that Chapter 78 and other Department regulations and statutes provide adequate protection.

2337. Comment: Whenever possible, DEP should be allowed to assist water systems, Source Water Protection Committees and Coalitions in their endeavors to protect Source Water Protection Zones that have been deemed vital, in essence by DEP, in preventing the contamination of drinking water sources. The proposed amendments to Chapters 78 and 78a present an opportunity to formalize this assistance. Therefore, the commenter respectfully requests that the Board considers these comments for DEP to recognize and utilize SWPZs during the review of all oil and gas permits and brine application plans, in order to protect vital drinking water sources. (237,

246, 249)

Response: The Department acknowledges the comment. See response to comment 2336.

2338. Comment: These proposed amendments are a tremendous improvement over the existing rules, and we applaud the Department for making the changes. However, we believe that the department can and should do more to protect the State's drinking water resources. Source Water Protection Plans, which are developed by professional geologists and approved by the DEP, have been instrumental in improving water systems' awareness of their source waters' vulnerability to contamination. Among other things, **Source Water Protection Plans** define land areas that could potentially contribute pollutants to a water supply (i.e., **Source Water Protection Zones**). The term Source Water Protection Zone is important because, unlike the term "wellhead protection zone", it defines an area protective of both groundwater and surface water. Many citizens of the Commonwealth rely on public water supplies dependent on surface water. These citizens deserve the same protections as their groundwater-drinking neighbors! (163)

Response: The Department acknowledges the comment. See response to comment 2336.

2339. Comment: The Mehoopany Creek Watershed covers 134.5 square miles that encompasses Bradford, Luzerne, Sullivan and Wyoming Counties. The Association has done several stream restoration projects through Growing Greener Grants over the last several years. The natural stream restoration projects we've completed improve fish, fowl and animal habitats along with stream stabilization reducing sedimentation run-off issues.

Our members monitor stream water quality, participate in litter pickup days, lime the South Branch, work on habitat improvement with the local deer quality management group pruning apple trees, planting food plots in SGL57 and assist with the local trout derby for our area's up and coming anglers.

The South Branch Mehoopany Creek is currently designated as a High Quality-Cold Water Fishery, Migratory Fishery.

Our association takes a keen interest in the various issues that have the propensity to affect our watershed. Our monthly meetings include discussions on not only water quality issues and trout habitat, but also flooding, Marcellus Shale and invasive, threatened, endangered, rare and candidate species and believe it or not air quality issues along with the prevalence of cancer within our watershed. While it is difficult to get an exact tally of wells within our watershed, there may be near 100 wells, access roads, impoundments, compressor station, gathering lines of many sizes including many stream and wetland crossings including that of high quality and exceptional value designations. We are continuing to experience development; two well pads are being constructed now. Because of these changes, and our concerns regarding the health of our watershed where many of our members also live and raise their families, we submit comments on this important rulemaking. Our comments are based on what our members discussed as being necessary to ensure that our watershed's integrity and our greater community remain a healthy place to fish, hunt, recreate and raise our families. (171)

Response: The Department acknowledges the comment and appreciates your efforts to protect and maintain the Mehoopany Creek Watershed.

2340. Comment: As the community organizer for Mountain Watershed Association, home of the Youghiogheny Riverkeeper, I help to coordinate the Marcellus Citizen Stewardship Project which

seeks to provide resources to communities dealing with current or potential impacts from shale gas development. MWA encourages residents of these communities to be self-sufficient by equipping them with the tools they need to engage in public participation and social change at the grassroots level.

Mountain Watershed Association will be submitting more extensive written comments than what I will present to you tonight. In light of that, I think it's important that I talk about why the DEP must listen to the advice of those here who advocate for the strongest regulations possible. Those who are directly affected by the finalized regulations have first-hand experience of how the oil & gas industry can impact the lives of people and their communities. They have invested significant time and resources to study the ever-growing number of reports that link this industry to serious consequences on the public's health, safety, and welfare. I ask that you consider their comments with the full weight their personal experiences carry.

I also would ask the Department to require, at minimum, a one-mile setback of oil and gas wells, waste storage facilities, and any other infrastructure from the property boundary of any school property as well as other locations with vulnerable populations. We commend the Department for adding schools to the list of public resources, but since there is no scientifically established safe setback we ask the Department to implement more protective measures for susceptible populations like the youth and the elderly. Just in the paper today, a citizens group in Penn Township, Westmoreland County is challenging their Zoning Hearing Boards' approval of a well pad that will be situated just 651 feet from a nursing home. It's happening throughout the state, where residents are joining together to say "this is too close". DEP needs to listen to what communities around the state are telling them and implement additional protections, especially for populations of concern.

Mountain Watershed Association asks the Department to also require closed loop systems. Our organization has worked with families in Donegal Township, Westmoreland County, whose water has been contaminated by a leaking impoundment at the well site. By engaging in direct advocacy and bringing media attention to the matter, we prompted the DEP to order, after months of inaction, water supply replacement for the families. We ask you to require that waste impoundments close immediately once the regulations go into effect, rather than giving operators 3 years to close them or bring them to compliance. We would also ask that this apply to both conventional and unconventional wells due to the inherent risks of spills, leaks, and accidents with open-air pits and tanks.

As an organization focused on water quality within the Indian Creek and Youghiogheny River Watersheds, we are concerned with the potential effects spreading brine as a deicer and dust suppressant on our roadways will have on the waterways of the commonwealth. Like many watershed groups in Western Pennsylvania, Mountain Watershed Association maintains abandoned mine drainage treatment systems to remediate past damages from mining activities. We have made significant investments in keeping our streams fishable, swimmable and drinkable. We ask that the final regulations prohibit road-spreading of brine as there is no scientific evidence that proves this practice, when used over long periods of time, is safe for our watersheds.

Thank you for allowing me the opportunity to present comments on behalf of Mountain Watershed Association. I hope by sharing my experiences, I will have shed some light on how the regulations will directly impact the communities in which we serve. Our final written comments will further cover how the regulations can be revised to minimize these impacts. (370)

Response: To the extent that the commentator recommends an increase in the setback from wells to buildings, the Department declines to make this change because the setback from wells to buildings is established by statute in Section 3215(a) of the 2012 Oil and Gas Act. See response to comment 271 regarding setbacks.

The Department disagrees that the compliance timeframes proposed by the commenter for closure of centralized impoundments are appropriate and has not made the change. The requirements, as proposed, allow an adequate amount of time for operators currently utilizing centralized impoundments to evaluate alternatives and adjust their operations in order to comply with the new requirements.

See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

The Department disagrees with the comment concerning the spreading of brine. Unconventional operators are not allowed to spread brine on roads for any reason. Conventional operators are permitted to spread brine on roads for dust control, road stabilization, and de-icing under controlled conditions that require the brine to meet certain chemical parameters to qualify for use and limit the application location, rate, and duration. See Sections 78.70 and 78.70a.

2341. Comment: The amounts of radioactivity and volumes must be publically disclosed on a quarterly basis. (129)

Response: Section 78.58(d) requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

2342. Comment: Residents within a 5-mile radius of the landfill must be informed annually of the radioactivity status (129)

Response: The Department acknowledges your comment. Regulation of landfills is outside of the scope of this rulemaking.

2343. Comment: The landfill does not move the radioactivity to sites other than those designed for radioactivity. (129)

Response: See response to comment 2342.

2344. Comment: * Radiation Monitoring and Labeling- on site and transport

All liquid and solid waste must be monitored for all relevant forms of radiation and readings must appear clearly on current labels in at least the following conditions:

- 1). All temporary and permanent impoundments, storage tanks, pits, that collect discharges from wells must be tested at least quarterly.
- 2) All liquid and solid materials transported to permanent sites such as landfills and injection wells, must be tested and clearly labeled, regardless of whether the destination state requires such labeling. (130)

Response: Regarding 1), 78.58(d) requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

Regarding 2), testing and labeling requirements for transportation of radioactive materials are outside of the scope of this rulemaking.

2345. Comment: Radiation and radioactive waste should be specifically addressed in the new regulations. (129)

Response: See response to comment 2341.

2346. Comment: All liquid and solid waste should be monitored for all relevant forms of radiation and readings must appear clearly on up-to-date labels. (129)

Response: See response to comment 2341.

2347. Comment: The landfill must monitor radiation on landfill perimeters and in storm run-off and streams nearby on at least a quarterly basis. (129)

Response: See response to comment 2342.

2348. Comment: * Management of Radioactive Waste Materials to Disposal Sites
DEP should set standards for radiation monitor alarm set points. Trucks carrying above a certain limit must go to sites designated for radioactive waste.

Trucks below a certain radiation limit and volume might be allowed at a landfill site if the landfill meets at least the following features:

- 1.) The intensity and volume of radioactive substances in the landfill has not already reached a pre-determined limit set by the DEP, and verified by a third independent party.
- 2.) The amounts of radioactivity and volumes are publically disclosed on a quarterly basis.
- 3.) Residents within a 5-mile radius of the landfill are informed annually of the radioactivity status
- 4.) The landfill monitors radiation on landfill perimeters and in storm run-off and streams nearby on at least a quarterly basis.
- 5.) The landfill leachate does not move the radioactivity to sites other than those designed for radioactivity. For example, the landfill cannot send radioactive leachate to municipal wastewater treatment plants. (130)

Response: See response to comment 2342.

2349. Comment: Radiation should be specifically addressed in the new regulations. Other regulations are not sufficient to guide the current oil and shale gas industry because of the uncertain status of various regulations and the use of varied terms. For example, the Solid Waste Management Act (35 P.S. §§6018.101-1003), referred to §78.58(d) has limited provisions for radiation.

Also, the Guidance on Radioactivity Monitoring at Solid Waste Processing and Disposal Facilities (Document 250-3100-001) was offered only as a best management practice in the absence of regulation. This Guidance has many deficiencies:

- a. It carries no regulatory authority.
- b. It is dated written in 2004,
- c. It handles only small quantities of TENORM,
- d. It did not anticipate the nature and volume of fracking waste disposed in landfills.

“Waste Disposal” (para 2) is among the topics included in this Act, yet omits two items. The Act omits: 1) the handling, monitoring and storage of radioactive waste and 2) waste disposal in landfills an industry-accepted method of disposal of the waste of the hydraulic fracking process, fracking fluid and drill cuttings.

Current language of the Act calls this waste “contaminated” (e.g. §78.62), yet classifies it as “residual waste.” Fracking fluid and drill cuttings in Pennsylvania are known to contain at least Radium-226, a radioactive material. Therefore provisions should be made for measuring radiation and handling waste appropriately. Radium-226 has a half-life of 1601 years and will forever remain to impact the health of residents and the environment.

The ACT fails to mention Radium-226, TENORM or the radioactive nature of this waste. In fact, “radioactive” is found once in the document in §78.123 regarding logs maintained on the well.
(130)

Response: The Department’s 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. 78.58(d) requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

2350. Comment: Marcellus Shale gas development generates enormous quantities of solid and liquid waste that are contaminated with industrial chemicals, petroleum, and radioactivity from the process and from contact with deeply buried naturally-occurring sources. Radioactive elements are introduced into the process with perforating gun assembly “shaped charges” and drill tips, according to Dr. Christopher Busby. Drill cuttings, mud, flowback and produced water have been found to be radioactive. Even the end-use gas contains radon and its home use increases the risk of lung cancer.

There is no responsible way to get rid of this waste. Without proper means of disposal, responsible regulators would shut down the industry. Regulators, who with knowledge of the uncontained risks, fail to protect the public and fail to disclose the risks to the public, may be held liable for malfeasance, incompetence or neglect of duty.

The public has a right to full disclosure of the risks of this industry. On April 10, 2015, Commonwealth Court refused Delaware Riverkeepers Network’s right-to-know request for 57,000+ pages of raw data that DEP collected on radioactivity connected to PA gas development. Who is the DEP protecting?

The industry uses its enormous power and politicians cave in to industry demands and hope, that with safety regulations, the industry can succeed and be used to build the economy of PA. This is failed leadership.

Without admitting there is a huge radioactivity issue in the development of gas in PA, the safety regulations will be woefully inadequate to address the problem. Radioactive is mentioned only a few times in the Final Draft Chapter 78 regs; Uranium, Thorium, Radium, Radon, Barium, radiological are not mentioned at all.

Dr. Marvin Resnikoff in his scientific report, entitled “Radon in Natural Gas from the Marcellus Shale” (2012), concluded that radon in Marcellus shale gas will significantly increase fatalities from lung cancer:

In support, he cites the following. It is well known that radioactive radon-222 is present in natural gas. It’s a decay product of Radium-226. “The radium concentration in the Marcellus Shale is 8 to 32 times [higher than] background radiation”. The calculated “wellhead concentrations [of radon] in Marcellus shale are up to 70 times the average in natural gas wells throughout the US.” “Being an inert gas, radon will not be destroyed when natural gas is burned in a kitchen stove.” Radon gas breaks down into radioactive decay products (Polonium, Bismuth and Lead); these “solid fine particles can be inhaled and subsequently reside in the lung”.

These radioactive decay products of radon also coat the interior or delivery pipelines and equipment; workmen and the public will have additional radiation exposures when the pipelines and equipment are opened for maintenance and repair. This information is contained in DEP’s 2015 TENORM Report.

Additionally, Dr. Resnikoff tells us that the Marcellus Shale formation is so much more radioactive than bedrock, that the gas industry uses the increased radioactivity of the Marcellus shale to locate it for prime drilling. This is a well-known and accepted fact in the industry.

This past summer truckloads of drill cuttings triggered radioactive alarms at landfills, causing truck loads to be turned away. Currently Ohio and West Virginia are still accepting drill cutting produced in PA. Since the ban, New York citizens are trying to stop their landfills from accepting drill cuttings from PA. It is irresponsible to continue gas development if there isn’t a safe way to dispose of its enormous stream of waste. Dumping PA radioactive waste on neighboring states, does not make us a good neighbor and shows a total lack of concern for the people who live near these landfills. A few weeks ago, it was reported that water leaching from the Meadowfill landfill near Bridgeport, West Virginia, that accepts Marcellus Shale cuttings, had huge dangerous spikes in the amount of radioactivity leaching from it.

The levels of radioactivity vary from well to well and from the top to the bottom of each well. The regulations do not acknowledge that the differential treatment of drill cutting from the top and bottom of the well are due to their relative radioactivity, which lacks candor. If we can’t even mention in the regulations that the bottom cuttings are more radioactive, how can the issues be addressed and regulated?

Public representation is missing from DEP’s Oil & Gas Technical Advisory Board (TAB). The 7 voting members are petroleum engineers and geologists and one coal mining engineer. The gas industry objected to John Quigley’s appointment of members of academia and environmental community to TAB even though they are non-voting members. This board should represent the public and have professionals on it who advise about the health issues caused by the toxic and

radioactive elements of gas drilling. It is ludicrous for the industry that is regulated, to sit at the table and determine how it will be regulated. This is not the purpose of the DEP; its purpose is to protect the public from harm. Making sure the industry succeeds should not enter into the decision-making if it is to have any credibility.

Bringing radioactive material from 6000+ feet in the earth, shielded by layers of rock, to the surface and into close contact with people, wildlife and ecosystems changes the character of the material and creates a more dangerous situation. (147)

Response: The Department's 2015 TENORM Study Report showed that radon levels in natural gas were consistent with previous findings by the U.S. Geological Survey for Pennsylvania and that this potential dose received by home residents is a small fraction of the allowable general public dose limit of 100 mrem/year. The Report also observed that there is little potential for radiological exposure to workers or members of the public from the handling, hauling, and temporary storage of vertical and horizontal drill cuttings on natural gas well sites and recommended that the Department conduct research and investigation of vertical and horizontal drill cuttings for beneficial use, onsite disposal, and future landfill disposal protocols. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. Subsection 78.58(d) requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

Regarding the public representation on the Technical Advisory Board, the Department agrees that it needs to hear from a broader spectrum of advisors than just representatives of the industry. It is clear that issues surrounding oil and gas development extend far beyond the technical aspects of well drilling – which is the purview of the Technical Advisory Board. It is also clear that the conventional oil and gas industry presents (and is confronted with) very different issues than the unconventional industry. As such, it was necessary and appropriate for the Department to add non-voting members to TAB and to create the Conventional Oil and Gas Advisory Committee. Because the composition of TAB is established by statute, it was not possible for the Department to add voting members with different areas of expertise to TAB.

- 2351.** Comment: There is no safe radiation dose and even low doses of radiation cause changes in blood chemistry, according to the EPA. Bringing deep-earth, shielded radiation to the surface makes it more dangerous and failing to responsibly address the problem exposes communities, natural ecosystems, our drinking water, and air to contamination.

Throughout the 2015 DEP TENORM Report, with its misleading synopsis, the facts bear up the truth that gas development increases radiation risks to workers and the public. Publicly Owned Treatment Works (POTW) workers can receive 72% of their yearly exposure of radiation from their jobs plus background radiation. Truck drivers hauling produced water and filter cake are getting excessive radiation exposures. Spills at POTWs and landfills are likely and need remediation. And end users of the gas could get 17.8% of their yearly radiation exposure from unvented gas cooking and heating.

The TENORM Report even recommends ADDING Radium to the PA Spill Protocol. Meaning it isn't there and isn't being looked for now. If it isn't being looked for, it won't be found.

Currently, radioactive waste from this industry is allowed to be dumped in PA landfills under a 1:50 dilution theory. Mixing radioactive waste with regular garbage does not render it safe nor does it protect landfill workers while on the sites or the public from effluent leaching from the landfills.

From the 1992 DEP NORM Report and the 2015 TENORM Report, there is no denying that the current administration and DEP has explicit knowledge of the risks to the public and is not doing enough to protect the public and regulate the industry.

Nothing in this scenario gives me any comfort that the industry is being regulated at all. The public deserves better.

This industry came to PA to profit and it will leave when it is done. The politicians who allowed the degradation of PA will eventually be called to account when the cancer rates rise, our water is destroyed and our property values plummet. We, the loyal citizens of the state, will have the mess to clean up. There are undoubtedly mini-superfund sites all over PA from illegal dumping and state-approved disposal.

This insanity needs to end and order must be restored. Pennsylvanians have been here working and building PA, its small businesses, tourism, organic farms and agriculture; we are not here today, gone tomorrow extractors. We raise our families here, educate and pray for the next generation, and pay our taxes. For six generations, my family has been proud to call Pennsylvania "home". My ancestors gave their blood in wars to protect it, their sweat building businesses and farms, and their tears putting loved ones in its hallowed ground. Our forefathers set aside state lands to protect headwaters and keep a bit of the sacred wildness for all to see and enjoy, not for it to be despoiled by leasing to balance the short-term state budget.

An old Greek saying is that a nation is great when old men plant trees they will never sit beneath. Where is that leadership now when PA needs it most? Global warming demands that we act now to curb fossil fuel use. Dr. Michael Mann warns that we have only 20 years to end our dependence on fossil fuels. Some climate scientists believe we have passed tipping points from which irreversible effects will flow.

There are amazing opportunities for PA to reverse course and be a world leader in renewable energy. We have people who are willing, resourceful and committed to building a bright future. We need leaders with vision and principles. (147)

Response: The Department's 2015 TENORM study report notes that there is little potential for radiation exposure to workers and the public at facilities that treat oil and gas wastes and from landfills that receive waste from the oil and gas industry. The report recommends that the Department conduct additional radiological sampling and analysis at all wastewater treatment plants and facilities that treat leachate from landfills that accept oil and gas waste. The report also recommends that the Department evaluate landfill disposal protocols for solid wastes containing TENORM. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report.

78.58(d) requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive

material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

2352. Comment: RE: Sections 78 & 78A of the oil & gas regulations

I attended the meeting held by the DEP at Washington and Jefferson College. After four years of testing many of the waters in Southwestern PA and Northern W VA, I have a good idea of what is going on with our waters. Over a 120 sites have been tested and I can emphatically state than our waters have been contaminated by the drilling industry. Enclosed you will find hard core certified data that shows the alarming results of water testing on suspected source points of these “fracking” chemicals into our water ways. This is your data. I am referencing the data mention in the testimony given by Charles Evans Hunnell. During the testimonies, the comments made by many industry members are false and unjust. The information that I have enclosed is factual and valid. It is not some estimated projection. The evidence is backed by certified scientific research.

Gentlemen it may be too late to protect the waters of Southern PA. If immediate action is not taken, then all will be definitely lost. The above ground “frack” pits must be eliminated; there must be a buffer of at least 1 mile from schools, hospitals and public buildings. Better control of the disposal of “frack” flow back must be asserted. We are facing one of the largest potential environmental disasters this state has ever encountered. There is an estimated 1.6 trillion gallons of water in our abandoned mine pools, when this water becomes contaminated, how will the state address this problem? The enclosed data indicates that much of this underground water has already been compromised. Where do we go from here?

Alarming Evidence

Recently I have been writing about the water problems in our area. It now seems with great justification. The recent results on water quality testing done by the DEP that was requested by the Harry Enstrom Chapter of the Izaak Walton League of America (IWLA) has proven there is a reason for great concern. In the following I will give you the results of the DEP testing and the consequences of the results.

When the gas drilling began in our area we were assured that it was safe and it would be patriotic to lease our lands for drilling. The state through open its doors and welcomed the industry with little or no thought to the long range ramifications due to the drilling process. A lot of the local residence bought into the safety of drilling and the money was good. As it turns out many people were lied to about royalties and upfront money and the value of the gas beneath their property. Many people leased all their gas rights for a minimal of what they are really worth.

Next the amount of water needed and the condition of the water once used. The disposal of this water was to be monitored and tracked from ingress to egress. Well, something went wrong in a big way. There are seven signature aspects to the drilling operations. These seven are the chemicals found in the Marcellus Shale Gas. These signature aspects are sodium, strontium, bromide, radium 226 and 228, High Electronic Conductivity (EC) and high Total Dissolved Solids (TDS). All of these have been found in increasing amounts in our surface water. The latest of these is the radiation aspect. The IWLA through its water testing program has been finding high levels of six of the seven signature components, but the final one (radiation) has been hard to pin down. On November 4, 2013 the IWLA requested such test on the Clyde Mine Discharge, Emerald Mine Discharge 001, Cumberland Mine Discharge 029 and 014 along with testing above and below the discharge points. These tests were conducted on April 10, 2014, but the results were not made known to the public. The IWLA discovered these results were done in a file

review of the Clyde Mine in October of 2014. The IWLA requested that all the radiation testing results be made public in January of 2015. Thanks to an efficient employee at the DEP, the IWLA was given these results on April 17, 2015. I would like to publicly thank that person for his/her help. The results are alarming. Preliminary results are shocking and indicate a potential major problem in water quality. These results have placed on hold any trout stocking into Ten Mile Creek by the IWLA. When the Fish and Boat Commission was given the results and ask for an evaluation, the statement from the PAFBC was that if they were stocking the stream, they would not stock fish until further testing is done. Therefore, the IWLA has placed on hold a five year program of stocking trout until the regulatory agencies give the ok to continue stocking Ten Mile Creek.

Here are the results of the testing which led to the postponement of the trout stocking. The safe level for Radium 226 and Radium 228 combined in drinking water is 5PCI/L. At the Clyde Mine Discharge into Ten Mile Creek, the Radium 226 is 301 PCI/L, and uranium 238 at 380 PCI/L Ten Mile Creek above the discharge had the following readings: Radium 226 at 175 PCI/L, Radium 228 at 152 PCI/L Thorium 232 at 151 PCI/L. All of these are much higher than the 5 PCI/L needed for safe drinking water. Remember our water treatment plants cannot remove radiation from our drinking water. Below the Clyde Mine Discharge the radium 226 level was 93 PCI/L.

Looking at Smith Creek in Waynesburg PA, the Radium level downstream of the Emerald 001 discharge was 74 PCI/L Radium 228 was 4 PCI/L Thorium was 4 PCI/L Uranium 238 was 54 PCI/L. At the 001 discharge from Emerald Mine the Radium 226 level was 102 PCI/L and Radium 228 was 8 PCI/L and Thorium of 8 PCI/L. Upstream of the 001 discharge the Radium 226 level was 60 PCI/L radium 228 was 3 PCI/L Thorium 232 was 3 PCI/L and Uranium 238 71 PCI/L. This indicates to me at some time these chemicals were dumped into the headwaters of Smith Creek.

Looking at Whiteley Creek, the Radium 226 level at the ingress to 014 was 122 PCI/L, radium 228 10 PCI/L Thorium 232 was 10 PCI/L. The bromide was 5010 ppb if you divide by 3 this will give you the Trihalomethane that possibility could be produce which would be 1670 ppb which the safe limit in drinking water is 80 ppb. The TDS was 4810 MG/L which the safe limit is 500 MG/L. To get EC one must multiply this number by 2.5 which would give a result of 12,025 us. The safe limit for EC is 1000 us. All of this is going into Whiteley Creek a trout stocked stream. The discharge at 029 was not recorded but all indications are that it would be the same as 014 or higher.

These levels of the chemicals are well over the safe limits for drinking water standards. Consequently, they pose a potential for health risks for aquatic life, wildlife and humans.

I guess safe to some people is different than to others? If "Drilling is just the beginning" what will be the end results? Remember, five of these seven aspects of water quality are not normally found in coal but are found in Marcellus Drilling.

I honestly do not know where we go from here? I hope the good Lord gives us a plan and a solution?

On November 4, 2013, the IWLA requested that the quality of water in Ten Mile Creek, Clyde Mine, outfall 001 Emerald Mine into Smith Creek, outfall 029 and outfall 014 Cumberland Mine into Whiteley Creek be tested using code 046 and radioactive materials such as Radium 226 and 228, Uranium and Thorium be taken. I was notified that upon completion of these results, the DEP would forward the results to the IWLA. The tests were taken on April 10, 2014, (lacking

029). The lab results were back at your office April 30, 2014 and on June 13, 2014; the results were distributed in your office. The IWLA did not receive any notification of these tests and the IWLA found the results in November 2014 in a file review. I found this action very disappointing.

Upon reviewing the results of the Clyde Mine discharge, above the Clyde Mine discharge in Ten Mile Creek, and below the Clyde Mine discharge in Ten Mile Creek some surprising results were recorded. For example, in a previous communique, it was stated that the gross alpha reading for Ten Mile Creek were below maximum levels in 2011 and there was no mention of radium 226 or 228 results. Upon reviewing the latest testing results, it was discovered that the reading for gross alpha coming from Clyde Mine was 34.989 PC1/L well above the 15 PC1/L maximum for drinking water. Along with the gross alpha reading, it was noted that the PC1/L reading for Radium 226 was 301 PC1/L well above the drinking water standard of 5 PC1/L for combined Radium 226 and 228. Another noticeable discovery was a reading of 46 PC1/L for Lead 214. To add to the problem, the Bromide level was 4340 ppb and a TDS of 6938 MG/L well above the recommended 500 MG/L.

The results for the testing of the water quality above the Clyde Mine discharge were very interesting. The normal water test showed that the water was in fairly good condition, but when looking deeper into the radiation testing, it was a different story. These results showed a reading for gross alpha at 137.232 PCVL, a gross beta of 175.472 PC1/L (50 PC1/L for drinking water), Radium 226 at 175 PC1/L, Radium 228 at 152 PC1/L, and Thorium 232 at 151 PC1/L. All of these reading are well above drinking water standards. Lead 214 was 68 PC1/L. Logic would lead one to believe that there is another source above the Clyde Mine discharge contributing to the ongoing water problems.

The source of this additional radiation might be coming from the Emerald Mine 001 discharge or the results could have been compromised by the Franklin Township Sewage discharge when the plant was accepting "fracking" flow back water. A third possibility is that water is being dumped illegally into our streams. I feel that this is the least of the three possibilities. However, I also feel that our underground mine pools have been compromised by drilling wastes water being dumped into our abandoned mines.

The above mentioned results of DEP testing indicate this is a high possibility.

At this time I am again requesting the results of the water tests done in April of 2014 on Emerald Mine 001 discharge into Smith Creek and Cumberland Mine 014 discharge into Whiteley Creek. Also, I am requesting that the DEP do the same tests on Cumberland Mine 029 discharge.

Again, the IWLA stands ready to assists the DEP in any manner possible to resolve the current and escalating water problems.

Here are the results of the latest DEP testing in Ten Mile Creek and the Clyde

Mine discharge into Ten Mile. I have highlighted some interesting results of the testing. The tests were taken on April 10, 2014 and I was able to obtain these results as part of a file review request. If you could, I would like you to review the information and advise me as to the quality of the water in Ten Mile Creek We have been stocking trout for the past 5 years and the program is highly appreciated by the public. Our problem is that we will not stock the stream if the radiation levels or other problems pose a health risk. I do not know the standards for such problems that the PAFBC follow?

If you could review the results and contact me about the water quality, we will then make our decision on future stockings, and how to handle the current construction of the water ways trail from Waynesburg PA to Millsboro PA.

Response: To the extent that the commentator recommends an increase in the setback from wells to buildings, the Department declines to make this change because the setback from wells to buildings is established by statute in Section 3215(a) of the 2012 Oil and Gas Act. See response to comment 271 regarding setbacks.

See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

Statewide management of abandoned mine pools is beyond the scope of this rulemaking.

The issues of water quality in Ten Mile Creek is beyond the scope of this rulemaking, the Department is currently evaluating the situation.

The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2353. Comment: Though I can't remember the source for this statistic, I read the other day that over 440 studies have now provided evidence that oil and gas drilling sites pollute air and water with dangerous toxins. Within the last three years, I have read studies linking fracking to increases in birth defects, cancer, and endocrine disruption; to radon in our homes; and to elevated radiation levels in river sediment downstream of treated wastewater. It is no longer possible to deny arguments for strong regulations by ignoring the concerns of Pennsylvania residents about water contamination and reduced air quality from drilling. Last year, DEP released information about the contamination, over the past seven years, of 240 private water sources in Pennsylvania. Drilling wastewater, which includes BETX chemicals and radiation, has been dumped into the Mahoning River Watershed that feeds one PA community's water supply. This kind of threat to drinking water supplies is one of many reasons other states have begun refusing to accept Pennsylvania's drilling waste.

DEP has been given a mandate by Article 1, Section 27 of the Pennsylvania constitution to protect the people's right to clean air and pure water. As the department revises Chapter 78, and especially 78a, I urge it to honor its mandate by adopting the strongest possible regulations for oil and gas drilling. (241)

Response: The Department's 2015 TENORM Study Report observed that there is little potential for radiological exposure to workers or members of the public from sediment-impacted soil at publically owned treatment works (POTWs) that have received wastewater from the oil and gas industry and at centralized wastewater treatment plants (CWTs) that treat wastewater from the oil and gas industry. The 2015 TENORM Study Report also observed that there is a radiological environmental impact to soil from the sediments from these POTWs and CWTs. The Report recommended that the Department 1) conduct additional radiological sampling and analyses and radiological surveys at all POTWs and CTWs accepting wastewater from O&G operations to determine if there are areas of contamination that require remediation; 2) determine if it is necessary to establish radiological effluent discharge limitations; and 3) determine if the development and implementation of a spill policy is necessary. The Department remains committed to

protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2354. Comment: This letter is a follow up to the Hearing at Washington & Jefferson College on 4/29/2015. I disagree with the speakers that said the waters in Pa are pristine. I live alongside of the Ohio River and my drinking water depends on a clean water source. Attached is a report that the EPA Reports Ohio River Most Contaminated Body of Water In The Country.

Frack water flowback has been allowed to enter the rivers and streams .In 2010 the Clairton Coke Works filed a complaint with the EPA that the Mon. River was not fit for industrial use. The people of Clairton used the municipal water to wash dishes. The dish washers clogged with salt. The Brine from the Marcellus wells were allowed to be ran through the Municipal sewerage systems into the river. Source, Fly Fisherman Magazine, May 2010. The Allegheny River in Warren Pa has been polluted with the radio-active waste from the Marcellus drilling. Studies have been taken above and below the sewerage treatment plants. Nothing above & high radio-activity below. All readings are above safe and federal limits. Rules against the discharge have to be enforced with Jail time. Paying a fine is business as usual and passed on to the public. No changes will happen without robust enforcement.

I also disagree with the notion that the regulations harm the oil & gas industry. By over producing, the industry has driven the price down, slowed investment, stopped drilling, and caused layoffs. Laws and Regulations need to constantly change to keep up with current conditions. Just like a building or fire prevention code. This protects everyone. The PADEP must live up to its mission statement and enforce all state and federal environmental laws with fidelity. Both conventional (78) and unconventional (78a) laws have to catch up with current Supreme Court definitions of the Pa Constitution. Article #1 Sec. 27, as defined. Along with others.

The environment in Pa. is under attack. Never in our history has there been so many challenges. Let's start to connect the dots. In 1960, the U.S. Dept. of the interior published a Geological Survey on Uranium in Carbonaceous rocks for the U.S. Atomic Energy Commission. "Oil Yield and Uranium Content of Black Shales. " By Vernon E. Swanson. A Geological Survey Professional Paper 356-A. Please get a copy for documentation. U.S. Printing Office. The US after WW2 was looking for a source of uranium for military and industrial uses. It was found in the Black shales. They are dried sea beds, full of brine. When it rots it gives off radon gas. It travels up to the earth's surface through strictures in the earth. It passes through aquifers and condenses in cellars and caves. Radon is the second cause of lung cancer. Now comes the Hydraulic fracturing industry and drills miles of radio-active rock and brings tailings to the surface exposing the citizens and workers of Pa to extreme radiation. The R 226 & R 228 attach themselves to the Brine making it also highly radioactive. The Holding ponds expose everyone and everything to uncontrolled radioactivity. The New York Times ran a report on the safe limits. 5 Pc/L is the maximum allowed by law. They took readings from hundreds of ponds full of flowback water and showed thousands of times over the legal and safe limits Beaver County times, (Fracking wastewater can be highly Radioactive) 1/30/2013. No Agency really regulates its ,handling transport, or disposal . Workers harmed by radio-active exposure. Copy enclosed. Now comes the secret exposure. The PERF GUN. Halliburton has a patent on an explosive device that blows the hole in the pipe to get the sand to penetrate the fractured shale. It holds the pathway for gas to escape the rock. The perf gun has DEPLETED Uranium disks that are also highly radioactive. This adds to the situation of birth defects. Google Depleted Uranium Both Military injuries and civilian. This exposes every Pennsylvanian to severe harm.

Next is a report from E. Ivan White, Staff scientist for the National Council on Radiation Protection. Radiation should never be released into the environment in an uncontrolled manner because of the potential for exposure from many potential pathways that exist.

Pa State DEP allows Radio-Active flowback water to be put on roads for dust control and snow/ice melting. This has to stop! Also, Pa DEP allows flowback radio-active waste water to be discharged into drinking water sources by Municipal sewerage plants. This MUST stop! See the Duke University study of the Josephine Brine treatment plant into Blacklick Creek. The streams in Washington and Green Counties have shown dangerous levels of Radio-activity. The Pa Auditor General's Audit of the Pa DEP has to carry weight if we are to protect our living spaces. The Health, Safety, and Welfare of all Pennsylvanians are at stake. Looking forward to your updates in the Law. **Please see Appendix 5 for attachments.** (286)

Response: The Department's 2015 TENORM Study Report (Report) observed that there is little potential for radiological exposure to workers or members of the public from the handling, hauling, and temporary storage of vertical and horizontal drill cuttings on natural gas well sites and recommended that the Department conduct research and investigation of vertical and horizontal drill cuttings for beneficial use, onsite disposal, and future landfill disposal protocols. The Report also observed that there is little potential for members of the public to exceed the public dose limit from exposure to Radium in brine-treated roads, and recommended that the Department perform further study of brine-treated roads. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report.

The Department has added 78.58(d) to this rulemaking which requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

- 2355.** Comment: I am eighty-one years old, a retired Certified Clinical Engineer with a Master's Degree in Electrical Engineering, and with over 40 years of experience in hospital management dealing with everything from general safety regulations to waste management of both medical and nuclear waste.

The specific remarks in this statement address only the proposed changes to the new Chapter 78a of Title 25 of the Pennsylvania Code, from the standpoint of radiation safety, public health safety, and worker safety.

Remarks:

1. The only reference to "radioactive" appears in Section 78a.111. Abandonment. In this section whenever a radioactive source used for logging cannot be removed before capping the well, paragraph d.) states the requirements for various information on a warning plaque. I would request that in addition to the listed information, the marker include the name of the radioisotope element, and the number of curies in the source as of the closure date.

2. From the standpoint of reducing the overall health risks to workers, nearby residents, and nearby communities, it is recommended the standards be revised to require that existing and new open pits be equipped with a flexible non-permeable cover to prevent outgassing of Radon or evaporation of other toxic elements into the atmosphere. The covers will also help to protect wildlife from contact with the fluids in the pit. The requirements for visual inspections of these pits, liners and covers should be changed from “monthly” to “daily” until the pits can be removed as part of permanently closing the well site.
3. From the standpoint of worker protection from health risks, it is recommended that the standards be revised to include a measured assessment of worker exposure to radioactive and other toxic elements during all phases of the operation, but particularly in the handling and transport of the wastewater, sludge, filter cake and other potentially harmful wastes from the well, and from the various storage tanks as they are emptied. Storage tank sludge can be highly radioactive.
4. The radioactivity of the wastewater cannot be ignored. The Homeland Security News Wire published 5 February 2013 stated: “Wastewater from fracking is often highly radioactive.” No other details appeared, but this “red flag” should be investigated with quantitative measurements, and then appropriate protective equipment be supplied for workers who may be exposed during routine operations, transport or accidental spills.

In conclusion, there are many newly encountered environmental aspects associated with fracking operations here in Pennsylvania that need to be addressed if this industry is allowed to continue. Extensive new regulations are needed to address the newly found risks to the general public health in the local communities, as well as risks for workers in this industry.

However, in my professional opinion, it is not advisable to invest more time, effort and money into more fracking, more natural gas infrastructure, and many new safety and environmental regulations, at a time when the fossil fuel industry is being phased out as new green energy sources come on line in order to reduce world climate change, and literally, to save our Planet Earth. (355)

Response: The Department’s 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development. The Department remains committed to protecting the public from unnecessary exposure to radiation and is actively pursuing the recommendations of the 2015 TENORM study report. The Department has added 78.58(d) to this rulemaking which requires an operator processing fluids onsite to develop a radiation protection action plan which specifies procedures for monitoring and responding to radioactive material produced by the treatment process. This section also requires procedures for training, notification, recordkeeping, and reporting to be implemented.

Regarding 78a.111, the type and strength of the radioactive material abandoned in the well is required to be present on the permanent marker which indicates that a radioactive source has been left in the hole.

2356. Comment: My name is Charles Evans Hunnell, I reside in Greene County, Center Twp., Waynesburg, 2248 Oak Forest Road. I'm a graduate of West Greene High School and Penn State University. I'm a Vietnam Veteran and a retired LCDR U.S. Navy Reserve. I am also a retired

teacher of U.S. History and Economics at Upper St Clair High School.

I testified at the previous hearing on Chapter 78 held at Washington and Jefferson College and today I am even more concerned with the actions of the drilling industry and the DEP concerning the health and safety of the citizens of Pennsylvania.

Why does Pennsylvania continue to permit operators to use open impoundments containing flow back and produced water from unconventional slick water deep drilling? It is well known that these open pits contain hazardous chemicals and radiation (flow back and produced water, part of the byproducts of deep drilling) and that they do leak. The industry has a serious, health and safety problem of how to properly dispose of the byproducts

The DEP has known since 2011 that Emerald Mine, Cumberland Mine (Alpha Resources Mines) and Clyde Mine (a DEP abandoned mine) have been discharging high levels of Bromides, Strontium, Chlorides, Sodium, extremely high levels of Electronic Conductivity and Total Dissolved Solids, and with elevated Osmotic Pressures into Greene County streams. The problem is that these levels are not associated with mining but are associated with unconventional slick water deep drilling. How have these flow back and produced water contents ended up in Greene County mines? One of the following has had to happen: 1. There has been a massive breach underground all through Greene County. 2. The mines have permitted residual waste trucks to dump their contents into mine disposal sites to be discharged under mine discharge permits. 3. Residual waste trucks have dumped their contents into abandoned mine sites all over Greene County. We know that the second two possibilities have happened. The results of the lack of DEP regulation is that the citizens of Greene County are constantly threatened by the unconventional slick water deep drilling flow back and produced water ultimately making its way into Smith Creek, Ten Mile Creek, Whitely Creek, and into the Monongahela River.

The newest discovery in Greene County, found in tests by the DEP in April of 2014, but buried by the DEP and only discovered by the Harry Enstrom Chapter of the Izaak Walton League of America in November 2014 through a right to know on Clyde Mine and April 2015 right to know on Smith Creek and Whitely Creek is the presence of high levels of radiation. How interesting that the DEP chose to bury this data and not to send copies in the spring of 2014 to the Harry Enstrom Chapter of the Izaak Walton League of America who requested that radiological tests be conducted at the five hot spots they monitor in Greene County. I believe this shows a disregard for the health and safety of the citizens of this Commonwealth.

Radiation is one of the byproducts of unconventional slick water deep drilling. We don't hear that in the news do we? The following Greene County streams have been contaminated with radiation as well as the chemicals from flow back and produced water: Smith Creek, Ten Mile Creek, and Whitely Creek. The results of the radiological testing of Greene County streams indicates the presence of high levels of the following: Radium 226, Radium 228, Uranium 238, Thorium 232. This radiation will be around for a long time in our environment the half-life of Radium 226 is 1,600 years, the half-life of Thorium 232 is billions of years.

THE RESULTS:		
RADIUM 226, RADIUM 228		
SAFE DRINKING WATER LEVELS: 5 pCi/L (combined 226 and 228)		
SMITH CREEK:	DOWN STREAM OF EMERALD MINE DISCHARGE	74 and 4
	001 DISCHARGE OF EMERALD MINE	102 and 8
	UPSTREAM OF 001 DISCHARGE	60 and 3
WHITELY CREEK:	INGRESS TO 014	122 and 10
TEN MILE CREEK:	ABOVE THE CLYDE MINE DISCHARGE	175 and 152
	CLYDE MINE DISCHARGE	301
	BELOW THE CLYDE MINE DISCHARGE	93
URANIUM 238		
SAFE DRINKING WATER LEVELS: 30 ug/l		
SMITH CREEK:	DOWN STREAM OF EMERALD MINE DISCHARGE	54
	UP STREAM OF 001 DISCHARGE	71
TEN MILE CREEK:	CLYDE MINE DISCHARGE	380
THORIUM 232		
SAFE DRINKING WATER LEVELS: 15 pCi/L		
SMITH CREEK:	DOWN STREAM OF EMERALD MINE DISCHARGE	4
	001 DISCHARGE OF EMERALD MINE	8
	UPSTREAM OF 001 DISCHARGE	3
WHITELY CREEK:	INGRESS TO 014	10
TEN MILE CREEK:	ABOVE THE CLYDE MINE DISCHARGE	151

Since the readings are this high at mine discharges; I wonder how high they are at the drilling site? Is anyone concerned for the health and safety of the workers, or are they just expendable commodities?

The streams I have identified are used for fishing and usual recreation (swimming and boating). Should the citizens of Greene County not know that the streams in Greene County are no longer the safe options for enjoyment that they have been in the past but are potential chemical and radiological hazard areas?

As a citizen of Pennsylvania and a resident of Greene County I am incensed at the cavalier attitude of the extraction industry and the DEP for the health and safety of the citizens of this state. With the presence of radiation and carcinogenic chemicals in our drinking water supplies the future does not look good for those of us who make our homes in this region. When people realize that there is a large explosion of cancer in this area in the future; we are already able to see the beginnings of the problems, the citizens will want to know why this is happening. How are you going to answer that question?

We in rural Pennsylvania are being treated like a third world playground for the extraction industries. You have adversely affected the lives of thousands of rural Pennsylvanians by appearing to operate as the proxy of the gas industry and the coal industry.

The Department of Environmental Protection's mission is to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. We will work as partners with individuals, organizations, governments and businesses to prevent pollution and restore our natural resources.

When in the name of God are you going to do this? (352)

Response: The Department's 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development.

See responses to comments 903, 1027 and 1365 regarding the use of pits and impoundments.

The issues of water quality in Ten Mile Creek are beyond the scope of this rulemaking, the Department is currently evaluating the situation.

The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2357. Comment: How much RADON are we being exposed to? Fresh gas to our homes within days does not give the cancerous material time to settle and be less harmful. Monitor radon levels every day. (84)

Response: The Department's 2015 TENORM Study Report showed that radon levels in natural gas were consistent with previous findings by the U.S. Geological Survey for Pennsylvania and that there is little potential for additional radon exposure to members of the public in homes using natural gas from Marcellus Shale wells. The Report also observed that this potential dose received by home residents is a small fraction of the allowable general public dose limit of 100 mrem/year.

2358. Comment: Gas from wells in PA may be contaminated with RADON. Radon levels in fracked natural gas should be measured at the well head. If this gas is being sent to homes in PA there may not be sufficient time for the radon to naturally decay to safe levels and PA consumers may unknowingly be exposed to unsafe levels of radon. (132)

Response: See response to comment 2357.

2359. Comment: Development of oil and gas resources will increase human exposure to radioactivity.

Incorrect - The PADEP's own study rejects this notion. (306)

Response: The Department's 2015 TENORM Study Report presented several observations and recommendations regarding radioactive material associated with the oil and gas industry. While the study outlines recommendations for further study, it concluded there is little potential for harm to workers or the public from radiation exposure due to oil and gas development.

2360. Comment: There are new wells being planned and under production already within 3-5 miles of my home and within 2 miles of the water reservoir serving communities in and around Canonsburg, PA. Additionally, I am the parent of a child with asthma, the symptoms of which have been reported to be made more severe with methane emissions associated with drilling and gas production activities. As has been evidenced just 8 miles from my home, people in South Park Township have been getting ill as a result of the increase in methane emissions coming from a drilling and production site nearby. I am very concerned about the impact on the watershed and air quality as a result of this new drilling. Additionally, I have personally witnessed drilling waste-water being dumped (by an unmarked truck on the side of a back country road) near a stream in the Chartiers Watershed just outside of Houston, PA. (270)

Response: Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

As far as the illegal dumping of waste water in a stream near Canonsburg, PA, that kind of incident should be reported immediately to either the California or New Stanton District Oil and Gas Field Offices, whichever is closer to the commentator or the incident. However, many times what is perceived as dumping of waste water from a tanker type truck that has the hose line in the stream is actually a water contractor with a legal water withdrawal permit from a water authority in the process of withdrawing fresh water from the stream. But, if in doubt to what the activity actually is, it can and should be reported to the appropriate DEP District Field Office.

- 2361.** Continuous air monitoring should be required at a well site. This air monitoring will ensure the safety of the people living in the area of the well site as well as for the safety of the workers at the well site. (114)

Response: Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking. However, air emissions from the oil and gas sector are regulated through a series of measures including the best available technology or BAT which includes equipment, devices, methods and techniques that will prevent, reduce or control emissions of air contaminants, including hazardous air pollutants, to the maximum degree possible.

- 2362.** Comment: It is increasingly clear that DEP is not sufficiently regulating the gas industry. According to DEP data, as reported in the Pittsburgh Post-Gazette, "Emissions from the expanding natural gas drilling industry increased in four of six air pollution categories in 2013. VOCs increased 19%, PM increased 12%, NOx increased 8%, and SO2 increased 57%."

<http://powersource.post-gazette.com/powersource/policy-powersource/2015/04/20/Pennsylvania-DEP-says-emissions-increased-from-expanding-natural-gas-industry/stories/201504200129>

In Washington County, public health assessment reveals that after only six years of drilling, human exposure is occurring and people are getting sick. "The presence of any sick people gives lie to industry claims that high volume hydraulic fracturing (fracking) is "safe." The early results from the Southwest Pennsylvania Environmental Health Project study implicate air contamination as the likely cause of three-quarters of the associated illnesses documented.

(Statement on Preliminary findings in Southwest Pennsylvania, Larysa Dyrszka, MD; Kathleen Nolan, MD, MSL; and Sandra Steingraber, PhD, 8/14)

Researchers examined air around gas production sites in Pennsylvania and stated that the spikes in air pollution will certainly lead to a cancer increase in surrounding areas. They noted that the eight poisonous chemicals found pose a significant public health risk. (D. Carpenter, Environmental Health, 2014)

Meanwhile, the most basic protections have not been provided for residents who will suffer the results of unlimited industrialization through increases in cancers, respiratory, neurological, and hematological disease, and increase in birth defects in infants. (130)

Response: See response to comment 2361.

- 2363.** Comment: There should be no legally allowed leakage or release of vapors, mists or liquids. Vapor capture devices should be required to prevent the escape of any fumes. Air quality

monitors that operate continuously must be installed to verify and report to the DEP that harmful gases are not escaping from the site. (129)

Response: See response to comment 2361.

2364. Comment: Any limits for chemical emissions from tanks must be a total of all air pollution sources in the area. This information must be available to the public. (129)

Response: See response to comment 2361.

2365. Comment: 78a.15(f.1.vii.) There is no scientific basis presented for the 200 feet review area for school property. Review area distances should be more encompassing than “common areas” and playgrounds; the area should be measured from the school's property, a playground, a sports field or community recreation area.

For the reasons cited above under 78a.15 (f), 78a.15(f.1.i.) and 78a.15(f.1.vi.), pollution can migrate far off site through water, risking adverse health effects for schools and children. Pollutants in groundwater from hydraulic fracturing or drilling were found as far as 3km (1.86411 miles) from shale gas wells in Pennsylvania.

Air contaminants are also released from gas and oil well sites and expose people nearby to several risks. Toxic pollutants with known severe health effects have been found at much greater distances than 200 feet. Benzene has been found at levels that exceed health standards as far as 885’ from wellheads and formaldehyde has been found up to 2,591’ from wellheads; the same study found eight volatile compounds at concentrations that exceeded ATSDR minimal risk levels at greater distances than 200 feet from gas wells.

Another study found highly toxic air pollutants at 1.1 km from a wellhead. In Ohio, researchers found polycyclic aromatic hydrocarbons above the U.S. EPA’s acceptable risk level near gas well sites, posing a significant health risk from air pollutants emitted at gas wells. More air sampling studies are being conducted at even greater distances. Oil and gas wells should not be allowed for at least 1.86 miles from schools, a school's property, playground, sports field or community recreation area. (182)

Response: Regarding public resource concerns, see the responses to comments 264 and 271.

Regarding air emissions, see response to comment 2361.

2366. Comment: Air Coalition of Tunkhannock is a nonpartisan grassroots group of Wyoming County Citizens whose mission is to address air quality issues in Wyoming County and Northeastern PA, determine impacts and work together to find solutions. We commend you for recognizing the need to strengthen regulations and appreciate the opportunity to comment on the Chapter 78 regulations. Peer reviewed studies and past incidents and violations have provided evidence that oil and gas production sites have polluted our air and water. Article 1, Section 27 of the Pennsylvania Constitution gives us the right to clean air, pure water . . . and it is your duty to protect and ensure that right.

While DEP goes through the process of the revision of the Chapter 78 regulations we urge you not to ignore air quality and the impacts from compressor stations and infrastructure and methane as it relates to climate. Although we commend DEP for raising air quality awareness by recently proclaiming Air Quality Awareness Week and the importance of the Air Quality Index, many

counties in the shale fields do not have any air monitoring to obtain their county specific data to protect themselves from bad air days. In fact, the American Lung Association in their most recent State of the Air Report indicated that 82% of Wyoming County residents fall in the sensitive population!

We are aware that many call for balance of the needs of industry with that of citizens, but there is no other industry operating in so many residents' backyards and in residentially zoned areas. As rural and residential areas are now becoming industrialized, we hold you to the task of protecting the public health and safety and environment of all Pennsylvania residents and future generations by adopting the strongest possible regulations for the oil and gas industry. (144)

Response: See response to comment 2361. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2367. Comment: However, while the revision of the Chapter 78 regulations are an important step, DEP must not ignore the myriad air quality hazards associated with oil and gas drilling infrastructure besides drilling wells. These sites have dangerously high levels of cancer-causing pollutants such as formaldehyde and benzene, and people who live near oil and gas infrastructure in Pennsylvania have reported that they are experiencing adverse health impacts such as increases in headaches, asthma, nausea, birth defects, and more. Methane, a greenhouse gas as many as 86 times more potent than carbon dioxide over 20 years, also leaks from these sites, often at alarming rates. In the words of Penn Future, 'As the fastest growing gas producing state in the nation, the rate of methane emissions and leaks being generated by [Pennsylvania's] natural gas industry could quickly put us into climate disaster territory.' Until methane emissions are directly regulated in Pennsylvania, the reign of fossil fuels will continue unchecked, thereby greatly diminishing any hope for a sorely-needed—and sharp—turn to renewables in U.S. energy policy. No wonder The International Energy Agency says we are headed for irreversible climate change within 5 years—not 20 years, but 5 years. Should we reach that point of no return, a DEP that fails to regulate this industry will have contributed to a not-too-distant humanitarian crisis the likes of which the world has never seen, by which our children and grandchildren will acutely suffer, and one which our species may very well not survive. DEP must adopt comprehensive, best-in-the-nation methane regulations for Pennsylvania's shale gas infrastructure. (241)

Response: See response to comment 2361.

2368. Comment: Tunkhannock lies downwind from hundreds of producing natural gas wells. I often wake at night, wondering what gases (such as methane leaking from well fixtures, or exhaust from 24,000 hp of upwind methane gas-fired compressors) I may be ingesting as I lay sleeping. Why don't I see updated air-quality charts published in the local paper? Who is watching this for me?

Our water company gives out purity numbers. Why don't we see similar stats for air quality? More drilling only increases the town's population to greater risk. (274)

Response: See response to comment 2361.

2369. Comment: It concerns the fact that many hundreds of people and dozens of organizations have been working statewide to demand tighter regulations than those that are currently proposed by DEP. My testimony includes those recommendations as they were written by others, in addition to my own original comments. I hope that they will not be discounted as a result. I have read that

DEP will judge what it believes to be form letters and aggregate the recommendations contained therein as if they were recommended only once.

I hope that is not true. Many of us work on this part-time and as volunteers, so we rely upon our environmental nonprofits to cull through the regulations that DEP makes so very difficult to read in the first place, and then to focus in on the ones we want many voices to support because we have seen the harm done by current practices that too leniently regulated.

If 1,000 of us tell you 1,000 times to ban open waste impoundments, then count that as 1,000 recommendations even if we all say it the same way.

The irony is that DEP - practicing what some have called “egg-slice permitting”, will disaggregate the toxic emissions coming from 8 or 10 gas compressor stations that, because of their proximity to one another, are emitting within a small geographic area more dangerous gases like Nitrous Oxide than are generated out of 2-3 large steel mills with smokestacks. Yet DEP refuses to count these as a “single source” of pollution so they can escape EPA toxic emissions oversight.

So if you will do that for the industry, please return to the people in these hearings the courtesy of counting us each as separate people with separate comments.

LASTLY, a few words about the broader context on these hearings on regulations, because I, like many others here, am uncomfortable being here to suggest improved mitigation strategies that suggest that this highly complex, still experimental, deeply damaging, impossible to regulate, hubris-infused, climate- and public health-destroying industry can be made to operate in a responsible way. Here is how one person once put it, and Secretary Quigley you will recognize these words because they are yours from the days you led the Department of Conservation and Natural Resources You once said:

“The cumulative impacts of Marcellus development will dwarf all the impacts on Pennsylvania of timbering and oil and coal combined I am afraid for the future of this state. It is hanging in the balance.”

If this is still a true statement in the estimation of the DEP Secretary, and if you do not truly think that all these new and improved regulations will prevent this future and remove the fear stated a few years back, then I would suggest to you that this is a futile effort tonight. I would suggest that we need a ban on this dangerous practice, not improved regulations.

My suggestion? The only safe regulation of this industry is to RULE IT OUT! (354)

Response: The Department reviewed, considered and responded to each comment prior to finalizing this rulemaking. Each commenter has been attributed their comments in this comment response document as designated by the parenthetical at the end of each comment. Regarding air emissions, see response to comment 2361. To the extent that the commenter is suggesting a statewide ban on oil and gas operations in Pennsylvania, see the response to comment 2040.

2370. Comment: while the revision of the Chapter 78 regulations are an important step, DEP must not ignore the myriad air quality hazards associated with oil and gas drilling infrastructure besides drilling wells. These sites have dangerously high levels of cancer-causing pollutants such as formaldehyde and benzene, and people who live near oil and gas infrastructure in Pennsylvania

have reported that they are experiencing adverse health impacts such as increases in headaches, asthma, nausea, birth defects, and more. Methane, a greenhouse gas as many as 86 times more potent than carbon dioxide over 20 years, also leaks from these sites, often at alarming rates. DEP must adopt comprehensive, best-in-the-nation methane regulations for Pennsylvania's shale gas infrastructure. (3057-3093)

Response: See response to comment 2361.

2371. Comment: As study after study provides more evidence that oil and gas drilling sites pollute our air and water with dangerous toxins, the arguments for strong regulations have become impossible to deny. DEP can no longer ignore the concerns of Pennsylvania residents about water contamination and worsened air quality from drilling. Last year, DEP released information about 240 private water sources in Pennsylvania that were contaminated by oil and gas operations over the past seven years. This frequency of contamination is unacceptable. DEP is not enforcing its regulations, or using its legal authority to safeguard the public health, waters of the Commonwealth, protect air quality.

As DEP revises Chapter 78, I urge DEP to protect the health and wellbeing of Pennsylvania residents by adopting the strongest possible regulations for oil and gas drilling. Until this happens, I recommend that DEP place a moratorium on all gas and oil drilling until the industries operating in Pennsylvania can demonstrate mineral extraction and techniques and waste handling procedures that prevent surface water, groundwater and air pollution. These sites have dangerously high levels of cancer-causing pollutants such as formaldehyde and benzene, and people who live near oil and gas infrastructure in Pennsylvania have reported that they are experiencing adverse health impacts such as increases in headaches, asthma, nausea, birth defects, and more. Methane, a greenhouse gas as many as 86 times more potent than carbon dioxide over 20 years, also leaks from these sites, often at alarming rates. DEP must adopt comprehensive, best-in-the-nation methane regulations for Pennsylvania's shale gas infrastructure. Since DEP does not have the staff to enforce the laws and regulations permits should not be issued and active sites need to be shut down.(151)

Response: To the extent that the commenter is suggesting a statewide ban on oil and gas operations in Pennsylvania, see the response to comment 2040. Regarding air emissions, see response to comment 2361.

2372. Comment: POINT 5: REGULATIONS ADDRESSING THE EMISSIONS OF COMPRESSOR STATIONS, METERING STATIONS, AND PROCESSING PLANTS ARE ABSENT.

DEP's 2013 Natural gas emissions inventory by source type (TPY)

	Blowdown vents	Dehydrators	Heaters	Tanks
CO	3	82	701	22
NOx	8	40	827	20
PM2.5	0	2	48	0
VOCs	133	431	63	1398
Benzene	3.2	7.3	0	1.5
Ethyl benzene	3.2	4.6	0.1	0.5
Formaldehyde	23.2	0	0.7	0
n-hexane	9.5	19.7	13	48.7
Toluene	3.2	17.9	0	1.6
Xylenes	3.2	12.1	0.1	0.9
2, 3,4-trimethyl pentane	0.4	0.4	0.1	0.2

It is evident from the above totals that facilities outside of the well pad emit chemicals which can be dangerous to human health. Health effects risks produced by the above chemicals are discussed in the literature, including many of the studies cited in this document. These data are presented by the DEP in tons per year. The aggregate tons per year may have its place in assessing regional air quality over time, but falls short as a way to determine immediate and short term health risks to those nearby. In the latter case, tons per year masks the variability in those emissions and therefore the variability in exposures to Pennsylvania residents. Times when exposures are highest pose the most dangers to residents while yearly averages cannot tell us enough about the risks posed.

We have, from DEP reports, documentation of extremely high levels detected for short periods of time (6 hours). Variation in emissions, in conjunction with weather impacts on emissions dispersion, mean that residents are often exposed to low or no emissions, but many are periodically exposed to high and potentially illness-causing emissions.

Variation in ambient air measurements of five VOCs near a compressor station in Hickory, PA, reported in ug/m3 *

Chemical	May 18		May 19		May 20		3 day average
	morning	evening	morning	evening	morning	evening	
Ethylbenzene	No detect	No detect	964	2015	10,553	27,088	13,540
n-Butane	385	490	326	696	12,925	915	5,246
n-Hexane	No detect	536	832	11,502	33,607	No detect	15,492
2-Methyl Butane	No detect	230	251	5137	14,271	No detect	6,630
Iso-butane	397	90	No detect	1481	3,817	425	2070

*The PA DEP collected data on many more chemicals than those listed above; EHP has chosen these chemicals specifically to highlight variation in emissions. (PA DEP 2010).

Note, in particular, the table illustrates the information lost when combining and averaging emissions over time. Looking at ethylbenzene, for instance, we see that its detection varies from zero to over 20,000 ug/m³ in just three days.

These Pennsylvania DEP reports highlight the importance of long-term continuous monitoring of emissions from sites which maintains the levels that are emitted over short periods of time so that the short spikes in exposures are captured in the datasets. EHP cannot emphasize enough how critical it is to thoroughly document and understand what substances Pennsylvania residents, and particularly children, are being exposed to; at what levels; and with what frequency. The PA DEP has an opportunity to take great strides in health protection as it revisits its regulations of oil and gas activities. (186)

Response: See response to comment 2361.

2373. Comment: The industry will further contribute to the release of fugitive methane and thereby increase greenhouse gases in the atmosphere.

Incorrect - Methane and CO₂ concentrations in the atmosphere have decreased over the last decade despite record production of natural gas. (306)

Response: See response to comment 2361.

2374. Comment: Metered Wellheads/Severance Tax: When you fill your car, every gallon of gasoline is metered and taxed. So too, it should be with the natural gas industry. To compensate for consumption of the state's resources and the degradation of public water, roads, air and health, a severance tax should be assessed on each thousand cubic feet of gas that comes out of the well head. That tax should be substantially higher for any gas that is piped or shipped out of state. This can be controlled with state meters on the gathering lines. This tax should not impact leased landowners, as royalty payments are calculated on the net profits (after drilling and piping costs are subtracted). (17)

Response: The Department acknowledges the comment. Severance tax is beyond the scope of this rulemaking.

2375. Comment: Extraction of resources without an excise tax or other taxation similar to that applied in other states does not make sense to me. I believe that the Marcellus Shale deposits, being mainly in PA, are a natural monopoly for this state which should be used for the benefit of the people of this state.

Apply taxes which yield substantial income to the residents of this state. I am fully aware that business practices yield some uneconomic activities if tax levels are raised. That is no excuse for continued implicit subsidy of these activities through poor tax and regulation policies. If extraction of oil and gas cannot survive without subsidy, it's time to leave the oil and gas in the ground until the payoff becomes worthwhile both for business and government. That time will surely come, and if it is not now, then better to wait. (102)

Response: The Department acknowledges the comment. Severance tax is beyond the scope of this rulemaking.

2376. Comment: I'm all for impact fees. (145)

Response: The Department acknowledges the comment.

2377. Comment: In conclusion there are many talented and knowledgeable people in the Industry as well as state government that need to work more closely together to insure economic stability for the Commonwealth while also being cognizant of our great natural resources here in Pennsylvania. The governor's dismissal of the entire TAB Board and reseating of a "new" and arguably less experienced membership and his proposed extraction tax have established clear intent to pick a fight and antagonize the Industry, especially the small operators and their workforce who are Pennsylvania citizens that are striving to make a home, pay taxes, and raise their families. (150)

Response: The Department agrees that it is important to meaningfully collaborate with stakeholders to ensure that regulations are appropriately tailored to risks presented by the activity being regulated. Neither the Department nor the Governor have any intent to antagonize any industry that has a lawful right to operate in the Commonwealth. It is clear however, that issues surrounding oil and gas development extend far beyond the technical aspects of well drilling – which is the purview of the Technical Advisory Board. It is also clear that the conventional oil and gas industry presents (and is confronted with) very different issues than the unconventional industry. As such, it was necessary and appropriate for DEP to broaden the scope of advisors it listens to during the regulation development process.

2378. Comment: Oil & Gas companies meter their own well production. Leaseholders and the State relay on the companies to provide truthful numbers, but no one is checking the figures. If the State is going to tax well flow production, why should it not employ duplicate metering tools of its own to be sure the correct monies are collected? A new Severance tax may do away with local Impact Fees; shouldn't we know if we are still eligible for compensation out of vastly increased State revenues? Wouldn't it, as well, be proper for the leaseholder to know the correct gross flow from his well, so he might check the accuracy of his royalty statements? (274)

Response: The Department acknowledges the comment. Severance tax and impact fees are beyond the scope of this rulemaking.

2379. Comment: We need to tax oil drillers to help fund our schools and reduce property taxes. We need stricter environmental monitoring of drilling and hold the drillers responsible for any damage to the environment or to drinking water resources. If they cannot remove Oil and gas responsibly then they must be prosecuted for the damages they cause. The lives and safety of our citizens and the preservation of our natural environment is far more important than the dollars we receive from the drillers. (290)

Response: The Department acknowledges the comment. Severance tax is beyond the scope of this rulemaking.

2380. Comment: I am speaking as a homeowner--I have just 1 acre--sitting next to a projected Marcellus shale pad. I have just survived over 3 years of strip mining on the same property. The dirt--the dust clouds-- the noise--being awakened by track dozers at 6:00am, whether I wanted to be up or not.-- and the smell of kerosene--both my sinuses and my organic garden were impacted. Now I am looking forward to how many more years of my life being disrupted by a projected Marcellus shale pad on the same property. My water comes from a well, I worry about it being contaminated. I would likely be under the lights, no more sleeping for me, and then there's the blasting, digging and all other noises consistent with drilling a well. Why do I have no rights.

These landowner have the rights to upset my life, but I seem to have none. They are allowed to negatively impact me but again I have no rights, no way to stop them.

I had been looking forward to my retirement, having a peaceful life taking care of my home and gardens. All that is gone. I had instead dirt, noise, and a shaking home. It is a good thing I did not want to move, my home is now worth nothing--who in their right mind would want to live next to a Marcellus shale pad. Even the gas under my house will basically be stolen, I will receive no royalties since my contract is with Range and Rice is the company digging the well. I'm sure the drilling company makes a nicer profit when they don't have to pay royalties. Again my rights are taken away.

Since companies must have 600 acres to place a pad why is it not mandated for them to keep the pads as far away from dwellings as possible to limit the impact from the noise, the lights, the dirt, and the shaking and vibrations. Give us our lives back. (369)

Response: The Department acknowledges the comment. We cannot address your royalty and property rights concerns because it is beyond the scope of this rulemaking. Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

2381.

Comm

ent: I would instead relate some general thoughts and impressions, again, with the theme that, unless DEP and the industry maintain open and sincere communications through the promulgation process, we may end up with regulations that are not optimal, neither for the industry to follow and understand, nor for the Department to fairly enforce.

And compliance is hugely important to both DEP and the operators. We emphasize compliance, good environmental practices, and cooperation with the Department to our staff, every day. As one who worked for DEP for 35 years and having practiced compliance assistance to a multitude of industries, it frustrates me to see some of the sensationalistic reports and blogs about the non-compliances stories of the gas industry. To be fair, we need to tell the compliance stories of this industry, because that is what is really happening, through our environmental practices and missions. (315)

Response: The Department acknowledges your comment.

2382. Comment: Identifiable Fracking Fluids: When either a surface or subsurface accident (event) occurs in an area being fracked by more than one company, without identifiable additives in the fracking fluid, delays in immediate intervention will result, along with cross finger pointing and endless lawsuits to contest liability. Identifiable micro-particles imprinted with and correlated to a database of each well's API number could be added to each "frac" job. Recovery of any these particles would be prima-facie evidence of pollution from that well and invoke forfeiture of the face amount of the insurance policy. (17)

Response: The Department does not believe that a requirement to include tracers in drilling solutions, frack fluids, and water is necessary to allow the Department to adequately enforce these regulations.

2383. Comment: Flaring prohibited: Flaring is burning off of the initial surge of methane from the well. This first gas is contaminated by flowback water, dissolved heavy metals, salts and naturally occurring radioactive material. Capture and cleaning of this gas is a less profitable, but environmentally responsible alternative. (17)

Response: Regulation of flaring and air emissions is beyond the scope of this rulemaking.

2384. Comment: Investigative Task Force: The vast amount of money involved in developing this resource when coupled with secondary and tertiary contract arrangements, and remote oversight by PADEP, creates a prime scenario for illegal activities. These include not only the obvious - improper disposal of fracking fluids and drill cuttings, but also many other penal law offenses relating to bribery and Federal RICO activities. A task force should be appointed by the Governor to include a special prosecutor backed by State Police investigators, PADEP officers, forensic accounting and computer data mining specialists. (17)

Response: The Department acknowledges the comment. Formation of an investigative Task Force is beyond the scope of this rulemaking.

2385. Comment: Impacts to public resources: Mining natural gas from the Marcellus Shale will come at a real cost to every taxpayer by degrading public water, public air, public roads, public lands and public health. That same public again pays out of pocket for the use of that gas, only when it is not more profitably exported to national and international markets. Under current policy, approximately 1/8th of the profits (less transport costs) are retained by the landowner while 7/8ths of the profits are transferred to foreign corporations chartered primarily in Texas, but often incorporated in Delaware. The general public is an unwitting participant in this wholesale transfer of sovereign wealth. The redirection of those assets and their accumulation by the gas companies and their stockholders occurs primarily through two avenues: lack of tax revenue and consumption of public resources. If, as touted, the natural gas industry is bringing universal economic prosperity, why must the public be forced to suffer the consequences of its development unless the public can also participate in the benefits?

The PADEP reduces environmental damage only to the extent that current regulations can be enforced. Multiple recent examples of serious environmental impacts in Pennsylvania show that foreign natural gas corporations are willing to pay fines, but then repeat violations because:

1. There are no PADEP inspectors on site at all times.
2. It continues to be profitable for gas companies to willfully violate regulations. (17)

Response: Regarding the commenter's compliance and enforcement concerns, the Department has developed a compliance and enforcement strategy to address issues with inspection frequency and compliance (Department Document Number 820-4000-001, *Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations*).

2386. Comment: I stand with the desires of the Sierra Club on this issue who stand for the real and actual protection of our environment. (27)

Response: The Department acknowledges the comment.

2387. Comment: In addition, I would like to thank DEP for the public comment period. It is essential that we have these rules on the books and implemented, and avoid further delay of these protections leaving our communities at risk. The proposed changes should include protections for surface right owner's property value. Drillers and operators always point to the Oil & Gas acts protection of their rights to surface access to extract the underlying oil and gas. Language needs to be added to place the burden on the operators to prove their extraction plans are least impactful to surface rights owners. Compensation should be required for use of surface access, decreased

property value, and damage to private lanes. The proposed changes should include regulation and enforcement of public safety issues associated with these operations. OSHA protects the drillers and well tenders but they don't care about my kids playing next to the well in my front yard. Let's not wait until someone dies from these hazardous operations and equipment. I had to pay a lawyer to get the operator on my property to put a fence around the pump jack that's 100 feet from my front door. The unguarded motors, pulleys, and belts could easily cut a curious child in half. (72)

Response: The Department acknowledges the comment. To the extent that the commenter is suggesting development of statewide oil and gas extraction planning, that is beyond the scope of this rulemaking. Inclusion of protection of surface owner rights, compensation to surface owners for impacts to their surface rights and the inclusion of OSHA regulations is beyond the scope of this rulemaking.

2388. Comment: The proposed changes should include required monthly DEP inspections of all well sites. This is a win-win-win. Improve the economy by hiring more DEP inspectors which will intern drive the hiring of more industry compliance specialists, improve the environment by catching things early, and improve the industry by weeding out violators with LARGE fines that steer business decisions toward compliance. (64)

Response: Regarding the commenter's compliance and enforcement concerns, the Department has developed a compliance and enforcement strategy to address issues with inspection frequency and compliance (Department Document Number 820-4000-001, *Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations*).

2389. Comment: DEP inspections of every active well site should be consistent and often. Fees from the gas and oil companies should pay for this. DEP should set up Field offices in the areas that have the drilling- like Greene and Washington Counties so that these inspections can occur on a regular basis. The industry is not self-policing. They need to be watched so that this gas and oil is taken safely and efficiently. (114)

Response: See response to comment 2388.

2390. Comment: Royalty payment checks should be standardized throughout the state. Texas and other oil and gas producing states have systems in place to study. We do not have to re-invent the wheel. (114)

Response: The Department acknowledges the comment. Royalty payments are beyond the scope of this rulemaking.

2391. Comment: To the DEP; after watching Gasland Part 2. I cannot believe that your agency could be controlled by Governors Rendell and Corbett and his staff. It is time for you to set standards higher than ever set by any state DEP. It stated in the documentary that you have projections that gas drilling will destroy the very land you are asked to protect within the next thirty years. If you are projecting said destruction you need to set the limits ten times stiffer than the norm. (74)

Response: The Department is unaware of the projections referenced by the commenter.

2392. Comment: The health and welfare of the citizens and the environment of the local community must be put before the financial wellbeing of an individual company or an industry. This is why all chemicals and other agents used in the drilling process must be made available to the public.

Along with the MSDS Sheets for those substances. The local public has a right to know what is being injected into the ground where they live. If the company and the industry as a whole have the best interests of Pennsylvania citizens at heart this should not be a problem. (46)

Response: The Department believes that the PPC and Emergency Response plans required by § 78a.55 and the well reporting requirements in §§ 78a.122 and 78a.123 address the commenter's concerns.

2393. Comment: Additional oil and gas industry regulation is required to ensure that we continue to have clean water and clean air. Fracking requires a lot of water. This water needs to be tracked or tagged through the entire process so that we know that is not being dumped illegally. If the chemicals that are mixed with this water have MSDS sheets then disclosure should be required. (114)

Response: Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

The Department does not believe that a requirement to include tracers in drilling solutions, frack fluids and water is necessary to allow the Department to adequately enforce these regulations. The tracking of wastewater from Oil and Gas Operations is accomplished by the Department via existing regulatory mechanisms, i.e. the requirements of the Form 26R and Wastewater Source Reduction Strategy required by 25 Pa. Code § 95.10(b)(2). Operators have been notified of their waste reporting obligations, as well as the guidelines for the development of the reduction strategies.

See the response to comment 2392 regarding disclosure of chemicals used and stored on the well site.

2394. Comment: Require industry to adhere to all state and federal air and water environmental and endangered species laws. (13)

Response: The Department acknowledges your comment.

2395. Comment: DEP must issue fines for violations and immediately shut down operations until violations are corrected. Continued violations by operators should be severely punished as well. A three strike and you're out rule should be added to the regulations. (13)

Response: See response to comment 2388.

2396. Comment: Inspections to drilling sites must be done at least once a year by well-trained inspectors without the prior knowledge of the industry operators. (13)

Response: See response to comment 2388.

2397. Comment: I read with interest the proposed regulations related to gas wells in PA. They do not appear to address the continuous presence of methane leaking from pipes and brine tanks whether wells are in operation or in "shut in" mode.

Wells are frequently "blown off" in order to purge brine from the supply tubing within the well so that gas can flow unobstructed to the pipeline.

The blow off process releases considerable amounts of methane into the atmosphere.

Is this necessary? Is this a good practice? Is this harmful to residents in the proximity of the well? Is this harmful to PA air quality? Is there a better way? (107)

Response: The Department's Mechanical Integrity Assessment Program under 25 Pa. Code Section 78.88 requires quarterly inspections at all operating wells and operators are obligated to report and quantify, if possible, all methane flows. Liquid leaks to fresh groundwater and to the surface must also be reported. The Department requires that wells not producing for 12 months (shut-in) be placed on inactive status. Such wells are regulated under 25 Pa. Code Sections 101 through 105. Wells on inactive status must be assessed for mechanical integrity on an annual basis. The Bureau of Air Quality regulates other emissions reporting in association with unconventional well sites.

2398. Comment: The health of our children and health of all citizens depends on strong regulations of polluting industries since we cannot rely on these industries to put our health before their profits. The government must make all polluting industries, including oil, gas, fossil fuel and chemicals companies to use "best practices" even if it means the corporations will make less money. Once installed, these companies need to be inspected on a regular basis to insure they use the best practices at all times. (97a)

Response: The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. The Department may not impose unnecessarily burdensome regulations on the oil and gas industry.

2399. Comment: Good evening, I wish to express my appreciation to you for this opportunity to provide input in this important process. I served on the Citizens Marcellus Shale Commission' and am a member of the League of Women Voters of Radnor Township. I am speaking this evening as an interested individual.

As a retired elementary school teacher, I would like to leave you with three general lessons I learned. I believe are essential for you to consider as you review, reflect, and modify the proposed regulations.

First, it's important that rules are followed. Existing rules and proposed rules need to direct behavior. Those who fail to do so, regardless of age and stage, must pay real, immediate and meaningful consequences. Making exceptions to the rules, caving to special interests, or ignoring bad behavior result in risks to health and safety not only in the classroom but also in our natural world. Responsibility and accountability should guide your implementation -not encouraged compliance.

Second, history teaches important lessons. Given the legacy of the timber and coal industries in the Commonwealth, taxpayers can ill-afford to pay for the damage and real costs of industrial development. Natural gas operations are extracting a huge toll on our well-being in terms of our of environment, finances, and public health. This boom and bust process will leave us with poisoned air, land and water, a general fund that cannot support our schools and public services, and many sick children and adults. It is imperative that regulations be modified so that the burden of planned and unanticipated consequences falls on those responsible.

Third, you lead by example. You do what you expect from others, you serve to instill a positive role. As you review these regulations for the Department of Environmental Protection, consider its mission and the expectation placed on you to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. Do not be swayed by efforts to optimize the ability of the industry to develop the oil and gas resources of Pennsylvania. Do your job and, in doing so, you will set the standard and inspire others to do the same. (120).

Response: See response to comment 2398.

2400. Comment: A company must leave the air, the water, the environment, the health of the residents of a community as good as they found it. Since they do not do this voluntarily, regulations must ensure that they do. The end user of their products/gas/coal must pay the full price, now, of the “goods” and not leave the expense to future generations to heal or repair.(129)

Response: See response to comment 2398.

2401. Comment: * Presumption should apply to all oil and gas activities, including site construction. Operations on and near a well pad occur in a mix of actions and timing before during and after well sites are built before during and after drilling and fracking. Furthermore, sites are often modified during and after fracking. No one can separate the effects of “construction activities” from other effects. Also, separating out construction allows one company to attempt to blame another for harm associated with a well operation. This delays and may make it impossible for a harmed citizen to seek redress. (130)

Response: The presumption established by Section 3218(c) of Act 13 is not applicable to pollution resulting from well site construction. Even though Presumption of responsibility does not apply to well site construction, if the Department conducts an investigation of a claim of a water well pollution or diminution and they determine it is caused by well site construction then an order will be issued to the well operator by the Department to assure compliance with Section 78.51 (c).

2402. Comment: The Department continues to reference forms and guidance documents for completion within many parts of the ANFR. These forms and guidance documents must be provided for review as part of this comment period. (169)

Response: The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

2403. Comment: As someone who has worked in Pennsylvania oil and gas industry for nearly 30 years, I have grave concerns about many aspects of DEP's Chapter 78 and 78a proposed rules. I agree with and strongly endorse the formal comments submitted as part of this rulemaking by the Pennsylvania Independent Oil & Gas Association (PIOGA). Thank you for your consideration. (184)

Response: The Department acknowledges the comment.

2404. Comment: We have long maintained the stance that regulations which govern an activity, such as water management, treatment and storage, should be regulated the same regardless of which Bureau under DEP the activity is regulated. When comparing a WMGR123 permit to Chapter 78a regulations, there are different requirements which not only create an uneven playing field but

also do not provide for consistent environmental protections. We request that the Department consider making the two the same rather than having different requirements. (185)

Response: There are different requirements because two different waste treatment scenarios are being addressed. The WMGR123 Permit is required when a waste treatment facility is operated to process wastes from multiple oil and gas well sites and is generally a long-term facility. The OG71 allows for the processing of wastes generated at that site or for processing of waste to be used at a different site. Because the OG71 is limited to treating waste at the site where it is generated at or where the waste is to be used, the facility is temporary in nature. There are different requirements because there two different waste treatment situations.

2405. Comment: I think a distinction should always be made between unconventional and conventional drillers. (145)

Response: See response to comment 2119.

2406. Comment: The Southwest Pennsylvania Environmental Health Project (EHP) is focused on the public health implications of natural gas extraction, processing and transport. Our orientation in reviewing Chapter 78a is toward actions and information needed to protect the public's health. We see in the proposed revisions opportunities to identify and in some cases mitigate health risks. We believe the DEP did not take full advantage of those opportunities.

In our comments below, each of the five major points focuses on the need for understanding and reducing health risk to the population exposed to unconventional natural gas development (UNGD) emissions. We take the view that short, high exposures can cause health impacts and regulations should mirror that phenomenon. For instance, an asthma event can occur after just a few hours of exposure to well pad emissions. This leads us to encourage the DEP to sharpen its monitoring strategy in order to obtain useful data that can be used to protect the health of those nearby. We also encourage the DEP to reconsider setback distances, especially around schools.

EHP's five primary concerns with respect to the proposed revision of Chapter 78a are below. Each point seeks to strengthen the DEP's role in protecting health in the context of shale gas development:

- 1: ALLOWING GAS DEVELOPMENT (WELL SITES AS WELL AS OTHER INDUSTRIAL ACTIVITIES) NEAR SCHOOLS PUTS CHILDREN AT RISK. AS CURRENTLY WRITTEN, PROPOSED REVISIONS TO CHAPTER 78A DO NOT PROTECT SCHOOL CHILDREN FROM HARM.
- 2: NOISE MITIGATION MUST BE ADEQUATE TO PROTECT NEARBY RESIDENTS AND MUST INCLUDE COMPLIANCE OVERSIGHT BY THE DEP.
- 3: EMERGENCY PLANNING IS INSUFFICIENT TO PROTECT THOSE LIVING, WORKING, OR GOING TO SCHOOL NEAR UNGD SITES.
- 4: CENTRALIZED TANK STORAGE SITES SHOULD BE AT A HEALTH PROTECTIVE DISTANCE FROM SCHOOLS, THEIR PARKS AND PLAYGROUNDS.

5: REGULATION ADDRESSING THE EMISSIONS FROM COMPRESSOR STATIONS, METERING STATIONS, AND PROCESSING PLANTS ARE ABSENT. THESE FACILITIES PRODUCE EMISSIONS THAT CAN REACH NEARBY HOMES.

Overall, EHP commends the DEP on the following proposed changes, several of which have the potential to limit possible human health impacts:

With Chapter 78a, the DEP distinguishes between unconventional and conventional drilling activities, from a regulatory perspective.

It provides positive improvements in brine-spreading regulations that will protect the public health. Open top storage structures for brine and other fluids are to be phased out.

DEP is moving towards electronic filing of records. This action is important if it leads to greater and more timely public access to permitting data; inventory of the use or release of chemicals at each site; and records on accidents and remediation steps. All such information ought to be included in a report that must be sent to the resident, local health officials, and first responders.

Spills were added into § 78a.66 so reporting and remediating spills as well as releases are addressed.

SUMMARY

EHP is pleased to be part of the dialogue on how best to protect Pennsylvania citizens in the era of rapid and large scale shale gas development. There are positive and concrete steps that the DEP can take to better balance health with development and we think it is imperative that the DEP embrace this opportunity to do so. (186)

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

Regarding noise concerns, see the Department's response to comments submitted on § 78a.41.

Regarding the emergency planning concerns, please see the comments and the Department's responses on §§ 78.55 and 78a.55 regarding PPC plans and emergency response planning.

Regarding centralized tank concerns, requirements in § 78.57a have been deleted from the rulemaking.

Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

2407. Comment: The National Parks Along the Delaware River, and the Delaware River Itself, Must be Protected from Harmful Impacts of Fracking Activities. The national parks along the Delaware River – Upper Delaware Scenic and Recreational River, Middle Delaware National Scenic River, and Delaware Water Gap National Recreation Area – are some of the most visited and most beloved national parks in the entire country. Between 4 and 5 million visitors enjoyed these parks in 2014A recently-released NPCA report (www.npca.org/watergapreport) based on 2014 visitation at Delaware Water Gap National Recreation Area found that: The national park’s total economic impact supports 2,232 local jobs, \$219 million in sales at local businesses, and \$97 million in local wages and salaries. Every federal dollar invested into the park generates \$24 in sales at local businesses. Volunteer efforts in every area of park operations add up to the equivalent of 53 full-time employees, efforts valued at \$2.6 million. The ecosystem services (like pollution filters, flood control, excellent fish and wildlife habitat, carbon storage) provided by the park’s wetlands, forests, and other natural areas would cost over \$159 million each year to replace, if it even were possible to replace these natural benefits. The proximity of these parks to urban centers in Pennsylvania, New York and New Jersey means that the Delaware River provides a natural outlet for millions of Americans. What’s more, the parks of the Delaware River support a vibrant and stable economy. In 2014 alone, visitors to Delaware Water Gap NRA spent \$132,702,000 on their visits, supporting more than 2,000 jobs.

Provided the river remains an ecological draw, these numbers are not subject to the same “booms and busts” as other industries. Finally, in addition to the ecological importance and the tourism benefits, the Delaware River provides clean drinking water to more than 15 million residents in Pennsylvania, New York, New Jersey and Delaware. That the resources of the Delaware River require special protection was clear as early as 1961 when President Kennedy and the governors of the four Delaware River states established the Delaware River Basin Commission (DRBC). Since then, the DRBC has worked to manage the many demands put on the waters of the Delaware River. The potential for massive growth in the development of oil and gas found within the Basin presents a new challenge -- one that, if mismanaged, could have dire consequences for the river, its visitors and its downstream users. Regulations should be developed to govern the practice of hydraulic fracturing in the Delaware River Basin that reflect the fragility and importance of the river system by displaying the highest level of caution, the tightest technological requirements, and the utmost deference for visitors and businesses dependent on the environmental health of the region.

The PA Chapter 78 and 78a regulations should be improved to reflect its recognition of the critical importance and fragility of the Delaware River basin, to signal its willingness to work with the DRBC on basin-specific regulations in advance of allowing any fracking activities to occur. Such regulations should be based upon the recommendations of the upcoming EPA study of the impacts of hydraulic fracturing on drinking water, as well as on a comprehensive Environmental Impact Statement to assess the range of potential harm, and how that harm can be avoided to protect the resources at risk. Regulations to allow any new energy development in the Basin should and must be informed by such a careful and thorough assessment prior to commencement of any new drilling activities. In addition to working with the DRBC to establish regulations for drilling in the Basin, the Commonwealth of Pennsylvania should restore funding to the DRBC to meet its agreed-upon obligations. The DRBC provides invaluable service to the citizens of Pennsylvania, protecting the water quality and stream flow of the Delaware River. In February 2014, Pennsylvania proposed to cut, dramatically, its funding to the DRBC, far below its “fair share” for the services it receives. Pennsylvania should restore funding to the DRBC at least to 2014 levels, and to amend its Chapter 78 and 78a language to ensure continued “fair share” funding of the Commission going forward. Considering that the drinking water of 15

million people is at risk, along with a tourism economy that draws 9 million visitors and \$400 million to Pennsylvania each year -- too much is at stake to act otherwise. (175)

Response: To the extent that the commenter is suggesting that the Department should develop a set of regulations specifically for the Delaware River Basin, Chapters 78 and 78a should be applied statewide. Funding to the DRBC is beyond the scope of this rulemaking. See response to comment 2398.

2408. Comment: Comments by the Sierra Club, Pennsylvania Chapter on Chapter 78 and 78a - advanced notice of final rulemaking (as published in the Pennsylvania Bulletin on April 5, 2015) The Sierra Club has signed a letter and technical comments submitted by Earthjustice on May 19, 2015 on behalf of many groups and organizations. We wish to highlight several points. Conventional drilling activities should be subject to substantially identical requirements as unconventional drilling activities. The Department should recognize, however, that *all* wells require land disturbance, produce waste, and otherwise degrade and threaten clean air, pure water, and environmental values protected by Article 1, section 27, of the Pennsylvania Constitution ("Section 27"). The geologic character of the formation from which oil or gas is extracted or the drilling method does not determine applicable best management practices or constitutionally required safeguards for public natural resources. (183)

Response: See response to comment 2200. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2409. Comment: There are numerous instances in where citations, references, and nomenclature used throughout this proposed rulemaking are used inconsistently between subsections, are not properly defined, or are thought to be too broad. We hope the Department will strive to make the necessary corrections and provide further clarification (or definition) where applicable. (195)

Response: The Department acknowledges the comment.

2410. Comment: Due to the wide-ranging impact these revisions will have on oil and gas operations it is important for industry to know if these new provisions will apply to existing wells and associated facilities and to previously approved water management plans or sources. It is suggested that language be added to clarify the effective date for the new requirements and that wells and associated facilities constructed prior to that date are grandfathered in for purposes of the new requirements. (193)

Response: Implementation requirements and grandfathering provisions are addressed throughout the rulemaking, as appropriate. The Department intends to establish an effective date for the new regulations that will provide sufficient time for regulated industry to meet any new requirements.

2411. Comment: A number of sections are very detailed and prescriptive. It is suggested that these sections be given some flexibility to allow for the use of alternate methods as approved by the Department. These sections include § 78a.57a, Centralized tank storage, § 78a.59a. Impoundments embankments, § 78a.59b. Freshwater impoundments, and § 78a.68. Oil and gas gathering lines. There may be additional sections where it would be advantageous to both the Department and the operator to apply the same concept. (193)

Response: The final regulations allow operators to request approval for alternatives to the regulatory standards. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided.

2412. Comment: Conflict with Other Statutes or Existing Regulations: Section 745.5b(b)(3) of the RRA provides that, in determining whether a regulation is in the public interest, the “clarity, feasibility and reasonableness” of the regulation shall be assessed based upon possible conflict with, or duplication of, other laws or existing regulations. As noted in IRRC’s April 14, 2014 comments to the previous version of these proposed regulations, nine other chapters of Department regulations were listed as the source of language in the proposed oil and gas regulations or cross-referenced in the proposed regulations. IRRC noted that commentators had expressed concern that the proposed regulations impose requirements upon the oil and gas industry even though those laws may not be applicable to the oil and gas industry. The Draft Final Regulations under the ANFR do not address this concern, but rather exacerbate the problem. Consider the following three examples:

- The ANFR contains a significant number of new regulatory standards for above-ground storage tanks that have been copied directly from regulations promulgated under Pennsylvania’s Storage Tank and Spill Prevention Act (Tank Act). However, the Tank Act expressly exempts tanks used to store brines, crude oil, and drilling or frac fluids related to oil and gas development. Therefore, the Department is attempting to override by regulation a decision made by the Legislature and expressed in statute. Clearly it is not authorized to do so.
- The ANFR imposes requirements relating to the cleanup of spills at gas well sites that go beyond the criteria established under Pennsylvania’s Land Recycling and Environmental Remediation Standards Act (Act 2), and creates new procedural requirements that do not currently apply to spills at gas well sites. Under Section 904 of Act 2, the only types of cleanups conducted under state law not governed by Act 2 are those implemented under the Tank Act and the Hazardous Sites Cleanup Act. Again, the Department cannot change a statute by regulation.
- The ANFR establishes comprehensive new standards for tanks and impoundments used to store fluids associated with natural gas development that go well beyond those set forth in the Department’s previous proposed rules. The ANFR imposes technical requirements on tanks and impoundments used to store fluids from oil and gas operations that are more restrictive than those imposed under the Solid Waste Management Act (SWMA) for storage of wastes from any other industry. No justification is offered as to why the existing regulations, applicable to all other industries, are not adequate. (210)

Response: The Department cannot tell from the commentator’s first bullet exactly which requirements are being referenced. However, Section 3218.4(b) of the 2012 Oil and Gas Act (58 Pa.C.S. § 3218.4(b)) requires permanent aboveground tanks to comply with the applicable corrosion control requirements in the Department’s storage tank regulations. Section 3218.2 of the 2012 Oil and Gas Act (58 Pa.C.S. § 3218.2) requires secondary containment to be used wherever certain substances are stored on well sites. In addition, Section 402(a) of the Clean Streams Law (35 P.S. §691.402(a)) states that whenever the Department finds that any activity creates a danger of pollution of the waters of the Commonwealth or that regulation of the activity is necessary to avoid such pollution, the Department may, by rule or regulation, establish the conditions under which such activity shall be conducted.

Regarding the process for spill remediation, see response to comment 1697.

Regarding requirements for tanks, § 78a.57a (centralized tank storage) has been removed from the rulemaking. Regarding impoundments, see response to comment 1401.

2413. Comment: A cumulative analysis of the impacts of oil and natural gas development and operations in Pennsylvania is essential to show how to address the cumulative, chronic and large impacts of changes to land, forest integrity, water resources, and all living communities, including human and nonhuman. Without assessing cumulative and long-term impacts -- prior to allowing the regulatory program to continue and prior to adopting any of the standards proposed -- the EQB fails to satisfy its obligations under Article I, Section 27 of the Pennsylvania Constitution. Likewise, without requiring DEP to assess cumulative and long-term impacts prior to issuance of any permit, the proposed regulations fail to conform to constitutional obligations. (182)

Response: The EQB has considered cumulative impacts related to this rulemaking consistent with Pennsylvania law. The Department administers and enforces environmental laws in Pennsylvania and, as one of the trustees of Pennsylvania's public natural resources under Article I, Section 27 of the Pennsylvania Constitution, is charged with conserving and protecting those resources. The General Assembly has provided the EQB and Department with authority to carry out this constitutional mandate through the statutes under which this final rulemaking is promulgated.

This rulemaking is one piece of an interrelated collection of environmental regulations in Title 25 of the Pennsylvania Code developed in accordance with a variety of enabling statutes. For example, the stream classification, water quality standards and antidegradation requirements promulgated under the Pennsylvania Clean Streams Law, which are found in Chapter 93 of Title 25, provide broad standards of protection for all surface waters of the Commonwealth. Specifically, Chapter 93 "sets forth water quality standards for surface waters of this Commonwealth, including wetlands. These standards are based upon water uses which are to be protected and will be considered by the Department in implementing its authority under The Clean Streams Law and other statutes that authorize protection of surface water quality." 25 Pa. Code §93.2. Chapter 93 is one of the pillars of environmental regulation in the Commonwealth relied on to implement Article I, Section 27 of the Pennsylvania Constitution, and is applicable to oil and gas activities also regulated under this rulemaking. Cumulative impacts are additionally assessed through a variety of other environmental regulations and requirements related to water obstructions, encroachments and discharges, air emissions, waste management, and remediation, as well as compliance with the Pennsylvania Natural Heritage Program and the Pennsylvania History Code as part of Department permitting actions.

This rulemaking itself also implements Article I, Section 27 of the Pennsylvania Constitution with requirements specifically tailored to oil and gas activities to ensure these activities do not infringe on these fundamental environmental rights. The rulemaking broadly reflects a consideration of the cumulative environmental impacts associated with oil and gas activities, and provides mechanisms to ensure DEP considers cumulative impacts on a project-by-project basis as well. The public resource impact screening provisions are one example of such a mechanism which can be utilized by the Department to reasonably minimize the environmental incursion of a permitted activity.

The regulations and policies administered by the Department, as well as the enhanced environmental protections presented in this rulemaking by the EQB, have been developed to achieve the trustee obligations to protect and conserve public natural resources in a reasonable and sustainable manner and in accordance with the environmental amendment. These regulations concurrently ensure that private property interests, which are also protected under the Pennsylvania Constitution, are limited only to the extent necessary to achieve the constitutional mandates of Article I, Section 27 (i.e., to protect the people’s right to clean air, pure water and the preservation of natural, scenic, historic and esthetic values of the environment, and to conserve and to maintain public natural resources for the benefit of all the citizens of Pennsylvania, include future generations).

The trustee duties imposed on the Commonwealth by Article I, Section 27 of the Pennsylvania Constitution are carried out not just by the Department, but by other Commonwealth agencies and political subdivisions. For example, the principal stewardship responsibilities of Pennsylvania’s state forests and parks are shouldered by the Department of Conservation and Natural Resources (DCNR). Pennsylvania’s state forests are currently afforded protection from further leasing for oil and gas development and the associated cumulative impact associated with such leasing pursuant to the Executive Order No. 2015-03. With regard to forest resources that are not publicly owned, the Department considers cumulative impacts through its administration of all environmental regulations, including those specifically tailored to oil and gas activities, and requires appropriate measures to avoid, minimize and mitigate environmental incursions associated with the permitted activities.

There are limits to the EQB and DEP’s authority, however. The General Assembly has not expressly authorized the protection of forests or empowered DEP or DCNR to limit forest fragmentation in and of itself, and neither agency has been granted land use restriction powers under Pennsylvania law. Such land use regulation is granted under Pennsylvania law to local governments, who are also trustees under Article I, Section 27. Nonetheless, forest fragmentation is limited generally by the considerations outlined above related to avoidance and minimization of impacts to water resources and through the reasonable protections provided to species and cultural resources.

The existing regulatory framework together with this rulemaking provide a standardized and transparent process for the Department to identify, consider and to protect public resources from the cumulative impacts of oil and gas operations, and to reasonably coordinate with other public resource agencies with constitutional and statutory duties to conserve and maintain these resources under Article I, Section 27 of the Pennsylvania Constitution.

- 2414.** Comment: Article I, Section 27 (“Section 27”) of the Pennsylvania Constitution states: The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

“The decision to affirm the people's environmental rights in a Declaration or Bill of Rights, alongside political rights, is relatively rare in American constitutional law.” Robinson Township, Delaware Riverkeeper Network, et al v. Commonwealth , 83 A.3d 901, 962 (Pa. 2013).

The right delineated in the first clause of Section 27 presumptively is on par with, and enforceable to the same extent as, any other right reserved to the people in Article I. See PA. CONST. art. I, § 25 (“everything” in Article I is excepted from government’s general powers and is to remain inviolate); accord 1970 Pa. Legislative Journal-House at 2272 (“If we are to save our natural environment we must therefore give it the same Constitutional protection we give to our political environment.”); Kury, app. C (Questions and answers). *Id.* at 953.

The Environmental Rights Amendment speaks of the rights of “the people.” The only other constitutional provision similarly formulated is interpreted to guarantee a constitutional right personal to each citizen. Compare PA. CONST. art. I, § 27 with PA. CONST. art. I, § 8 (“The people shall be secure in their persons, houses, papers and possessions from unreasonable searches and seizures”); see, e.g., *Commonwealth v. Russo*, 934 A.2d 1199 (Pa. 2007) (criminal defendant’s evidentiary challenge premised upon Section 8 of Article I); *Edmunds*, 586 A.2d at 898 (unlike federal counterpart, Article I, Section 8 analysis premised, inter alia, upon individual right to privacy); accord 1970 Pa. Legislative Journal-House 2269, 2273 (April 14, 1970) (first clause of Section 27 affirms constitutional right “in individual citizens”).

Id. at 951, note 39; see also *id.* at 976 (citing PA. CONST. art. I, § 27) (citizens seek “to vindicate fundamental constitutional rights”); *Nat’l Wood Preservers, Inc. v. Commonwealth*, 414 A.2d 37, 44 (Pa. 1980) (citing same) (“maintenance of the environment is a fundamental objective of state power”).

En banc panels of the Commonwealth Court have held that the location of the Environmental Rights Amendment within the Declaration of Rights signifies a particular constitutional constraint on the Commonwealth’s actions. See *Pennsylvania Environmental Defense Foundation v. Commonwealth*, 108 A.3d 140, 160 (Pa. Commw. Ct. 2015) (“The General Assembly’s powers, like the other branches of government, are tempered by the Declaration of Rights in the Pennsylvania Constitution, which includes the Environmental Rights Amendment.”) (PEDF I); see also *Com. v. Nat’l Gettysburg Battlefield Tower, Inc.*, 8 Pa. Commw. Ct., 231, 243, 302 A.2d 886, 892 *aff’d sub nom. Com. by Shapp v. Nat’l Gettysburg Battlefield Tower, Inc.*, 454 Pa. 193, 311 A.2d 588 (1973) (comparing political rights and environmental rights under Article I and concluding Environmental Rights Amendment is “more than a declaration of rights not to be denied by government; it establishes rights to be protected by government.”).

The Pennsylvania Supreme Court has noted, “[w]here laws infringe upon certain rights considered fundamental, such as the right to privacy, the right to marry, and the right to procreate, courts apply a strict scrutiny test.” *Nix on v. Com.*, 576 Pa. 385, 839 A.2d 277, 287 (2003) (citing state and federal cases). Under this test, government action that infringes on a fundamental right is cannot be allowed unless supported by a compelling state interest and unless the least intrusive means is chosen. *McCullen v. Coakley*, 134 S.Ct. 2518 (2014). In other words, the government’s action must be “narrowly drawn to accomplish a compelling governmental interest,” *Pap’s A.M. v. City of Erie*, 812 A.2d 591, 605 (2002) citing *Pap’s A.M. v. City of Erie*, 719 A.2d 273, 275 (1998), *rev’d on other grounds*, 529 U.S. 277 (2000); *DePaul v. Commonwealth*, 600 Pa. 573, A.2d 536 (Pa. 2009).

Section 27 restrains the EQB from enacting regulations that will: 1) cause unreasonable “actual or likely degradation” of air or water quality, or other protected constitutional features, such as natural and scenic values of the environment; and/or 2) allow the “degradation, diminution, or depletion of public natural resources, whether such degradation, diminution, or depletion would occur through direct state action or indirectly, e.g., because of the state’s failure to restrain the actions of private parties.” *Robinson Twp., Delaware Riverkeeper Network, et al. v. Com.*, 83 A.3d 901, 951-955, 957 (Pa. 2013) (plurality). Section 27 restrains the EQB from unduly

infringing upon individual environmental rights protected by Section 27, and from breaching its duties as a trustee of public natural resources under Section 27.

Government officials, including EQB members, are “vested by law with the duty to protect and preserve our natural resources,” and “the people of Pennsylvania are entitled to expect that those officials will ‘support, obey and defend’ Article I, Section 27 of the Pennsylvania Constitution in the discharge of their powers and duties ...” *Pennsylvania Env’tl. Def. Found. (“PED F”) v. Com.*, 108 A.3d 140, 171 (Pa. Commw. Ct. 2015).

These duties require that the EQB avoids unduly infringing on citizens’ rights to “clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment” in which they live every day in their community. Article I, Section 27. The rights stated in this provision are protected against governmental interference to the same degree as those rights protected by Article I, Section 21, which requires government officials to avoid unduly infringing upon citizens’ rights to bear arms. (“The right of the citizens to bear arms in defense of themselves and the State shall not be questioned.”).

In order to avoid infringing on the people’s inherent individual environmental rights, the EQB must make decisions that are science-based. As the Commonwealth Court, sitting en banc, recently noted, “The first clause of the Environmental Rights Amendment ‘requires each branch of government to consider in advance of proceeding the environmental effect of any proposed action on the constitutionally protected features.’” *PEDF*, 108 A.3d at 156 (quoting *Robinson Twp., Delaware Riverkeeper Network, et al. v. Com.*, 83 A.3d 901, 952 (Pa. 2013)(plurality)).

The Pennsylvania Constitution, Article I, Section 27 makes every level of government a trustee of public natural resources. *PEDF*, 108 A.3d at 171 (stating that government officials are “vested by law with the duty to protect and preserve our natural resources,” and “the people of Pennsylvania are entitled to expect that those officials will ‘support, obey and defend’ Article I, Section 27 of the Pennsylvania Constitution in the discharge of their powers and duties ...”); *Robinson Twp., Delaware Riverkeeper Network et al v. Com.*, 83 A.3d 901, 919-21 (Pa. 2013)(majority); *id.* at 956-57, 977-78 (plurality); *Franklin Tp. v. Com.*, Dept. of Env’tl Res. , 452 A.2d 718, 721-22 (1982)(plurality; affirmed by majority in *Susquehanna Cnty. Bd. of Comm’rs v. Com.*, Dep’t of Env’tl. Res., 458 A.2d 929 (Pa. 1983); 53 P.S. § 65501 (setting forth requirement for Township officials’ oath of office)).

Public natural resources include both publicly-owned land, and “resources that implicate the public interest, such as ambient air, surface and ground water, wild flora, and fauna (including fish) that are outside the scope of purely private property.” *PEDF*, 108 A.3d at 167 (quoting *Robinson Twp.*, 83 A.3d at 955).

As part of the Commonwealth’s obligations as a trustee of public natural resources, the EQB cannot approve any regulations unless it first makes a science-based determination that the proposed governmental action will not cause or allow unreasonable degradation, diminution, or depletion of public natural resources. *PEDF*, 108 A.3d at 172 (stating that adequate lease protections are not sufficient and that the state agency must consider whether further gas development impacting state forest land is in the best interests of the Commonwealth and consistent with Section 27 obligations); see also *Robinson Twp.*, , 83 A.3d at 957.

As a trustee under Section 27, the Commonwealth has a duty of prudence, and as part of that duty, cannot perform its obligations unreasonably. *PEDF*, 108 A.3d at 157; *Robinson Twp.*, , 83 A.3d at 957. As the Superior Court has said, “[T]he trustee’s action must represent an actual and

honest exercise of judgment predicated on a genuine consideration of existing conditions.” In re Scheidmantel, 868 A.2d 464, 492 (Pa. Super. Ct. 2005); see also PEDF, 108 A.3d at 167 (quoting In re Estate of Warden, 2 A.3d 565, 572 (Pa. Super. 2010)) (“The primary duty of a trustee is the preservation of the assets of the trust and the safety of the trust principal.”); 20 Pa.C.S. § 7203(a) & (c)(5); 20 Pa.C.S. § 7773.

Further, the Commonwealth has a fiduciary duty to “deal impartially with all beneficiaries and . . . the trustee has an obligation to balance the interests of present and future beneficiaries The Environmental Rights Amendment offers protection equally against actions with immediate severe impact on public natural resources and against actions with minimal or insignificant present consequences that are actually or likely to have significant or irreversible effects in the short or long term.” PEDF, 108 A.3d at 157 (quoting Robinson Twp., 83 A.3d at 958-59 (citations omitted)); see also 20 Pa.C.S. § 7773. If the EQB fails to consider and address these issues, and enacts the proposed regulations anyway, the EQB would breach the duty of impartiality. This duty mandates that the EQB, as a trustee, treat the beneficiaries of the Section 27 public trust – present and future Pennsylvanians – equitably in light of the trust’s purposes. Robinson Twp., 83 A.3d at 957, 959, 980.

“When environmental concerns of development are juxtaposed with economic benefits of development, the Environmental Rights Amendment is a thumb on the scale, giving greater weight to the environmental concerns in the decision-making process.” PEDF, 108 A.3d at 170; Robinson, 83 A.3d at 973 n.55. Indeed, as a trustee under Section 27, the EQB is bound by the duty of loyalty to act solely in the interest of the beneficiaries of the public trust. Robinson, 83 A.3d at 957 & 959 n.45; 20 Pa.C.S. § 7772(a) (describing trustee’s duty of loyalty). Thus, the EQB may not elevate private interests over the interests of present and future Pennsylvanians to an environment of quality, and of the enjoyment of their public natural resources.

Section 27 prevents the EQB from taking a narrow view in its regulations to focus only on technical requirements for segmented parts of the oil and gas process development process. As a trustee, and as a government agency whose actions could unreasonably infringe upon individual environmental rights, the EQB cannot be blind to a holistic view of the public natural resources and people being impacted. It equally cannot rely on the regulation of individual segments of the oil and gas development process to substitute for examining and addressing the impact of the process as a whole. The EQB cannot allow its focus on technical regulations to obscure broader considerations of whether the particular regulated action will damage the environment and human health. (182)

Response: See response to comment 2413.

- 2415.** Comment: Seismic analysis of fracking needs to be done by DEP to understand and forecast potential for unforeseen damages and changes from fracking of gas wells and injection of waste into wells for storage. There is no provision for investigating and studying this issue but the increase in earthquakes in some states emphasizes this is an important area of study for the Commonwealth. The United State Geologic Survey acknowledges that earthquakes are being induced by the injection of waste into disposal wells and by hydraulic fracturing. (182)

Response: The Department has evaluated its own datasets, as well as USGS and EPA datasets, for evidence of induced seismicity in association with both high-volume hydraulic fracturing and UIC activities and have concluded, based on the present datasets, that induced seismicity has not taken place in association with either activity. Additionally, the Department has funded further study of this matter in concert with the Pennsylvania

Geologic Survey and the Pennsylvania State University. Part of this study involved the establishment of a fixed, high-resolution seismic monitoring network with options for portable seismometers to complete focused studies at additional locations. The current state of the science indicates that the UIC network in the state and high-volume hydraulic fracturing do not pose elevated risks with regard to seismic activity.

2416. Comment: We believe there is a need for additional language in Chapter 78 and 78a regulating the interaction between the coal producers (Coal Operator) and oil and the natural gas exploration and production industry (Gas Operator) or the Coal Operator and Pipeline Operator. The following points of concern made as a basis for development of this additional language:

Gas Operator/Coal Operator Additions

- The Gas Operator shall be required to give the Coal Operator/Owner the option to have the well locations verified by a Mine Surveyor with respect to the coal seam prior to any siting of a well or drilling activity.
- The Gas Operator shall give the Coal Operator fourteen days' notice prior to any drilling activity that overlies the workable coal seam or is within 100 feet horizontally of a workable coal seam.
- Proof of notification will be enforced by a PADEP inspector during the Pre-Spud meeting before drilling activity begins.
- In the event the coal operator objects to the surveyed top-hole location, their differences shall be submitted to a panel consisting of one person selected from the objecting coal operator or operators, a second person selected by the Gas Operator, and a third selected by the other two. Each party shall pay the fee of the panel member and one-half fee of the third member. The panel shall convene a meeting within ten days of a request to settle the dispute.
- Once the Coal and Gas Operators come to a consensus, drilling activity may commence.
- Within 60 days of completion of drilling operations of a well, the Gas Operator shall notify the Coal Operator and allow the Mine Surveyor to confirm the final locations of the completed wells. Once the wells are surveyed by a Mine Surveyor and the well deviation surveys are provided, the well locations can be plotted on mine mapping at the Coal Operators' respective coal seam.
- A gamma survey from the surface to the coal seam only shall be provided to the Coal Operator if a survey was conducted.

Pipeline Operator/Coal Operator Additions

- The Pipeline Operator shall be required to give the Coal Operator at least fourteen days' notice prior to beginning any pipeline construction overlying the Coal Operator/Owner's workable coal seam or within 100 feet horizontally of the workable coal seam. The Pipeline Operator shall also provide any preliminary mapping to the Coal Operator during this time.

- Within 60 days of any pipeline being turned online, the Pipeline Operator shall provide as-built mapping to the Coal Operator/Owner so the pipeline's location can be plotted on mine mapping with respect to mine plans. (205)

Response: Coal and gas operator coordination issues are beyond the scope of this rulemaking.

2417. Comment: 2012 Oil and Gas Act - TAB (Act 13 of 2012, § 3226)

On February 14, 2012, the Governor signed Act 13 of 2012 into law substantially amending *inter alia* the environmental standards contained in the 1984 Oil and Gas Act. 58 Pa.C.S. § 3201 et seq. Section 3226 of the Act codified the Oil and Gas Technical Advisory Board (TAB):

§ 3226. Oil and Gas Technical Advisory Board

- (a) Creation of board.--The Oil and Gas Technical Advisory Board is created, consisting of the following members, all of whom shall be chosen by the Governor and shall be residents of this Commonwealth:
 - (1) Three individuals, each of whom shall be:
 - (i) a petroleum engineer;
 - (ii) a petroleum geologist; or
 - (iii) an experienced driller representative of the oil and gas industry with three years of experience in this Commonwealth.
 - (2) One mining engineer from the coal industry with three years of experience in this Commonwealth.
 - (3) One geologist or petroleum engineer with three years of experience in this Commonwealth, who shall be chosen from a list of three names submitted by the Citizens Advisory Council to the Governor and who shall sit as a representative of the public interest.
- (b) Reimbursement.--Board members shall not receive a salary but shall be reimbursed for all necessary expenses incurred in the performance of their duties.
- (c) Majority vote.--All actions of the board shall be by majority vote. The board shall meet as called by the secretary, but not less than semiannually, to carry out its duties under this chapter. The board shall select a chairman and other officers deemed appropriate.
- (d) Consultation.--The department shall consult with the board in the formulation, drafting and presentation stages of all regulations of a technical nature promulgated under this chapter. The board shall be given a reasonable opportunity to review and comment on all regulations of a technical nature prior to submission to the Environmental Quality Board for initial consideration. The written report of the board shall be presented to the Environmental Quality Board with any regulatory proposal. The chairman of the board shall be invited to participate in the presentation of all regulations of a technical nature before the Environmental Quality Board to the extent allowed by procedures of the Environmental Quality Board. Nothing herein shall preclude any member of the board from filing a petition for rulemaking with the Environmental Quality Board in accordance with procedures established by the Environmental Quality Board.

58 Pa.C.S. § 3226.

The Governor's appointment of four additional members to the TAB have rendered it unlawful and unable to carry out its responsibilities. On March 19, 2015, the Governor appointed nine members to the TAB. The first five appointees (deemed voting members) met the criteria set forth

in the statute. The other four appointees (deemed non-voting members) did not meet the criteria contained in the statute, nor was the Governor authorized to appoint them at all. While it was well within the Governor's rights to replace the statutorily-authorized board members with appointees of his choosing, he had no right to take the law into his own hands and change the composition of the TAB so that it was more suited to his liking. The consequences resulting from the Governor's precedent-setting action has been that the TAB has not been able to even begin reviewing the Chapter 78 draft final rule and has expressed concerns that it may only have time to review "4 or 5" of the "worst" regulations.

The Department has failed to satisfy its responsibilities to consult with the Oil and Gas Technical Advisory Board (TAB) in the formation and drafting of the proposed final rule for conventional oil and gas wells. This is clearly evident from the language of the rule, which reflects little or no understanding of the differences between conventional and unconventional well operations. The Department's erratic treatment of the TAB after the arrival of the Wolf Administration - including the abrupt and secretive replacement of TAB members who expressed concerns about the regulations as originally proposed, the Governor's appointment of non-statutory board members, and the Department's aborted attempt to bypass the TAB through the creation of the Conventional Oil and Gas Advisory Committee (COGAC) - has resulted in crucial delays that are prejudicial to conventional operators. (201)

Response: The Department strongly disagrees with this comment. Adding non-voting members to TAB and creating COGAC was not only lawful, but was also a prudent decision. As to the lawfulness of this decision, it is important to note that the Oil and Gas Act does not contain any limiting language that precludes the addition of non-voting members to TAB. The statute merely provides for a minimum number of TAB members with specific qualifications. Thus, it is entirely permissible for the Department to appoint additional non-voting members to the board.

With respect to the prudence of adding non-voting members to TAB and the creation of COGAC, it is clear that issues surrounding oil and gas development extend far beyond the technical aspects of well drilling. It is also clear that the conventional oil and gas industry presents (and is confronted with) very different issues than the unconventional industry. As such, it was necessary and appropriate for the Department to broaden the scope of advisors it listens to during the regulation development process.

2418. Comment: We have operated in Pennsylvania for over 100 years and owns/leases oil and gas interests in approximately 780,000 net acres in the Commonwealth. As a result, we have a vested interest in conducting its development operations in a safe and effective manner to protect the environment. In that regard, we expect and support strong meaningful regulatory oversight by the Pennsylvania Department of Environmental Protection (the "DEP") of oil and gas development in the Commonwealth.

The EQB, in interpreting and implementing Act 13 or any other existing statute, must interpret and give effect to the legislative intent of the statute. See, 1 Pa. C.S. §1921. That is, when promulgating regulations based on a statute, the EQB must do so in a manner that is not contrary to the clear and plain meaning of that statute. See, *Bethenergy Mines, Inc. v. Cornrow*. Dept. of Environ. Protection, 676 A.2d 711 (Pa. Cornrow. 1996).

Upon reviewing the ANFR, it was disappointing to discover that the EQB and DEP failed to address the numerous comments issued by the IRRC regarding the Proposed Regulation wherein the IRRC requested that the EQB provide explanation of its statutory authority for imposing the

proposed rules; provide clarity as to how the Proposed Regulation is consistent with Act 13; and explain how certain provisions of the Proposed Rule do not conflict with existing federal and state law. No explanation of these important legal matters is provided in the Preamble to the ANOFR. These issues could also be addressed in the Regulatory Analysis Form (“RAF”), however, an updated RAF has not yet been submitted to IRRC. As a result, most of the legal issues raised by all the various commenters to the Proposed Regulation remain in question with the filing of the ANOFR. (190)

Response: The rulemaking procedures followed in this rulemaking are consistent with the requirements of the Pennsylvania statutes pertaining to rulemakings, including the Regulatory Review Act and others. The revisions to Chapters 78 and 78a are consistent with the Pennsylvania Constitution and applicable statutes and provide reasonable protections for public health and safety and the environment. With regard to the final rulemaking, the Department’s analyses of the items the commentator mentions, namely the statutory authority for the rulemaking, are in the Regulatory Analysis Form for the final-form rulemaking, and in particular in the responses in the Regulatory Analysis Form.

2419. Comment: Meritless Claims - We strongly urge the DEP/EQB to consider modifying this rule to address baseless meritless claims that are made by landowners. No matter how far away an operator's well is from the complainant's property, the operator must respond and investigate the allegations. These investigations can sometimes cost an operator tens of thousands of dollars to prove that it is not responsible for an alleged problem, which is often shown to be naturally occurring. Unfortunately there is currently no disincentive for disgruntled landowners to submit these baseless meritless claims that are sometimes filed solely out of spite, to delay development, or to harass and annoy an operator. We encourage the EQB to consider changes to address the problem of burdening a single operator with 100% of the expense of investigating meritless claims and to discourage individuals from submitting meritless claims in the first instance. (190)

Response: It is not possible to determine whether or not a claim is meritless without conducting an investigation. In addition, §§ 78.51 and 78a.51 do not require operators to conduct investigation when a water supply complaint is received.

2420. Comment: Robinson Twp. v. Commonwealth of Pennsylvania enjoined Sections 3215 (b) through (e) of Act 13:

On December 19, 2013, the Pennsylvania Supreme Court held that:

Moreover, insofar as Sections 3215(c) and (e) [of Act 13] are part of the 3215(b) decisional process, these provisions are as well incomplete and incapable of execution in accordance with legislative intent.

Application of Section 3215 (c) and (e) is therefore also enjoined.

Robinson Township, et al., v Commonwealth of Pennsylvania, at 999 (emphasis added).

The April 14, 2014 Comments of the Independent Regulatory Review Commission (“IRRC”) noted that the Pennsylvania Supreme Court invalidated Sections 3215 (b) through (e) and enjoined the application of those sections. The Department, nonetheless, has included sections in its Draft Final Rule to implement these voided sections of Act 13, and has expanded those sections through several new definitions of species to be protected and public resource agencies to be consulted in a process that would impose well permit conditions to address impacts to

public resources. Neither the Department nor the EQB has the legal authority to proceed with the promulgation of rules under the invalidated sections of Act 13. (212)

Response: See response to comment 262.

2421. Comment: The families that have come together to form the Pennsylvania Independent Petroleum Association (PIPP) respectfully submit these written comments to the Chapter 78 draft final rule. We ask that the Department and the IIRC give these comments careful consideration. The existence of our industry depends on it. Thank you. (201)

Response: The Department acknowledges the comment.

2422. NOTE: Due to the length of this comment, the Department has provided responses intermittently to allow easier reading.

Comment: We appreciate the opportunity to submit the following comments in response to Proposed 25 Pa. Code Chapter 78a, Unconventional Wells, which would govern the development and operation of wells producing natural gas from the Marcellus Shale formation. We also support in general the comments made by the Marcellus Shale Coalition and the oil and gas trade associations that have submitted comments on behalf of the industry.

We are a leading independent energy company engaged in worldwide oil and gas exploration and production. We operate primarily in the Appalachian Basin, Rocky Mountains, and deep water Gulf of Mexico areas in the United States, with key international operations offshore Israel and West Africa.

We have nine general suggestions regarding the Pennsylvania Department of Environmental Protection's proposed adoption of 25 Pa. Code Chapter 78a: (1) the proposed regulations need to better address important characteristics of unconventional well development; (2) they should be more performance oriented and less prescriptive to maximize their efficiency; (3) they should create a more streamlined process with fewer individual submittals and approvals; (4) they should provide additional opportunities for variances to improve efficiency; (5) they should treat unconventional development more equitably to maintain a level playing field; (6) they should be more internally consistent to avoid unintended consequences and counterproductive results; (7) they should make more use of policies, pilot programs, and other regulatory tools for emerging issues; (8) more attention should be devoted to their implementation, including the phasing of certain requirements; and lastly, (9) rules should be cost effective, provide tangible public or environmental value, and further green practices where appropriate. This list is not exhaustive, but is intended to highlight major issues that have received insufficient attention to date and are critical to the success of the Department's regulatory program. Our suggestions are based upon our experience in other states as well as Pennsylvania and are supported by a variety of government directives and guidance documents.

From a regulatory standpoint, these nine issues can create a host of problems for the Department and operators alike. For example:

- unconventional well development typically involves large capital costs, expansive drilling and completion programs, and changing practices, all of which increase the need for a timely and predictable approval process and a flexible and efficient regulatory program;

- the prescriptive nature of many of the proposed environmental and waste management regulations may discourage operators from seeking superior solutions, slow the adoption of new practices and technologies, and foster frustration and resistance;
- the two dozen different submittals and approvals that could be required for each new unconventional well may delay the regulatory process and make it less predictable, generate additional costs, and distract the Department and operators from equally or more important issues;
- the limited opportunities for variances may reduce flexibility, constrain innovation, and limit the Department's ability to balance prescription and performance;
- several of the requirements will place unconventional wells at an unfair disadvantage to other types of economic activity and impose inappropriate obstacles on natural gas production;
- regulatory inconsistencies may cause confusion and frustrate the Department's and the industry's efforts to better protect the environment by increasing the recycling of waste fluids and piping more water to and from the well site;
- other proposed regulations convert current preferences and initial strategies into one-size-fits-all mandates, which may be difficult to change in response to changing circumstances and additional information;
- insufficient attention to implementation can undermine compliance, create confusion, and lead to unnecessary disruption; and
- requirements that increase an operator's risk, cost, or potential for delay but provide no material public or environmental value can significantly decrease the competitiveness of Pennsylvania's oil and gas resources.

These problems are exacerbated by the low natural gas prices that exist today, which are almost 40% below what they were when development of this rulemaking began in 2011 and more than 70% below what they were during the first half of 2008. These low prices create an even greater need for thoughtful and efficient regulations operations. Our suggestions are intended to improve the proposed regulations to better meet this need and are further discussed below.

Important Characteristics: The Department's Advance Notice of Rulemaking notes that "unconventional well development involves larger well sites and centralized storage facilities, mobile wastewater processing, large volumes of water for hydraulic fracturing activities and new pipeline systems." While generally accurate, this statement is incomplete. Unconventional development also involves large capital costs due to the depth of target formations like the Marcellus Shale and the long horizontal laterals and multi-stage hydraulic fracturing treatments that are required. For example, a 2011 study by the University of Pittsburgh found that the direct cost of a single new Marcellus Shale gas well exceeds \$7.6 million, which means that one new multi-well pad could cost tens of millions of dollars. Unconventional development also typically involves extensive drilling and completion programs as reflected by the thousands of Marcellus Shale wells that have been drilled in Pennsylvania, West Virginia, and Ohio during the past decade. Finally, unconventional development involves frequent changes in technologies, practices, and methods. As the Department of Energy ("DOE") recently explained in Modern

Shale Gas Development in the United States: an Update, the practices used to develop shale gas “are constantly evolving” as “operators gain experience, new technologies are invented, old technologies are refined , service company innovations are invented, and the economic drivers of well costs and production values rise and fall.”

An effective regulatory program for unconventional wells needs to thoughtfully address these three characteristics. The large capital costs involved in unconventional development requires an approval process that is reliable and predictable. The expansive scale of the drilling and completion programs requires a program that is efficient and timely. And the frequent use of new technologies and practices requires a process that is flexible and performance oriented. As explained below, many of the proposed regulations do not meet these requirements, and their adoption would therefore not serve the public interest. This is a critical deficiency given the acknowledged importance of unconventional development for the Commonwealth and the nation. As the Department of Energy has noted, “[t]he unconventional has become the conventional” because it accounts for such a large percentage of current natural gas production.

Performance Oriented: There is widespread agreement that, to the extent feasible, regulations and standards should be performance oriented rather than prescriptive. As the Department's Policy for Development, Approval and Distribution of Regulations explains: “To the extent possible, regulations should focus on achieving the desired level of environmental performance. Maximum flexibility to achieve the desired outcome should be encouraged rather than prescribing specific technologies or equipment.” At the federal level, this approach is mandated by Executive Orders 13563 and 12866 (“to the extent feasible, specify performance objectives”); at the state level, it is reflected in the Interstate Oil & Gas Compact Commission's Adverse Impact Reduction Handbook (“individual approaches must be tailored to local or regional circumstances”); and at the international level it is touted in the International Energy Agency's Golden Rules Report (“performance-based regulation can work better in many areas, particularly for an industry in which technology is changing quickly”). As these authorities recognize, performance-oriented regulation can encourage efficiency and creativity and generate more win-win solutions. It can also maximize flexibility, facilitate lower cost solutions, respond better to market circumstances, and reduce resistance and resentment. This is particularly important for unconventional oil and gas development, where strategies for protecting the environment and minimizing impacts are constantly evolving as illustrated by recent advances in pit-less drilling, green completions, fluid recycling, and facility consolidation. It is also consistent with the Department's primary goal for this rulemaking, which is “to ensure that oil and gas operators employ effective measures that prevent pollution, while allowing flexibility for the optimal development of this natural resource.”

Although some of the proposed regulations are performance oriented, others impose extremely detailed and specific requirements and mandate particular actions and equipment. Examples of these regulations include proposed sections 78a.57a (centralized tank storage), 78a.59a (impoundment embankments), 78a.59b (freshwater impoundments), 78a.64a (secondary containment), 78a.68 (gathering lines), and 78a.68b (well development pipelines). In addition to imposing unnecessarily specific requirements, some of these revisions may have unintended and counterproductive consequences as described below under Consistency. Modifying these regulations to make them more performance oriented would benefit all parties.

Response: Regarding the comments that the regulations should be performance oriented, the final regulations allow operators to request approval for alternatives to the regulatory standards where appropriate. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided. In addition, § 78a.57a has been removed from the rulemaking. This comment does not provide

any specific suggestions on how to improve the rulemaking but the Department notes that this commenter provided comprehensive comments on the ANFR and refers the commenter to the responses to those specific comments.

Streamlining: Streamlining the approval process can likewise increase efficiency and reduce resistance and resentment. It can also avoid unnecessary delay, decrease costs, and allow operator and agency personnel to devote more attention to important issues. This, too, is particularly important for unconventional oil and gas development, for which a timely and reliable regulatory process is vital because of the multi-million-dollar investments and extensive drilling and completion programs required. In its 2013 follow-up review of Pennsylvania's regulatory program, the State Review of Oil and Natural Gas Environmental Regulations, Inc. ("STRONGER") recommends that the Department "consider developing a streamlined permitting process." This is consistent with STRONGER's current guidelines, which provide that similar requirements of multiple agencies should "be combined where feasible" and that the permitting process should "involve prompt consideration and response to applications." It is also consistent with Executive Order 13563, which directs federal agencies to promote the "coordination, simplification, and harmonization" of regulatory requirements.

Proposed Chapter 78a will require operators to submit up to two dozen different applications, demonstrations, notices, plans, registrations, reports, requests, and other documents for each new unconventional well. Larger operators often have six to twelve wells on a single pad which translates to a significant number of submittals, many of which are duplicative, inconsistent, or provide no measurable public or environmental benefit. For example, section 78a.15 (application requirements) would mandate consultation with various public resource agencies require the submittal of entire mitigation plans rather than a simple verification of consultation, section 78a.41 (noise mitigation) would require submittal of a noise mitigation plan regardless of potential to impact, section 78a.52a (area of review) would require reporting on nearby active, inactive, orphaned, and abandoned wells with limited ability for operators to verify information, section 78a.55 (control and disposal planning) would necessitate filing a preparedness, prevention, and contingency plan, section 78a.56 (temporary storage) would require approval for modular aboveground storage and then notification for installation of those tanks the department just approved for siting, section 78a.57 (control, storage and disposal of production fluids) would mandate approval for brine storage and limits storage options needed for a water recycling program, section 78a.57a (centralized tank storage) would necessitate a residual waste permit for centralized tank storage for reused water under an authority that does not consider reused water a residual waste, section 78a.58 (onsite processing) would require approval for onsite fluid processing, section 78a.59 (freshwater impoundments) would mandate registration for freshwater impoundments which pose little to no environmental risk, 78a.61 (disposal of drill cuttings) would necessitate notice before disposal of drill cuttings, section 78a.65 (site restoration) would require submittal of various restoration plans and then reports on the same activity, and section 78a.69 (water management plans) would mandate submittal of a water management plan and then subsequent quarterly reports.

The number and variety of these submittals and approvals will increase regulatory compliance costs, delay project approvals, and make the entire process more unpredictable and contentious. To avoid these results, the Department should develop a streamlined and consolidated approval process, which is more timely and predictable and focuses on provisions that maintain or improve public or environmental protection in a meaningful way. The Department should also eliminate, consolidate, and simplify reporting and notification requirements and consider using general permits rather than individual approvals and programmatic documents rather than individual submittals. These changes would better align Chapter 78a with the Department's Policy for

Development, Approval and Distribution of Regulations, which directs that regulations should be drafted “to reduce paperwork, minimize administrative burdens, and save time for both the regulated community and agency staff”.

Response: Regarding the comments on streamlining, the Department disagrees with the commenter’s assertion that application and reporting requirements are overly burdensome. The commenter did not provide specific examples of the 24 different applications, demonstrations, notices, plans, registrations, reports, requests, and other documents that are problematic for the commenter.

Regarding public resource concerns, see the comments and the Department’s responses to the comments on § 78.15 and 78a.15 regarding application requirements.

Regarding noise concerns, see the Department’s response to comments submitted on § 78a.41. This section has been deleted from the rulemaking.

Regarding area of review concerns see comment 762.

Regarding concerns related to filing a PPC plan, the commenter’s issues are not clear to the Department. The requirements in § 78.55 related to filing a PPC plan are largely the same as current practice.

Regarding concerns related to obtaining approval and providing notice to the Department when installing an aboveground modular storage facility, the commenter’s issues are not clear to the Department. The requirements in § 78.56 related to above ground modular storage facility are intended to streamline current practice as much as possible while still providing adequate protection.

The commenter’s concerns regarding obtaining approval to store brine are not clear to the Department. The only portion of § 78a.57 that contemplates any approvals is under § 78a.57(a) which includes language that requires a residual waste management permit when what is essentially a waste transfer station is operated on a well site. This requirement is consistent with applicable statutes and regulations and current practice. Similarly, the commenters concern’s regarding limited storage options are not clear to the Department. The Department acknowledges that § 78a.57 restricts the use of open topped tanks. The Department believes it is appropriate to restrict the use of open topped containment in §§ 78.57 and 78a.57 because closed containers are less likely to spill or overtop and require less maintenance to ensure they are in proper working condition. In addition, closed containers do not allow precipitation to enter the waste which reduces the volume of wastewater that must be managed at the operation.

Regarding centralized tank concerns, requirements in § 78.57a have been deleted from the rulemaking.

Regarding concerns related to obtaining approval and providing notice to the Department when processing waste on a well site, the commenter’s issues are not clear to the Department. The requirements in § 78.58 related to on site waste processing are intended to streamline current practice as much as possible while still providing adequate protection.

The Department acknowledges that § 78a.59b imposes new requirements on operators related to well development impoundments however the Department believes these new

requirements are appropriate. See the comments and the Department's responses on §§ 78.59b and 78a.59b regarding freshwater impoundments.

The Department acknowledges that § 78a.61 imposes a new requirement on operators to notify the Department and the landowner prior to disposal of drill cutting on the well site. The Department believes that these new requirements are appropriate. See the comments and the Department's responses on §§ 78.61 and 78a.61 regarding disposal of drill cuttings.

Regarding concerns related to providing a restoration plan and filing a well site restoration report, the commenter's issues are not clear to the Department. The requirements in § 78.65 related to filing restoration plan and filing a well site restoration report are largely the same as current practice. See the comments and the Department's responses on §§ 78.65 and 78a.65 related to well site restoration.

The Department believes that the commenter is misrepresenting the burden of the filing requirements described in these specific sections. This rulemaking largely implements and codifies current practice and any new requirements are appropriate to ensure adequate protection. To the extent that the commenter is operating unconventional wells in compliance with current requirements in Pennsylvania, they have been successful at managing the application and reporting requirements that they assert are overly burdensome and unmanageable.

Variations: Variations can enable operators to use new technologies and practices, which are more efficient and effective than what is prescribed by regulation. This can promote creativity and problem solving, avoid delay, and reduce costs, while still providing equivalent protection for the environment. An appropriate variance process can also create additional flexibility and make a prescriptive regulatory program more performance oriented. This too is particularly important for unconventional oil and gas development. Shale gas development practices "are constantly evolving" and frequently reflect new and refined technologies and new innovations and inventions as noted by the DOE. That is presumably why the recent follow-up review by STRONGER notes that "the state program should have some flexibility" and recommends that the Department "clarify conditions under which variations will be considered." The current STRONGER guidelines similarly explain that "in order to accommodate regional, area-wide, or individual differences within a state, it is appropriate for site-specific waivers or variations to be allowed for good cause shown."

The Department has included several variance provisions in proposed Chapter 78a, including in section 78a.57a (centralized tank storage), section 78a.59a (impoundment embankments), and section 78a.63a (alternative waste management). These variance provisions are vital and should be retained in the final regulations for the reasons stated. In addition, the Department should incorporate similar variance language in section 78a.52a (area of review), section 78a.64a (containment systems and practices), section 78a.65 (site restoration), and section 78a.67 (borrow pits). Adding variance language to these sections would make them more performance oriented and make the regulatory process more efficient, which is consistent with the Department's desire to allow "flexibility for the optimal development of this natural resource."

Response: Regarding variations, the Department acknowledges the comment. The final regulations allow operators to request approval for alternatives to the regulatory standards where appropriate. Approvals will be granted when proposed alternatives are shown to provide equivalent or superior protection to the requirements provided. This comment does not provide any specific suggestions on how to improve the rulemaking but the Department

notes that this commenter provided comprehensive comments on the ANFR and refers the commenter to the responses to those specific comments.

Level Playing Field: Regulatory programs should be fair and equitable and create a level playing field, and to this end they should be clear and comprehensible. They should not impose disparate requirements or disproportionate costs on one particular economic or extractive sector. Nor should they create unnecessary risk and uncertainty for the regulated community. The Policy for Development, Approval and Distribution of Regulations states that regulations should have “clear, concise” language and should be drafted “with the goal of minimizing the potential for uncertainty and misinterpretation .” These concepts of fairness and clarity are particularly important for natural gas development, which involves a commodity that is widely used and provides important economic and public benefits to the Commonwealth and the nation. As President Obama's All-of-the- Above Energy Strategy recognizes, natural gas “is comparatively cleaner than many other sources of energy” and “already plays a central role in the transition to a clean energy future,” while also helping to expand the economy and increase employment.

Proposed Chapter 78a imposes requirements on unconventional well development that are disparate, disproportionate, inequitable, and vague. As a general matter, the extensive and elaborate specifications will increase costs and consume resources, while the excessive number of regulatory submittals and approvals will imperil schedules and budgets. This will put unconventional wells at a disadvantage. In addition, a number of proposed regulations are inequitable or vague or both, including section 78a.1 (definitions), which expansively and ambiguously defines “other critical communities” to include any “plant and animal species that are not listed as threatened or endangered” and any “significant natural features” or “significant natural communities,” section 78a. 15 (application requirements), which requires operators to address potential impacts to other critical communities through consultation, additional information, and mitigation and to provide a PNDI receipt and mitigation for any potential PNDI impacts, section 78a.41 (noise mitigation) , which broadly and ambiguously requires operators to “minimize noise” and authorizes the Department to suspend operations anytime it believes the operator's efforts to “minimize noise” are “inadequate.” These provisions should be eliminated entirely or modified to make them more clear and enable operators to compete on a level playing field.

Response: Regarding the concerns on the definition of *Other Critical Communities*, see the comments and the Department’s responses to the comments on § 78.1 and 78a.1 regarding definitions. The Department has made significant revisions to the definition of concern.

Regarding public resource concerns, see the comments and the Department’s responses to the comments on § 78.15 and 78a.15 regarding application requirements.

Regarding noise concerns, see the Department’s response to comments submitted on § 78a.41. This section has been deleted from the rulemaking.

Consistency: Regulations should produce consistent and logical results that fulfill the agency's intentions and further the public interest. This means that rules should neither conflict with one another nor lead to counterproductive results. Rules should also be cost effective, provide tangible public or environmental value, and, where appropriate, further green practices. These principles are reflected in the Policy for Development, Approval and Distribution of Regulations, which states that the Department “should avoid promulgating regulations that are inconsistent and incompatible with its other regulations.” In addition, the “costs of the regulation shall not outweigh the benefits,” and regulations “should promote the utilization of new, less costly

methods and technology that will maintain or improve environmental quality.” Again, regulatory inconsistency and confusion are particularly problematic for unconventional well development because of the substantial investments and extensive drilling and completion programs required.

Several of the proposed regulations in Chapter 78a would violate these fundamental principles. For example, section 78a.57a would impose eight pages of new requirements on centralized tank storage sites, while section 78a.59c would prohibit the use of centralized impoundments. These new rules would create unnecessary impediments to the recycling and reuse of water by restricting or prohibiting infrastructure that is commonly used for this purpose. This is directly at odds with section 78a.69, which would require water management plans to provide for water reuse and to include a reuse plan for hydraulic fracturing fluids. It would also increase the cost of recycling and reuse and deter the use of this green technology. Similarly, section 78a.68b would impose a host of new restrictions on well development pipelines, which allow operators to reduce truck traffic by piping water to and from the well site. This could increase the cost of such pipelines and thereby deter the use of new technology that will help maintain environmental quality. Another example is section 78a.57a(b), which would allow the Department to deny a centralized tank storage permit if the operator has failed to comply with any federal or state environmental statute, any law related to public health, safety or welfare, or any order or permit condition of the Department. This too unnecessarily restricts the availability of potentially cost-effective, green technology. It is also overbroad, in using any violation, even minor errors, as a trigger, and unfair to larger operators like Noble, who operate hundreds of wells and hold hundreds of permits. A final example involves sections 78a.65, 78a.57a, and 78a.68b, which would require restoration of the well site and any associated centralized tank storage and well development pipeline to occur within 9 months after the well is drilled, without reference to the completion of the well nor any recognition of the fundamental purpose of a centralized tank site. In the case of a multi-well site, even under an efficient operation, it would not be unusual that the last well may not be completed (i.e. hydraulically fractured) and on production by 9 months from the time the first well “completed drilling.” Similarly, a centralized tank site is intended to service wells within a geographical area for multiple years as the operator develops the reservoir in order to minimize surface impacts and maximize efficiency. In both cases, requiring restoration 9 months after drilling will mostly likely increase land disturbance, reduce water reuse, and result in less efficient resource development. To avoid these problems, the Department should amend these sections to simplify the requirements for centralized tank storage, allow centralized impoundments, narrow the situations where the Department can refuse to permit a centralized tank storage site, and tie restoration of the well site to the well completion and restoration of centralized tank storage and well development pipeline to the end of their usefulness.

Response: Regarding centralized tank concerns, requirements in § 78.57a have been deleted from the rulemaking.

Regarding centralized impoundments, see response to comment 1401.

To the extent that the commenter is suggesting that requirements in § 78a.68b will prohibit use of well development pipelines, see the comments and the Department’s responses on § 78a.68b regarding well development pipelines.

The Department disagrees with commenter’s specific suggestions regarding restoration timeframes but has made some revisions to language regarding restoration timeframes in response to industry comments. See the comments and the Departments responses on §§ 78a.65 and 78a.68b.

Other Tools: Agencies can draw upon a variety of regulatory tools to address new issues. In addition to enacting mandatory regulations, agencies can adopt policies, issue guidance, initiate pilot programs, offer procedural incentives, recommend best practices, and undertake various other actions to pursue their objectives. These other tools are often more flexible, surgical, and adjustable than regulations, whose modification requires formal rulemaking. For this reason, these other tools are frequently better suited than regulations for new and emerging issues, where changing circumstances and additional information may require multiple modifications to the initial regulatory strategy. This too is particularly important for unconventional oil and gas development. As the DOE has noted, shale gas development practices “are constantly evolving” and frequently reflect new technologies, innovations, and inventions.

A number of the proposed regulations in Chapter 78a appear to convert contemporary policy preferences and initial regulatory strategies into statewide mandates, which may be difficult to adjust as practices evolve and additional information becomes available. These regulations include section 78a.41 (noise), section 78a.52a (area of review), section 78a.59c (centralized impoundment s), and section 78a.66 (spills). These provisions should be converted from regulations into policies, guidance, or other more flexible regulatory tools.

Response: Regarding noise concerns, see the Department’s response to comments submitted on § 78a.41. This section has been deleted from the rulemaking.

Regarding centralized tank concerns, requirements in § 78.57a have been deleted from the rulemaking.

Regarding area of review concerns see comment 762.

This comment does not provide any specific suggestions on how to improve §§ 78a.59c and 78a.66 of the rulemaking but the Department notes that this commenter provided comprehensive comments on the ANFR and refers the commenter to the responses to those specific comments.

Implementation: Responsible implementation of regulatory revisions is critical to achieving agency objectives, promoting industry compliance, minimizing economic disruption, and avoiding unintended consequences. Agencies need to implement major revisions in a thoughtful and deliberative manner, which may require them to phase in new requirements gradually, provide special training to staff, operators, and other stakeholders, issue guidance and interpretive documents, respond to new information, and develop and apply new metrics. Otherwise, regulatory revisions can create unnecessary confusion and conflict that harms both the regulatory program and the regulated industry. Pennsylvania Executive Order 1996-1 directs that “[c]ompliance shall be the goal of all regulations.” This direction is echoed in the Policy for Development, Approval and Distribution of Regulations, which requires the Department to develop compliance assistance programs to help small businesses and to address the subject of compliance assistance in the regulatory preamble.

The Department's Advance Notice of Final Rulemaking includes no information on this subject. Prior notices issued during earlier phases of this rulemaking provided only cursory treatment of the subject. For example, the Department 's Draft Notice of Proposed Rulemaking in 2013 states that the Department plans to schedule training sessions for the oil and gas industry and that the Department's field staff will provide technical assistance and field-level direction. But it does not address when the new requirements will be implemented, how the Department will ensure that they are applied consistently, what new guidance or training materials will be prepared, how the

Department will address new issues that arise, or how the Department will measure its success in promoting compliance. More attention to and information on the implementation process would benefit both the Department and the industry. In addition, because of the extensive new requirements involved in Chapter 78a, the Department should consider phasing in the regulations over time.

Commentator appreciates the opportunity to comment on proposed 25 PA. Code Chapter 78a. Included with this letter, is an attachment outlining additional specific concerns including additional discussion on the sections referenced here and recommended revisions for the proposal for your review. (199)

Response: The Department considered the implementability of all of the changes made from proposed to ANFR to final. The Department has provided an up to date Regulatory Analysis Form which complies with requirements of IIRC and the Regulatory Review Act.

2423. Comment: We remain deeply concerned about the very large number of abandoned oil and gas wells in the northern and western parts of Pennsylvania that have never been addressed by the Pennsylvania Department of Environmental Protection. (226)

Response: Sections 78.52a and 78a.52a of the regulation address the need for operators to identify and assess the condition of abandoned wells requiring monitoring during hydraulic fracturing activities. These sections of the regulation are specifically designed to prevent legacy issues from resulting in water supply impacts during present-day development.

The Department currently uses allotted funds in its Plugging Program to permanently plug and abandon as many wells as possible each year. All known abandoned wells are assigned a rank based on potential to result in environmental impacts and this ranking is used to prioritize state-funded plugging projects.

2424. Comment: As we stated in our attached March 14, 2014 comments on the proposed revisions to Chapter 78, these revisions are a needed update to Pennsylvania's requirements for oil and gas development and are particularly necessary in light of the industry's vast growth and expansion in Pennsylvania over the last decade. However, the regulations do not go far enough, exempt certain practices and operations too broadly, and in that way, run counter to the overall goal of the rules.

In our comments on the proposed regulations, we focused on two areas in particular: (1) the proposed regulations for abandoned wells, and (2) requirements for seismic testing, which the proposed regulations fail to include. First, for the requirements relating to abandoned wells, we raised three main shortcomings:

- The provisions for identifying abandoned wells only required operators to reference limited sources of information rather than conducting fuller or on-the-ground surveys;
- The requirements for plugging abandoned wells only applied after an operator “alters” the abandoned well, thereby failing to take needed preventive measures, and also without defining the term “alter,” which triggers the requirement; and
- The requirements only applied to wells that are hydraulically fractured, even though communication with abandoned wells is a problem that has long existed in Pennsylvania.

The final regulations offer improvements over the proposed regulations with respect to abandoned wells, for which we commend the Pennsylvania Department of Environmental Protection (PA DEP). However, the regulations still fail to address these three shortcomings sufficiently.

Specifically, the final regulations still do not require a physical, on-the-ground survey for abandoned wells; only require an operator to plug an abandoned well after the operator “alters” the well; and only apply the abandoned well requirements to operations using hydraulic fracturing. These are significant shortcomings, and PA DEP should not issue the final regulations unless they are fully addressed.

The second issue we raised in our comments on the proposed regulations was that the proposed regulations included no requirements that apply to seismic exploration for oil and gas (i.e., seismic testing). The only applicable requirements to seismic testing are PA DEP's generic regulations for explosives, and PA DEP has no regulations or permitting for other types of seismic testing operations, such as vibroseis trucks. We offered several important elements to include in seismic testing regulations, drawn from other states' regulations and municipal ordinances. In the final regulations, however, PA DEP has not addressed this issue at all. The regulations continue to lack any requirements for seismic testing, and the generic explosives regulations do not provide adequate protection for the public and the environment. PA DEP should not issue the final regulations without filling this important gap. (228)

Response: With regard to on-the-ground surveys, please note that attempts must be made to identify all wells in the Area of Review (AOR) survey requiring monitoring.

With regard to the definition of “Alteration”: it is currently defined in Act 13 and in this case the physical characteristics of the wellbore communicated with are modified though the establishment of a hydraulic connection with a different portion of the reservoir/a new reservoir.

The intent of the proposed regulation is to mitigate risk in association with hydraulic fracturing and, as such, targets wells that will be stimulated using this process. Due to the geology in the state, the vast majority of oil and gas wells are stimulated using this process. Existing laws and regulations address environmental risks associated with the drilling and operation of all wells in the state.

With regard to seismic testing, although seismic testing activities are beyond the scope of this rulemaking, there are separately proposed amendments to Chapters 210 (Blasters’ Licenses) and 211 (Storage, Handling, and Use of Explosives) that would update these regulations to account for the proper regulation of seismic testing.

Any earth disturbance activities conducted in the state that exceed regulatory thresholds must follow all applicable surface permitting. As the commentator mentioned, there are additional mining program regulations relevant to the use of charges in seismic shotholes.

2425. Comment: Due to the wide-ranging impact these revisions will have on oil and gas operations it is important for industry to know if these new provisions will apply to existing wells and previously-approved water management plans or sources. It is suggested that language be added to clarify the effective date for the new requirements in Subchapter C and that wells constructed prior to that date are grandfathered in for purposes of the new requirements. (232)

Response: See response to comment 2410.

2426. Comment: On 2-28-1989 EPA Administrator William K Reilly signed a remand of an underground Class II injection permit for oil recovery wells. (UIC Permit Application #PAS2R2225BWAS UIC Appeal No. 87-3) The remand deals with the recognized fact that

abandoned unplugged wells are open conduits to upward migration of toxic substances into our water supplies.

There is no individual who can state with CERTAINTY that the Marcellus formation is a solid monolithic layer with no abnormalities from geological events of the distant past or even events of the present day. When one considers the enormous pressures used to frack the formation regulations must be implemented to prevent these abandoned unplugged wells from becoming quiet paths of aquifer pollution.

Thank you for the opportunity to comment. WATER IS LIFE. (273)

Response: The Department acknowledges this comment and the AOR regulations have been developed to specifically address this risk in a manner that balances prudent development with effective environmental protection.

2427. Comment: You should also consider the requirement of geological studies to guard against faults and fissures, which may result in moderate earthquakes, such as experienced in Eastern Ohio, when shale formations are injected with high pressure water/chemicals. (260)

Response: For matters related to induced seismicity, please see response to comment 2415.

2428. Comment: Split Samples on Request. There are several additional issues that are involved in a number of sections of the Chapter 78a proposal. These issues have been raised to us repeatedly by individuals across Pennsylvania that have been impacted by oil and gas development. The first of these is that in a number of instances where PADEP is conducting environmental testing in response to complaints or requests from residents, when the resident or impacted individual requests that a split sample be taken so that the resident can obtain a separate analysis from another certified environmental laboratory, all too often this request has been rejected by the PADEP representative. Certainly the resident or individual requesting the split sample will be responsible to assure that the sample is properly maintained and tracked until it is received by the laboratory, but there is no justification for rejecting such a request. (223)

Response: See response to comment 2388. The final rulemaking does not preclude landowners from taking split samples.

2429. Comment: Uniform Information Format. It also has come to our attention that a wide array of different formats are being used by oil and gas operators to submit information to the agency. This often makes it difficult for the public to understand and evaluate the information contained in these submissions. As part of the new regulatory program under Chapter 78 and 78a, we would request that the agency adopt a uniform set of forms, materials, and instructions to be used in all communications to facilitate public access to and understanding of the data provided in such submissions. (223)

Response: See response to comment 2457.

2430. Comment: Last year my company, Reliance Well Services (a hydraulic frac company) was running nearly 30 open hole jobs/month for operators ranging from those with very solid HSE programs down to operators who needed every bit of help we could give them. We have a no water on the ground policy and supply our personnel with all the equipment and training needed to reach this objective on every job. We hold the same standard for all customers and have never had an operator incur an NOV as a result of our practices. This makes for good marketing so

when we hear of changes to DEP operating procedures there is some concern, but more with an eye towards compliance than outright objection for the sake of objection (objections are only raised when small results come with big costs). That said, I've taken the time to outline simple procedures that are not very costly but that are exceptionally effective when fracing open hole wells.

What we try to encourage:

Sufficient pit depths especially if a dusting permit is in place for the driller. Too often pit capacities are nonexistent after the inclusion of drill cuttings. It adds very little cost to oversize pits in terms of depth.

Backstop pits. Soil removed can be used to backstop and catch flush water. Because joint lengths are 30' or so, a good backstop of 8' to 10' of piling is sufficient to catch the flush.

Inclined fairway. Ponding around the wellhead and the potential for leaks that comes with it can be alleviated by sloping the ground from the wellhead to the pit.

Double Lining. Tears are common at the wellhead so we encourage operators to use two layers of 20 mil plastic around the well head and fairway to the pit. This is essential given that locations are made up of angular shale that rips into the liner as soon as you step on it. Also, gravel from plug back will tear into the liners for the same reason.

Pits liners should be a double though a single liner along the backstop is sufficient as it is a deflector only. Also, backstops should be staked in place so they don't slide down. No service company should ever penetrate a liner with a stake on a horizontal plane.

Back up trash pump. I can't count the number of times we've seen transfer pump failures. Good practices and a backup will keep the water level below the 24" of freeboard requirement.

Tape the liner to the well casing. Liners should be fitted over the wellhead and taped to the casing so that a watertight seal is achieved. Plenty of slack should be built in so that the liner is not taut and susceptible to tearing.

Do not spin the flush ell. A lot of rig operators will spin the frac pipe as they flush in when encountering resistance or due to hole conditions. They shouldn't. This is the fastest way to saturate a location with brine.

Build liner dykes with corrugated pipe, not hay bales. Hay bales deteriorate and collapse leading to an overflowing liner when ponding occurs. A 12" corrugated pipe dyke is cheap, reusable and it holds up. It's not a bad idea to encircle the pipe boat (which should be on wheels and not skids) and the rig.

Frac companies should vac water from all hoses, manifolds and the blender tub at the end of the job. Reliance installs tees with bleeder valves on all suction lines for this purpose. It requires the use of a vac truck at the end of the job but it takes only a few minutes and will result in dry hoses. The practice among some frac companies is to dump hoses and the tub on location. We don't allow this.

All said, the above practices add very little to a well's cost. Add in a conscientious rig and frac crew and locations are easy to keep dry. (243)

Response: The Department acknowledges the comment.

2431. Comment: DEP should further research regulations on citing disposal injection wells, especially surface conditions. We agree there is a need to better protect our water resources and environment. Our area residents have been working and collecting information on disposal injection wells in our local area. It has been found that the surface conditions of disposal injection wells need improved regulations. A binder was provided at the DEP & Environmental Quality Board (EQB) Public Hearing on January 23, 2014 with all the information locally collected, which is extremely relevant to protecting Pennsylvania's water sources.

DEP depends on the permitting of disposal injection wells by the EPA. The EPA deals only with underground sources of drinking water and residents found no way to protect above ground water sources. Our local coal mines are of great concern, which are located near the proposed site and extend under the City of DuBois into Sandy Township and many other municipalities throughout our area.

Please prohibit disposal injection wells in Pennsylvania near residential areas or water supplies, since history shows this waste can travel over five miles underground. The City of DuBois stated concerns to the proposed disposal injection well on Highland Street Extension, DuBois, PA because of the proximity to our watershed and the abandoned gas wells (not City owned) with deteriorated casings. "Undue pressure from injection activity could push fluids along the fault lines into abandoned gas wells with the potential to contaminate underground sources of drinking water." Our area has faults and additional studies should be done due to all the problems in our nation with disposal injection wells and increased risk of earthquakes. History has shown fluids moved in Erie from an injection well as far as five miles away and no new standards or casings protect where the fluids will travel over time below the surface once they reach the injection zone especially when known fractures and faults exist.

In our own area, six deep wells are already surrounding the quarter mile area of review at the same depth as the proposed disposal injection well, which is just outside the EPA area of review. Two area residents cite that their water sources are affected by one of the deep gas wells already and yet they are right outside the area of review. Even displacement of brine or underground fluids could quickly and easily contaminate these residents' private water sources.

Parts of our City and much of the surrounding area are built atop a catacomb of old coal mines no longer worked. The City and state have spent considerable amounts of taxpayer money to clean-up the mine discharge that polluted Sandy Lick Creek which flows through DuBois.

Simply put, geologic and hydrological conditions in this area make the proposed site of a disposal injection well an egregiously poor one for such a well. This residential area depends on private water wells and is unable to afford or accept any risk. The DEP needs to provide protection for residents and municipalities. (283)

Response: The Department currently issues well permits for all UIC wells only after the EPA has completed a rigorous analysis aimed at verifying that the activity will be protective of Underground Sources of Drinking Water (USDWs). This analysis is considerate of abandoned wells surrounding the proposed injection location. The Department requires that surface permitting activities related to waste management and erosion and sedimentation be addressed as part of the permit application package. Finally, the Department provides an additional geological and well integrity assessment per the waste

regulations aimed at addressing the suitability of the waste injection horizon for containment. This analysis is considerate of nearby deep mines.

2432. Comment: The National Park Service (NPS) is pleased to provide comments on 25 PA. Code CHS. 78 and 78a, Draft Final Rulemaking; Environmental Protection Performance Standards at Oil and Gas Well Sites. The NPS appreciates the proactive steps the Department of Environmental Protection (DEP) is taking in revising these regulations to protect the significant and vital natural resources in the Commonwealth of Pennsylvania (Commonwealth). This effort will result in necessary and important environmental protections for state and federally managed or administered lands, held in trust for the public, and the resources and ecosystem services they provide that are counted upon by present and future generations for essential benefits such as clean water.

The NPS offers the following comments which are intended to promote understanding of the diverse and nationally significant resources within NPS units and affiliated areas in the Commonwealth; to clarify and strengthen the proposed regulations; to aid in a more efficient and effective permitting process; to promote open and early communication between the NPS and Commonwealth regulatory agencies; and to promote the protection of NPS resources. We are pleased to see a number of changes from previous drafts which we believe have strengthened resource protection requirements in these regulations. We address each in turn below.

We first provide general information on the National Park System and NPS programs, and then provide specific comments by proposed regulation section.

National Park System Units and Affiliated Areas

The NPS protects the most “superlative natural, historic, and recreational areas... of the United States... (which) are united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage.” The primary statutory directive for the NPS is provided by the NPS Organic Act of 1916 which established the purpose of the NPS “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” While the Organic Act unified park management into a national system, the NPS only has direct management authority on lands owned and administered by the federal government. Lands where the NPS provides technical and financial assistance, but are neither federally owned nor directly administered by the NPS, are referred to as “National Park System Affiliated Areas.” National Park System Affiliated Areas comprise a variety of sites that preserve significant properties outside the National Park System. Some of these have been recognized by Acts of Congress, while others have been designated by the Secretary of the Interior under an appropriate authority (e.g., Historic Sites Act of 1935 [54 U.S.C. § 320101], National Wild and Scenic Rivers Act). They include National Natural Landmarks, National Historic Landmarks, National Heritage Areas, National Trails and NPS-administered designated Wild and Scenic Rivers, which include lands within their boundaries that are not in federal ownership. All National Park System Affiliated Areas require significant partnerships and non-traditional approaches to adequately manage and protect their resources.

In addition to these comments, we are providing a complete map and list of all 197 National Park System units and affiliated areas in the Commonwealth 3. We hope the map and list will aid state regulators, operators and the public in understanding where oil and gas development may intersect with NPS public resources. We can provide the appropriate data files for inclusion in Commonwealth GIS records if that is desired.

Land and Water Conservation Fund (LWCF) Grant-Assisted Locations

In addition to units and affiliated areas, NPS administers financial assistance through matching grants to states and through states to local units of government under the LWCF State and Local Assistance Program to create a nationwide estate of public outdoor recreation areas to be protected in perpetuity from non-recreation uses. In the case of the Commonwealth, NPS partners with the PA Department of Conservation and Natural Resources (DCNR) to administer the program starting with a grant competition conducted by DCNR. The DCNR selects state and local proposals for acquisition and/or development using state-specific criteria developed through a public statewide comprehensive outdoor recreation planning (SCORP) process and recommends them to NPS for LWCF grant assistance. At the time of federal approval, each grant-assisted area is subject to LWCF Act Section 6.(t)(3) requirements and restrictions as contained in the LWCF program manual in effect and any pertinent program policies and regulations. Through the project's grant agreement (contract) the Commonwealth agrees to the post-completion compliance requirements including that any non-outdoor recreation use of Section 6(f)(3) property could result in a conversion where the affected property must be replaced with other property of equal or greater fair market value and at least equivalent recreation utility to be developed into the replacement public park/outdoor recreation area pursuant to 36 CFR 59.3.

In the case of oil and gas development, NPS strongly encourages sponsors of oil and gas development proposals to coordinate as early as possible with the Commonwealth's LWCF State Liaison Officer at DCNR to determine, with NPS assistance if necessary, the degree to which Section 6(f)(3) restricted property will be involved in any way. This early coordination among all parties will ensure that the required federal compliance process will be followed so that compliance is not conducted as an after-thought by occurring too late in the implementation of the proposals. Early coordination will help to avoid unnecessary delays in securing any required federal approvals if a conversion approval and/or other federal decisions are required. The NPS and/or PA DCNR may be contacted for more information on the LWCF State and Local Assistance Program (www.nps.gov/lwcf). (200)

Response: The Department acknowledges the comment.

2433. Comment: From a historical and economic perspective, the DEP should not enforce CH 78 regulations on HISTORICAL oil and gas wells drilled before 1980. Please return wells to Act 223 status. (271, 272)

Response: To the extent that the commenter is suggesting a change to the Oil and Gas Act, that is beyond the scope of this rulemaking.

2434. Comment: Concerned about drilling in the Brockway Water Company watershed. Drilling through aquifers is harmful causing pollution and water loss. Need to maintain the good, safe water supply. I know that frack water is difficult to dispose, where is it going? Is there ongoing illegal & improper disposal? Drilling activity is decreasing our property values. Political lobby money is promoting drilling and decisions on regulations. (279)

Response: There are many avenues for disposal of wastewater produced from drilling and stimulation of wells including beneficial reuse, underground injection control wells and centralized wastewater treatment facilities. The Department addresses illegal and improper disposal as it is made aware of the activity. Property value and political lobby concerns are beyond the scope of this rulemaking.

2435. Comment: On March 14, 2014, a public comment period ended regarding proposed changes to Chapter 78, Subchapter C. Many individuals invested time and resources to provide thoughtful comments only to find that most of them were seemingly rejected as they have not been integrated into the current version of the proposed rulemaking. It would be appreciated if the Environmental Quality Board (EQB) would provide the response document to these comments. We deserve to know why some comments were accepted and others rejected. (251)

Response: The Department reviewed and considered all comments submitted during the comment response period and has provided a response to each comment in this comment response document.

2436. Comment: Those of us in my area have been working as much as we can to protect ourselves from threats and damage the fracking boom has already caused, and that the drillers intend to impose upon the majority of the State in one way or another. To get to the bottom line right off the bat, I'm sure you're already aware that Fracking is an Outdoor Heavy Industry. And clearly the driller's objective is to IMPOSE That Heavy Industry Wherever They Intend To. It Is NOT a guaranteed perfected process, and they expect you to overlook and ignore the already proven health and safety consequences associated with it.

You Folks are wearing the DEP badge. (Which is supposed to mean Department of Environmental Protection)? But the drilling industry sees it as meaning Department of Expanding Permits to give them whatever they want, turning forests, farms, commercial and even residential areas into Industrial Zones to suit them. They may claim they have the right to go after whatever it is they intend to retrieve that Has No Lite At All Below The Ground, regardless what the damage or later consequences their process has the potential to cause. However it's done at the expense of What Does Have Lite and is Vastly More Important at preserving and protecting Above The Ground. So You Folks Have To Determine What Your Priorities Actually Are. Is it Protecting The Environment For Us as your title implies, or is it for Expanding Permits, as the Drilling Industry wants you to do For Them?

When I go to these pro-drilling information meetings, what they should actually be presented is a fall view like looking at a 90-inch wide T.V. screen to tell the attendants (as Paul Harvey would say), The Rest Of The Story. But they don't. They want us to only look at the center 30-inches of the screen focusing on fracking advantages. Like direct well jobs being created, other additional employment providing needs for well hands, spin-off jobs supplying parts or materials, and taxes that could go back to the state or communities. That's all the more they want everybody to see. However there are also the 30-inches of the screen on the other two sides they don't tell you about, as the process begins and operates on one side, and what could occur years afterward on the other. Things like permanent clearing of land and forests for well pads, and for pipelines that can never have trees on them again, huge impoundment ponds for reserve water and highly toxic produced frack slop that could leak and overflow during hard storms, continual truck traffic supplying water and toxic chemicals, and the intrusion of compressor racket and escaping chemical vapors that a lot of folks have already experienced ruined health and cancers over.

Let's start with some easy math here. To keep that drill head cool while boring through rock layers, it takes 1,000 gallons per minute of water mixed with their toxic cocktail to do that drilling. Taking time out to add pipes and other down time, let's say the drilling rig keeps running for a twenty-hour day. (Actually a drilling rig stays at a pad site for one well for over a week if not much longer). Working for one 20-hour day is 1,200 minutes; times 1,000 gallons of water per minute, giving you a total of 1,200,000 gallons of toxic laced contaminated produced frack

slop that has to go somewhere. That's only one day for one well. And each 10-wheel water truck that provides water carries 5,000 gallons, or enough to keep the drilling going for only 5-minutes. So in water contamination alone you have a parade of trucks continually pounding the roads, and that's if everything else goes right.

Now let's move on to the other side of that 30-inch T.V. screen that the drillers don't explain. That's when the pad has already been worked for a few weeks and the driller moves on to somewhere else. What happened to the Millions and Millions of gallons of toxic frack slop? Does part of the revisions suggest leaving gigantic holding tanks on site to store the stuff? Where will it go after that or is it to stay there?

One lady I know had discovered radioactive readings on the dirt road next to her farm where the frack trucks were driving on it after several weeks. Undoubtedly the radioactivity came from the wheels of frack removal trucks hauling it off to who knows where for disposal, or perhaps even to water down the dust on the road they were using.

There have already been ludicrous suggestions made that that highly salty, contaminated and toxic radioactive brine could be spread on the roads in winter to help remove snow and ice. That way everybody gets it on their car tires with some folks parking their vehicles in their garages at home and others at their parking spots, getting it on their shoes and tracking it into businesses and homes where it dries and gets airborne for people to breathe, and where babies crawl on the floor and put their fingers in their mouths. These chemicals are known carcinogens, but the presentations don't want us to become aware of any of that.

A few years ago the local sewer plants were only ASKED not to take in that frack brine slop, because they had no way of filtering it out. So all they were doing was diluting it into the creeks and rivers where it would be picked up downstream by another water treatment plant that provides drinking water to their town. Mr. McCurdy who was running the sewer plant in Ridgeway made the New York Times over what he was doing, threatening the town customers with higher sewer rates if they stopped him. We attended a meeting in Clarion forty-miles downstream to tell the folks there what was going on, because their water treatment plant couldn't remove heavy metals and toxins from drinking water either. So do those Clarion College students and town residents deserve to get cancer from drinking the town's diluted frack water?

Perhaps you think injection wells are the solution? This may not be on your present revision list but it's all interconnected. That process keeps pressurizing and stuffing the contaminated waste back in the ground for years so it undoubtedly trespasses far beyond the strata that the original well produced. It's like overloading a jelly sandwich and squeezing it so the slop runs out past the edges of the bread, and then putting more and more and more jelly into that same sandwich and keep squeezing it so it keeps running out all over the place. Three injection wells are already proposed here, one right outside of DuBois, one near Penfield and another in James City in Elk County that residents are battling against. If you go to the latest USGS report, (United States Geologic Survey almost 70 pages long), dated April 23rd it states where injection wells ARE a Contributing Factor to Man Made EARTHQUAKES.

And what's just as significant to keep in mind is that our area is honeycombed with old mineshafts that run for miles underground. That means there's also the potential of having the injected toxic waste leaking into old abandoned mine shafts and spreading all over the place. Work here has been ongoing to get rid of the acid mine drainage that's been polluting our streams for decades. Was all that time and money wasted when contaminated toxic frack will now be oozing out into the creeks and streams again? And after the drillers get you to make concessions

for them on their other issues, do you really think for a minute that they're going to stop without pushing for injection well changes in their favor too?

We're not talking about a few people having their well water knocked out or that they can light their tap water on fire. We're now talking about entire communities becoming seriously concerned about their reservoirs becoming ruined as I've highlighted in the local January 22nd DuBois Newspaper article I've included. The drillers expect to have the communities let them drill near their water sources or wherever else they want to. Already realizing the threat these Gas Industries Impose, the citizens are asking other nearby communities to provide them with contingency water supply plans when theirs gets contaminated. But the other communities being asked don't have the capacity to provide it, or are threatened with fracking around their own watersheds. Even the largest reservoir for DuBois that might be able to supply them has its own threats with an injection well and planned frack pad threats looming over it too.

If you don't have safe water, YOU DON'T HAVE ANYTHING. Not only do property values plummet and human health risks increase, but already established businesses could leave the area as well. In essence the expanding Gas Fracking boom has the potential to turn this half of the State into a toxic wasteland people will avoid. So why should we be even asked for additional public comment about compromising on any regulations When The Regulations Already In Place DON'T Go Far Enough.

A few years ago the town of Brockway had the driller Flatiron set up a well pad that drilled their first well only a few hundred feet from the town reservoir. We're talking about fracking inside a watershed containing valued and high quality streams and seeps providing water for not only the town and smaller businesses of a few thousand people, but also for two major Owens Illinois glass plants that employs hundreds of people from around this area.

Not long after beginning operations, the driller hit a feeder aquifer that caused a water flow interruption that was noticed by the town water company. Flatiron also constructed a gigantic water impoundment "pond" just up the hill from their reservoir too, that at first may not sound threatening at all. However the year before they constructed that basin we had torrential downpours of rain over several days that would have certainly overflowed that lake. And after it was being supplied with water, they began accepting Acid Mine Drainage being siphoned out of Sykesville and trucked up to the site. Understand that this obvious Catastrophe Waiting To Happen is the hometown of State Representative Joe Scarnati, and State Representative Mat Gabler's residence wasn't that many miles away either. But neither one of them would do anything about it. Finally last year it was reported that Flatiron wasn't going to drill another well at that pad site, but the threat to Brockway's water still hasn't completely gone away.

Now when you have unmistakable threats like this looming over exceptional value water sources that could permanently contaminate the water of businesses and communities, just what kind of mentality is behind issuing permits to drillers? Have the few temporary gas related jobs that come here and soon leave become that much more important than the thousands of other jobs, property values and health concerns of tens of thousands of people and business that are already established here? I think somebody better get their priorities in order.

I first became concerned in 2010 when there was a 24-hour well blow in the forest behind Elliot State Park In Clearfield County. In the 1970's I use to snowmobile extensively in that area, and along one of the roads is an old camp made completely out of stone that has a pipe perpetually flowing with water that had the cleanest freshest spring water you ever tasted. After that blowout, a sign was placed at that spring warning not to use the water because of an "Industrial Accident".

In fact that blowout was in Pine Township and on the top of a mountain range that separates the waters going in different directions. Exit #111 on Interstate 80 is at the crest of that mountain range and there's a sign near it stating that it's the highest point on that road east of the Mississippi, with the blowout and continuing fracking going on less than a handful of miles in the woods from that exit.

The three large communities of Clearfield, Curwensville and DuBois depend upon those mountain springs, creeks and runoff waters to provide for their reservoirs. But yet the frackers are permitted to be clearing away the forest, dicing up the place and developing it since its back in the woods away from prying eyes. And as I mentioned earlier, they have plans to put a frack pad a few miles west of that exit near the larger DuBois reservoir, threatening not only that city but also the water it provided to several smaller communities around it. So DuBois has a dual threat of not only a nearby frack pad being planned, but also an injection well hanging over it as well.

The DuBois reservoir Is Not an Industrial Zone, nor should the area around it (or near ANY reservoir) be considered or reclassified as one, yet isn't that the sort of thing that the latest "Revisions" want to include? On top of it there's numerous old orphan and abandoned Gas Wells around it that might very well become re-awakened and begin leaking as gas vents, should deep down disturbances from fracking commence. Amazingly the city is dancing with the devil by selling its water to the frackers to make a profit, while drilling additional wells if the main reservoir begins running low in summer months from water extraction.

The Gas Industry wants to come here and jeopardize one of our most basic necessities while leaving a footprint that will remain for generations over an UN-Guaranteed process. Not really for our betterment, but rather for their own profiteering over a finite (and fossil fuel global warming contributor) resource, when the whole world should have started getting away from fossil fuel dependency decades ago. T H A T is the 21st century mindset Everybody should have toward developing Clean Renewable Energy jobs and infrastructure, instead of the dirty, filthy and contaminating ways of the past.

Reputable reports show that over 5% of the well casings that are constructed during the fracking process Fail Right Off The Bat. And the Failure Rate Escalates to about 40% or more after 30-years and keeps on rising, depending upon the well pressure, construction design, damage due to frack handling, well deviation, and loss of material integrity used to name a few. I'm sure Drillers will argue that those figures sound high and are way into the future to worry about now. But you have to take any figure no matter how conservative it may be and multiply it by the Thousands of Wells that are already in operation and are projected to be drilled in the future. Clearly This State Is Targeted, And Letting Itself Wide Open, For Devastating Consequences.

Every community here depends upon a good percentage of their clean water coming from underground sources that we can't afford to jeopardize over Multi-Billion Dollar Corporate Profiteering through Gas fracking. We also depend upon Fire Departments made up of Volunteers that now have to take 200 hours of training to become a firefighter, and the departments aren't able to attract many new members.

Firefighting can be dangerous enough as it is (as I remember from my own younger years a few decades ago), without being exposed to toxic and radioactive chemicals at a well fire. So it's a no brainer why Fired Departments can't attract volunteers.

I've included a picture of a July 2014 gas leak fire deep in the woods that fortunately didn't result in a forest fire. And on the other side of that page is a map of Pennsylvania showing the

location of over 9,000 unconventional wells that have already been drilled in this State. When you look at Butler County on the western end, you'll see a huge number of them on the southern half of that county. I have a brother that lives on the North Side of Pittsburgh and they get their water, (for at least 250,000 people) from an area near Moraine State Park located at the western edge of that county. He isn't exactly sure where the water sources originate from, but the threat of having so many frack pads in that lesser populated part of the county sounds a lot like what the drillers are doing in the wooded wilderness around my area.

All of this is getting far too much for Pennsylvanians to tolerate, while there are already plans to begin construction of gas liquefying plants to ship the gas from here overseas, when it was supposed to be for our own energy independence and "A Temporary Bridge" until we get more renewable sources up and running to combat global warming. Thousands Of Scientists around the world already know it's been a human induced occurrence that has escalated CO₂ levels, not in the last few hundred years, not in the last few thousand years, but just last week it was announced in the National News that it was discovered that emission levels are now the highest they've been in the last Two MILLION Years. Sea levels are rising in several ocean shore areas; costal reefs are dying from warmer waters and ocean pollution, with storms and droughts becoming stronger and more intense over the last few years. Only a bought off fool in bed with the Oil and Gas Industry would keep believing any denier stuff. The warnings are Already Upon Us and Major Protection Changes Have To Be Acted Upon and Not Compromised Away; All the politicians seem to see is income and profit dollar signs while little by little they let the drillers turn this State into a toxic waste sight, eroding our property values and threatening our health. When instead they should be focusing on Expanding Renewable Energy Sources and getting away from this fracking madness.

Thank You again for the opportunity to provide you with this information and feel free to pass it along to those that may not be aware of what is going on from OUR Safety And Health Minded Perspective.

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Act 13 presumes an operator is responsible for pollution of an affected water supply within 2,500 feet of an unconventional well, if that pollution occurred within 12 months of production activity at the well site. EQT is proposing to drill within 3,500 of Jay Township's watershed. (Photo by Katie Weidenboerner)

= ELK County =

Jay Township looking for alternative water source

By Katie Weidenboerner

katiew@thecourierexpress.com

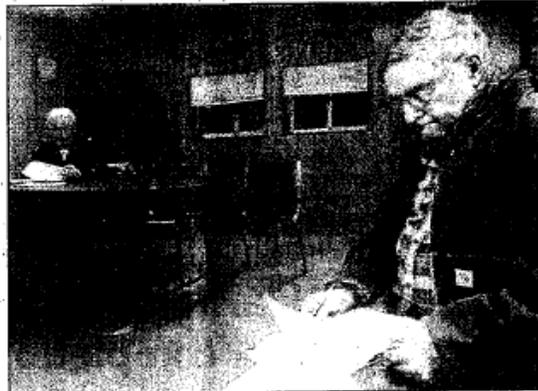
WEEDVILLE — Jay Township is desperately seeking an alternative water source as Marcellus Shale drilling has been proposed near its "exceptional value" rated watershed.

"It's like our contingency plan is falling apart," resident Jim Moyer said Tuesday during a steering committee meeting.

Rejection letters have been received from Fox, Highland and Jones townships as their municipal water systems do not have the capacity to provide the 400,000 gallons of water per day Jay and Huston townships' customers require. Jay Township Water Authority is under contract to supply Huston with treated water for the next 40 years.

No word was received from Ridgway and Johnsonburg boroughs or St. Marys in the last month.

While a letter from DuBois City said it has the "capability and capacity" to service both townships in the event of an emergency, members of the steering committee are wary of the proposal as they want



Approximately nine citizens of Jay Township, including Bob Coppolo (right), met Tuesday to wade through information and determine what the township would need in the event its watershed was contaminated by Marcellus Shale drilling which has been proposed near the watershed. (Photo by Katie Weidenboerner)

a written guarantee and plan for how water would be supplied to the townships in the event of an emergency.

Also, committee members are fraught with concerns about the potential contamination of DuBois' water as a disposal injection well has been proposed near its reservoir and about two miles from

Anderson Creek, the reservoir's headwaters.

Jay Township's rush to find an alternate water source comes on the heels of Marcellus Shale developer EQT Corp. proposing to drill near the Byrnes Run watershed, which is the main water source for the township. The township's

See Water, Page A7

LOOKING FOR
A NEW RIDE?



over.

DuBois Courier

JAN 22, 2015

evak facility. On the burglary, he ing to be in prison for a very (Shugars, said he droyc, the ,heroin, valued at \$60.

Water . . . Continued from Page A 1

backup water source also lies within the watershed.

The company had originally proposed drilling the "Ginger Pad" on the watershed property in February or March of 2015, which was met by vehement opposition by township residents as well as its supervisors. Despite moving the pad's location, drilling is slated to take place about 3,500 feet from the township's new groundwater well and intake.

Act 13 presumes that an operator is responsible for pollution of a water supply if the affected water supply is 2,500 feet from an unconventional well and that pollution occurred within 12 months of the later of completion, drilling, stimulation or alteration of the unconventional well.

"I have the feeling we're on the forefront of this (development of a contingency plan)," Jay Township resident Bob Coppola said. "You have to protect the residents of this township - not only from the aspect of water quality, but from the aspect of economic impact... Who the hell is going to want to live in this community with this?"

EQT currently has one well pad in Jay Township on Gray Hill Road. In developing wells on this pad, the company has a total of 10 citations for failure to notify DEP and local entities within 24 hours of the commencement of drilling, multiple violations for improper casing and cement procedures and failure to plug a well upon abandonment, as well

as failure to restore the well site with nine months after drilling is complete, according to DEP's Dept. of Oil & Gas online compliance report.

In an interview last week, EQT's Community Advisor Josie Schultz said the company exercised great care to design the well site to avoid the Byrnes Run watershed and to take precautions to prevent storm water drainage from flowing toward the municipal surface water intake.

"The location avoids the source water protection area as indicated by the Township and, according to a geologic structure map provided by the Township, the geologic gradient trends southeast, not southwest toward the protected watershed area, which provides additional security to the watershed," Schultz said.

At an October meeting, Nathaniel Manchin of EQT told township officials the company is "not in the business of creating contingency plans." Supervisors and township residents have since been meeting bi-monthly to draft an agreement to reconnect the township to water if its water is compromised by drilling activity.

"I told DEP they came to the township and said they aren't in the business of making contingency plans," said Anita Johnston, secretary for Jay Township Water Authority. "But they're in the business of contaminating our water possibly, so they should

be in the business of providing a backup."

Supervisor Fran Gustafson said recently the company told the township it wanted to work with them on the contingency plan. EQT was not at the table Tuesday while residents continued to work to lay the groundwork of solutions to the "what ifs" that linger in the wake of the proposed drilling.

Department of Environmental Protection spokeswoman Lisa Kasianowitz Lisa said in an email to the Courier-Express, EQT's permit six permit applications for the six proposed wells on the well pad is still under review as the agency awaits EQT's response of questions posed by Jay and Huston townships. She added a timeframe for when the permit review will be complete has yet to be determined.

Until the contingency plan can be penned and passed, the township has taken the path of most resistance - calling DEP every day about the permit and sending EQT letters with questions which need answered.

"I've been told my letters have kept this permit on hold," Johnston said proudly.

In addition to the contingency plan, the township is working with representatives from the office of environmental law Attorney Bob Ging of Confluence to draft an ordinance to which would create a moratorium on drilling in, and potentially near, its watershed.

Drivers . . . Continued from Page A 2

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Feb. 5, 2015

MORE INSIDE

Help for county veterans

County veterans are now able to eliminate large amounts of paperwork and speed the receipt of benefits by filing online through the county Veterans A2.

School bus hits tanker truck

A school bus rear-ended an empty tanker truck on a rural western Pennsylvania highway Wednesday, sending the drivers of both vehicles to hospitals. A7

Equipment blamed for fire

Officials say an equipment malfunction appears to have sparked a fire at a western Pennsylvania gas drilling site. No injuries were reported. A8

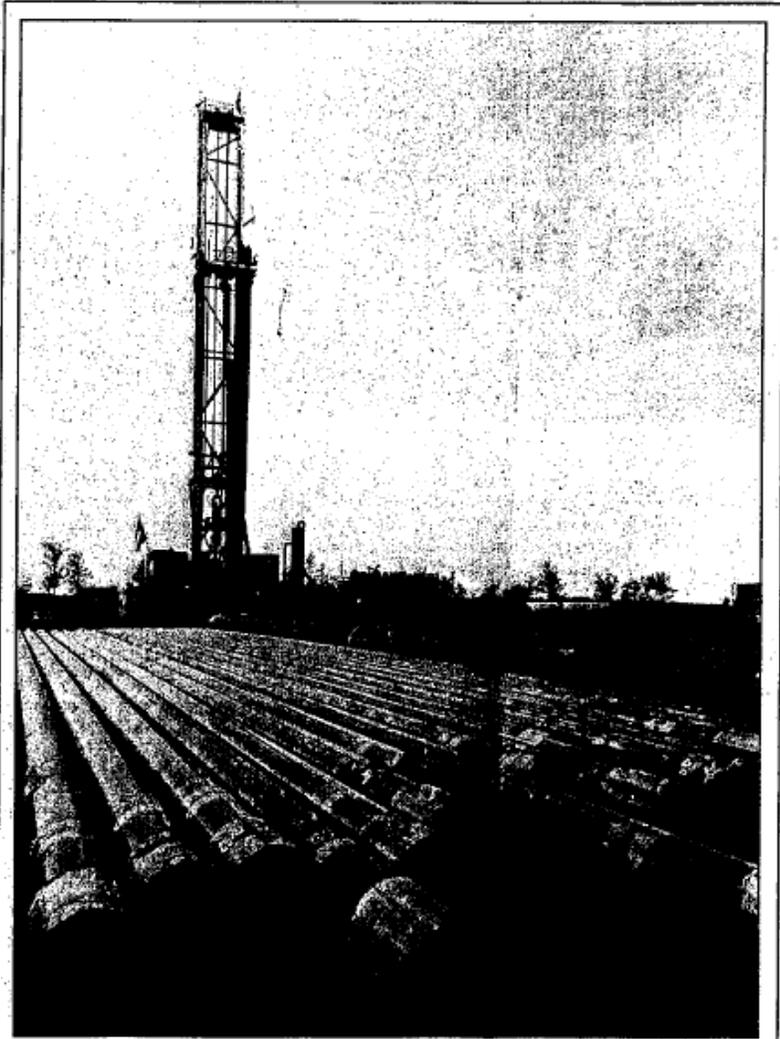
Penguins win over Oilers

Though he wasn't sorely tested for most of the game, Marc-Andre Fleury stepped up when the Pittsburgh Penguins needed him most. B2

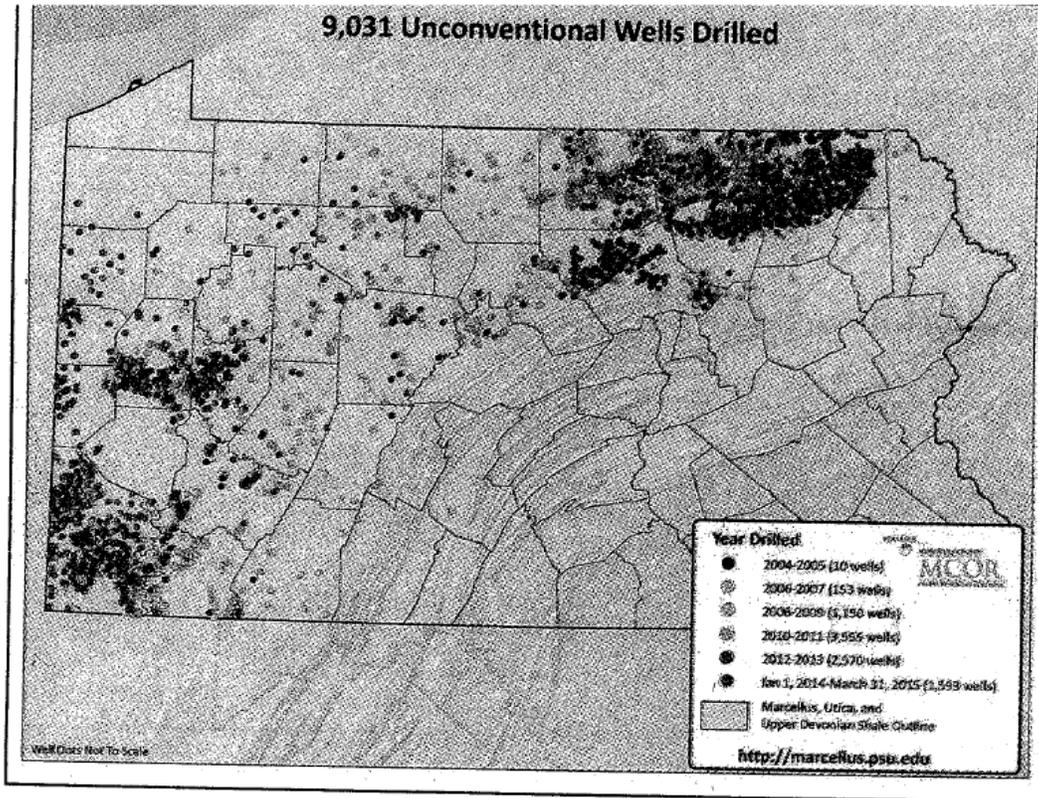
Obituaries

- Stephen F. Carr, 63
- Malinda L. Chemsak, 66
- Nora Leshok, 94

Tomorrow's



Seneca Resources Corporation's production of natural gas and crude oil for the current quarter increased by approximately 29.8 percent compared to the prior year's first quarter, according to the fourth quarter earning report of its parent company, National Fuel. This increase is partially attributed to Seneca's "strong well results" on Clermont Pad D on Billy Buck Road in Jones Township, pictured, as well as other wells drilled in the Clermont-Rich Valley area in Elk County. Seneca Resources is continuing to take steps to ramp up into a full drilling plan in Elk County, where it owns 56 percent of the mineral rights countywide. Gas production in Elk County has been projected to increase eight-fold over the next three years, according to elected officials. (Photo by Katie Weidenboerner)



Approximately 9,031 unconventional wells have been drilled in Pennsylvania between 2004 and March 31, 2015. Currently, 100 wells have been drilled or are being developed in Elk County. Sixty percent of those belong to Seneca Resources. (Photo submitted)

that he
Onset of steps at the bottom of the hill welcoming as DuBois. We begin Aug. 5. He said inter-
See Reynoldsville, Page A7 very fortunate to live in See DuBois, Page A7



Brockway Fire Co. responded to a gas line fire at 7:23 a.m. Monday on Empire Ridge Road, Snyder Township. Brockway fire Chief Jeff Fustine reported that the fire was located in a remote area and there was no danger to any structures. Personnel from Seneca Resources responded to the scene and turned off the gas. The fire company was assisted by Brockway Ambulance. Emergency units were on scene for 1 1/2 hours. No property damage or injuries were reported. (Photo by Terry Fustine)

PENN HIGHLANDS DUBOIS has been Penn Highlands DuBois Primary Stroke Center

*DuBois Courier
July 29, 2014*

(285)

Response: To the extent that the commenter is suggesting a statewide ban on oil and gas operations in Pennsylvania, see the response to comment 2040. The Department believes that the revisions to Chapter 78 and 78a will establish responsible way to operate Oil and Gas industry and provide appropriate protections for public health and safety and the environment.

2437. Comment: Residents in our township that live in a village designation with residential development have learned through firsthand experience about the EPA and DEP regulations for disposal injection wells. A proposed disposal injection well has been sited on a hill above numerous homes with springs and private water wells. Residents have worked to be educated and also to fully understand the process of disposal injection wells. Residents have educated our community, since 2010 once learning of this poor siting. We have found no regulations actually protecting our residents from the surface location; their water supplies; or the detrimental effects of the site location, since the EPA only focuses on underground sources of water.

This letter is our formal request to the DEP for further research on regulations that oversee disposal injection well sites, especially surface conditions. The comments we present cover the specific regulations found in sections 78.51; 78.52; 78.56; 78.57; 78.58; 78.59; 78.60; 78.61; and

78.62.

We request the DEP thoroughly review a binder submitted by area residents. It was provided at the DEP & Environmental Quality Board (EQB) Public Hearing on January 23, 2014 with all the information locally collected, which is extremely relevant to protecting Pennsylvania's water sources.

Our township realizes that the DEP depends on the permitting of disposal injection wells by the EPA. Unfortunately, the EPA only deals with underground sources of drinking water and residents found no way to protect above ground water sources. Many concerns were presented by residents that were unable to be addressed by the EPA, especially the concern of our area coal mines and six old deep gas wells in the same formation along with plugging concerns. Residents also know of two private water wells being affected by an old deep gas well that is operational and the closest to the proposed disposal injection well site.

Some of the concerns include: abandoned gas wells with deteriorated casings, proximity to our watershed and other area watersheds with faults known in the area, protection of private water supplies, cost to check water sources regularly, roads, air quality, soil, loss of property values and much more. The DEP needs to review the information collected by private citizens on potential hazards to Pennsylvania water supplies from waste disposal. What happens underground really is an unknown and loss of water to homes is one of the most important items to home owners and to protecting the home owner's property values and our tax revenues.

Ensuring the DEP identifies future regulations for disposal injection wells is felt to be a priority to protect our state. Our state is founded on a history of oil and gas that had drilling done throughout our Commonwealth and especially our area. The DEP needs to look at regulations to plug and seal old abandoned and orphaned wells appropriately prior to new well construction to prevent pollution from accidents. To avoid repeating history in Erie, the DEP should prohibit disposal injection wells in Pennsylvania near residential areas or water supplies; because we know waste has traveled over five miles underground and been found resurfacing.

We also believe operators should be required to do pre-drill water quality testing and make the data publicly available. If contamination of a water source should happen the operator should be required to restore the supply to pre-drilling quality. The driller should also be required to provide a sufficient bond that will provide water for residents if contaminated and not just plugging costs. A comprehensive monitoring plan is also necessary with all the old gas wells and coal mines in Pennsylvania. The pressure from injection activity has the potential to displace brine and other fluids along the area fault lines into abandoned gas wells with the potential to contaminate underground sources of drinking water. The area has known faults and studies should be done due to all the problems in our nation with disposal injection wells and increased risk of earthquakes. New standards or casings will not protect where the fluids travel over time below the surface once they reach the injection zone especially when known fractures, faults, and old gas wells already exist.

Township Office
814-583-7660

Brady Township
3906 Shamokin Trail
P.O. Box 125
Luthersburg, PA 15848

RECEIVED
U.S. E.P.A.
Municipal Garage
814-583-5324

2014 NOV 25 PM 12: 0

ENVIR. APPEALS BOA

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
PERMIT #: PAS2D020BCLE
PERMITTED FACILITY: Class II-D injection well, Zelman #1

November 13, 2014

Dear Environmental Appeals Board,

The Brady Township Supervisors submit this petition for review (appeal) of the EPA permit for Windfall Oil & Gas for a disposal injection well in Brady Township. This petition for review will provide sufficient evidence that the permit be denied for this proposed location. We have already participated numerous times in your public comment periods and at your public hearing. This letter is in compliance with your word limitations.

The Brady Township Supervisors request the Environmental Appeals Board (EAB) "deny this permit" based on the following two regulations since sufficient evidence is available that the confining zone may be fractured and unable to protect resident's water supplies. The two regulations: 40 C.F.R. §146.22 (a) All new Class II wells shall be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review. 40 C.F.R. §146.22 (c) (2) & (d) (2) Well injection will not result in the movement of fluids into an underground source of drinking water so as to create a significant risk to the health of persons. As the Supervisors of this township we are responsible for the safety and well being of our residents and we work hard to protect their rights and privileges to reside in our township. Additionally, this area has been designated a village in our Comprehensive Plan and additional development is planned for this area soon.

After review of the EPA permit on file at the library we still find the maps available only show slightly over the ¼ mile area of review. The cited map was found and reviewed again, which still isn't sufficient for residents to verify all the geological data locally. The EPA Form 7520-6 Underground Injection Control Permit Application specifically states in the instructions for Attachment B to, "submit a topographic map, extending one mile beyond the property boundaries." The EPA Response Summary (page 3, #5) is inaccurate in stating that the one mile topographic map was included and is on file at the library. The library still has the maps and none of them meet the EPA permit application criteria.

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
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Additionally, the gas well logs found at the library in the permit application stated:

- 1) 033-20336 -- hydrofac on 2/2/61 (on Chapman farm);
- 2) 033-20333 -- 12-22-60 fractured w/ 20,000 gals., 200 lb. gel, 1,000 gal acid and 20,000 lb. sand (Ginter);
- 3) 033-20341-P -- 11/25/60 Halliburton hydrafrac from 7,299 to 7,365 with 11,900 gal. frac. fluid (Carlson & it was fracked only 18 feet below the confining layer, which is the only known information we have about the depth of the fracking from the well logs in the permit application);
- 4) 033-20325-P -- dry hole, plug & abandon (Potter #1); and
- 5) 033-20327 -- 9/27/60 fractured w/ 20,500 gals. water.

The table with these well logs shows another deep gas well into the same formation as the permit application request although we didn't see a well log. The well logs with the permit application show they have been fractured and they all reside right on the edge of the 1/4 mile area of review. Yet Windfall stated on the permit application attachment "I" that, "no fracture data is available in the area on the confining zones." We find this statement inaccurate along with the EPA response summary (page 13, #11) is only 14 feet thick. The original permit misstated that the confining zone was fifty feet thick. When we reviewed the table on the gas well data we find that the confining zone may even only be as thick as 11 feet. Although, it may only be 6 feet thick because no one really knows. Proving fractures into the 1/4 mile area of review should be sufficient data to provide basis to deny this permit. Due to the regulation stating, "40 C.F.R. §146.22 (a) All new Class II wells shall be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review."

We request the area of review be extended to a 1/2 mile radius to consider all gas wells in the area, especially since 6 gas wells exist a few feet outside the 1/4 mile. The EPA Response Summary (page 13, #12) stated Oriskany wells were further away locating them at least 1/2 mile to one mile from the proposed disposal injection well. The well location plat map in the permit shows the wells at:

- 1) Permit #20327 located feet from injection site 1,380 (60 feet outside 1/4 mile)
- 2) Permit #20325 located feet from injection site 1,476 (156 feet outside 1/4 mile)
- 3) Permit #20553 located feet from injection site 1,371 (51 feet outside 1/4 mile)
- 4) Permit #20626 located feet from injection site 1,423 (103 feet outside 1/4 mile)
- 5) Permit #20333 located feet from injection site 1,481 (161 feet outside 1/4 mile)
- 6) Permit #20341 located feet from injection site 1,747 (427 feet outside 1/4 mile)
- 7) Permit #20597 located feet from injection site 456 feet from injection site

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
PERMIT #: PAS2D020BCLE
PERMITTED FACILITY: Class II-D injection well, Zelman #1

The EPA Response Summary is inaccurate with the 1/2 mile statement when the gas wells are right outside the 1/4 mile area of review just feet from the 1/4 mile line as shown on the maps provided with the permit application. This map also shows it may be off by 10 feet give or take (accuracy 10 +/-). The map accuracy being off by this much could put these inside the 1/4 mile area of review, so they must be taken into consideration.

Residents requested the area of review be extended due to the gas wells in the Oriskany outside the 1/4 mile area of review and all the private drinking water sources throughout the area. We know Darlene Marshall provided the EPA a list of water sources in a one mile area along with comments on both these concerns. Also at the public hearing, Rick Atkinson, provided a zone of endangering influence calculation that demonstrated at the December 2012 public hearing that assumed non-transmissive faults would change the zone of endangering influence making it larger so that the area of review should be extended. Both residents stated, "the Carlson gas well should be considered as it is in the same formation as the injection zone and the Carlson gas well is a source of concern for neighbors as mentioned in testimony because the casing is suspect due to fumes it emits." It was also mentioned that the faults might push the disposed fluid right towards two of the old deep gas wells and the coal mines if they do confine the disposed fluid.

It is also questionable that a fault block exists even though the EPA Response Summary mentions fault blocks, since it isn't shown on the permit application map. A fault block would show faults surrounding the entire injection zone and confining the injection fluid. Another inaccurate statement seems to exist based on the map information showing faults in relation to the old gas wells (EPA Response summary page 10, #8), which mentions plugged wells not producing outside the fault block. This is an inaccurate statement because Atkinson's property well was never plugged and has been used till more recently (may be currently listed as inactive) and is located on the permit applicant maps on the other side of a fault. Since they didn't prove a fault block exists the faults may or may not be transmissive. With no way to prove if the faults are non-transmissive or transmissive we request the permit be denied.

It seems that many items are inaccurate or questionable and the lack of geological information available during the permit review period should have been addressed already. Residents requested a comprehensive monitoring plan and with all the old gas wells in the area you would think this would have been addressed. Taking any risk with

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
PERMIT #: PAS2D020BCLE
PERMITTED FACILITY: Class II-D injection well, Zelman #1

so many old deep gas wells in the same formation, so near the injection zone is a risk not worth taking especially with so many inaccurate details, unknowns, private water

supplies, and coal mines under the entire area. So how many inaccuracies must we find before the permit is denied. Based on just these facts presented the permit should be denied.

Residents state 17 water sources were identified in the 1/4 mile radius of review and the permit applicant included a well location plat map with the EPA permit showing 14 private drinking water sources. Darlene Marshall also provided information and a map showing 16 additional water sources located near a deep gas well that was mentioned should be checked for proper plugging.

Many individuals attended and presented information at the public hearing where we setup 300 chairs and most of them were filled with standing room only. The EPA has stated over 2,600 comments were received. Local residents found permit details to be inaccurate as presented to residents and local governing bodies, which five governing bodies were represented at the meeting (Clearfield County Commissioners, Brady Township, Sandy Township, City of DuBois, DuBois School Board along with local State & Federal Representatives). We currently haven't received a transcript of the comments although we would appreciate a copy, so we are writing this from comments we provided, heard at the hearing or know residents submitted. For ease of filing this appeal we mostly cite the binder submitted by Darlene Marshall on behalf of all concerned citizens. This binder needs to be entered into the EAB evidence and fully reviewed before any decisions are made because many concerns still need to be addressed. Please note all residents worked to gather the information in this binder and Darlene Marshall as a librarian compiled the information for the residents making it an excellent resource on the known concerns.

Residents request this permit be denied on these inaccuracies because of the proximity of so many other Oriskany wells, so close to the 1/4 mile. These wells would have been fractured and these fractures would have went into the 1/4 mile area of review. This means that this permit would violate the following regulations : 40 C.F.R. §146.22 (a) All new Class II wells shall be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review. 40 C.F.R. §146.22 (c) (2) & (d) (2) Well injection will not result in the movement of fluids into an underground source of drinking water so as to create a significant risk to the health of persons.

A fault in Clearfield County mentioned in the EPA Response Summary #8, page 7, seems like it may go directly through the area of review. Residents request further study of this

fault and all the faults in the area. Making general statements about the county isn't sufficient when faults can be a main concern where disposal injection wells exist. Many comments were submitted by residents in September 2013 with concerns because some areas with "no known" existing faults have proven to cause seismic activity. See example cited of Timpson, Texas that sits on top of a tectonic plate that should be geologically stable but it still has experienced seismic activity from injection wells. Our resident's homes aren't built to meet earthquake standards. Additionally, the regulation 40 C.F.R. §146.22 stated, "this area should be free of faults," so this should be sufficient to deny the permit.

A comprehensive monitoring plan was requested and still is expected to be provided to our residents before this permit is issued. This will protect our residents since all the gas wells are near the injection zone into the same formation as the disposal of fluid. Protecting our water supplies should be a priority when they could be jeopardized and it would be costly to provide them water. The permit applicant should be required to provide water before the permit is issued just in case water contamination happens.

The permit states it is for a five year period yet it can be extended. Over time the fluid will migrate further and closer to the other Oriskany wells and residents have already questioned the proper plugging of some old gas wells, so monitoring gas wells must be considered before the permit is issued. Plus it seems that the application has inaccurate information when you compare the data to the maps so if residents find these inaccurate statements on basic details they know what will protect residents and our township in the future. For example, 1) the confining layer thickness was corrected by a resident, 2) no topographic map extending one mile from the property boundaries was provided, 3) gas wells are located right outside the 1/4 mile yet the EPA response statement mentions they are located a 1/2 mile away, 4) the information on a fault block is questionable, and 5) an Oriskany formation gas well may be listed incorrectly in the permit application in relation to the faults.

Correcting the confining layer based on a comment from 50 feet of thickness to 14-15 feet should demonstrate no one knows specifically the geology below ground and we know this area has been fractured before so residents deserve protection (more than guesses). The shallow gas well 456 feet from the injection site is fractured above the

confining layer. The coal mines are extremely close to the injection site and they would have been technically fractured. The other Oriskany gas wells have fractures that would reach into the area of review that would be below the confining layer. Plus no one knows if all the fracturing affected the proposed layer that is the confining zone. Yet fractures

exist and should be considered that may have affected this confining zone, which is not as thick as originally mentioned in the EPA permit. The migration of fluids below ground hasn't changed since the start of disposal wells even though injection standards have improved for casings and providing automatic shutoffs.

As the supervisor of a 58 well natural gas storage operation our Township Supervisor, Mr. Charles Muth, is familiar with the monitoring process and gas storage. Muth states, "there are not monitoring wells in the area of the injection well. The fluid going into this well should be classified as storage, as per your response, it is the EPA opinion that these fluids will be confined in the Oriskany sandstone formation. When you have other Oriskany wells plugged or still in production the drilling records would have to be reviewed to be sure of what fracking process was used. If all wells were fracked before any plugging operations occurred the possibility of fractures meeting could exist there for allowing this fluid while injected under pressure and the saturation process would let it migrate outside the reservoir area of the injection well.

Our company worked with the DEP not the EPA, as they monitored pressures in this gas storage field. There was a migration of gas in this field from south to the north during the injection process. Pressures on the south would be considerably less than to the north because of the migration of natural gas to the north. You can not control, so you must monitor.

The only way this problem was found was through monitoring using the monitoring wells located around the perimeter of the storage field. As the migration continued northward our Company had to drill additional monitoring wells in the north end of the pool as well as force owners of production wells to start sampling their gas for storage gas. In one case, our Company had to purchase a production well because it's contents was storage gas.

Windfall has no plan in there permit application to do this. With the low to non-producing Oriskany wells just outside the 1/4 mile radius it would make it possible to observe what these fluids are doing as far as movement. It would also let the EPA know whether these fluids are trespassing to another property owner, which was also addressed

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
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at the EPA's public hearing and in the EPA response statement.

It is also in the EPA application to put up a bond or whatever to cover plugging of this well. This may be enough to plug it but who is to cover the costs of contamination if leakage would occur. As the old saying states, 'can't shut the barn door after the horse

has escaped.' With all the engineering reports, surveys, and etc. let us be realistic, does anyone know for sure what will take place at the bottom of this hole. So if the EPA is to go ahead and issue this permit and with growth potential of this area as mentioned in the Township Comprehensive plan then why not have Windfall spend a little more money to monitor activities as well as put monies in escrow (just in case the horse escapes) because if it does they could file for Chapter 11 or 7 and walk away with a pocket full of change. Then someone else will be stuck with the clean up and only then if cleanup can be completed."

Most of the Oriskany wells would have been fracked since one gas well was listed as a dry hole and the other four gas wells found with the permit application show statements of fracturing being done. A shallower gas well is already near the proposed injection site with permit #205977 we call this the Deposit well drilled to a depth of 3,576 and Mr. Muth knows it was fracked from his own experience or it wouldn't produce. This shallow well was fractured above the confining zone and no one knows how far the fracturing process would affect. Additionally the coal mines are all throughout the 1/4 mile area of review with blasting having been done that is fracturing. These are all significant items to deny the EPA permit based on the regulations stating the area should be free of known fractures.

Another example that would make us question the confining zone is that the Carlson well shows fracturing only 18 feet below the confining zone. This would present a question if the confining zone would have been hurt during the fracking process. No one knows how far out the fracturing process goes or what it affects. Samples show that the confining zone was maybe only 11 feet thick, 14 feet or 15 feet yet it could be 6 feet thick. What if samples weren't correctly taken.

Fracturing of gas wells with gas wells into the same formation as where the fluid will be disposed takes chances when no one knows how far the fractures went. Plus the fracturing of a gas well above the confining zone near the injection site along with an unknown variable of the confining zone thickness presents sufficient evidence that this is

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
PERMIT #: PAS2D020BCLE
PERMITTED FACILITY: Class II-D injection well, Zelman #1

a risk that shouldn't be taken in our area. Residents identified many other gas wells in a one mile radius and raised these same concerns during the public comment period.

Residents have many other concerns and all the information presented should be looked at more closely since so many incorrect items were pointed out already. Our local fire company is concerned about the safety of the trucks coming down off the site onto our roads, which aren't built to handle this type of traffic. Spills have potential to

contaminate our water supplies because this hill is a recharging zone for the area as listed on the map provided with the permit. Some residents depend on springs for their water supply with these homes right below the injection site. The coal mines are located directly along the road next to where the entrance for the site is proposed. Any spill would be detrimental to water supplies and might even flow into Underground Sources of Drinking Water (USDWs).

Based on all these facts presented the permit should be denied.

Signature,

Sheryl DeBour
Brady Township Secretary

RE: Petition to Review (Appeal) Permit for Windfall Oil & Gas, Inc.
PERMIT#: PAS2D020BCLE
PERMITTED FACILITY: Class II-D injection well, Zelman #1
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Wilson Fisher, Jr., P.E., P.G. (Brady Twp. Engineer)
36 N. 2nd St., Clearfield, PA 16830
814-765-7541
Fax 814-765-6488
wilsonf@hessfishereng.com

November 26, 2014

Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
1201 Constitution Avenue, NW
WJC East, Room 3334
Washington, DC 20004
PHONE NUMBER - 202-233-0122
Via FedEx

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ENVIR. APPEALS BOARD

Dear Environmental Appeals Board,

On behalf of Brady Township, I hereby submit this petition for review (appeal) of the EPA permit for Windfall Oil & Gas for a disposal injection well in Brady township, Clearfield County, Pennsylvania.

The basis for this appeal is predicated on the position that Windfall has failed to meet its burden to satisfy the provisions of 40 C.F.R. §146.22 (a) All new Class II wells shall be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review, and C.F.R. §146.22(c)(2) & (d)(2) Well injection will not result in the movement of fluids into an underground source of drinking water so as to create a significant risk to the health of persons.

Specifically, proximate old gas wells, i.e., permit #'s: 20325, 20327, 20333, 20341, 20553, 20597 and 20626. These wells are located on the permit maps. They are all potential conduits from the injection zone to the 33 nearby residential private drinking water sources. Supportive of such concerns, a recent ProPublica (A. Lustgarten, "Injection Wells, The Poison Beneath Us", June 21, 2012) review of well records, case histories, and government summaries of more than

220,000 well inspections found that structural failures inside injection wells are routine. From late 2007 to late 2010, one well integrity violation was issued for every six deep injection wells examined - more than 17,000 violations nationally. More than 7,000 wells showed signs that their walls were leaking. Records also show wells are frequently operated in violation of safety regulations and under conditions that greatly increase the risk of fluid leakage and the threat of water contamination.

Additionally, several geologic fault zones as plotted on the permit maps, penetrate the injection zone area and others are close. The representation in the permit is that they create a confining zone. There appears to be no specific data presented to draw that conclusion. Common geologic knowledge of faults is that they are zones of weak fractured rock along slip planes within subsurface rock. Such fractured rock zones are transmissive to water. Additionally, increases in hydrostatic or hydrodynamic pressure and/or stresses due to normal geologic tectonics can cause the faults to move. Such movement is occasionally triggered and lubricated by fluids under pressure in or about the fault.

There was no detailed analysis of earthquake potential in the application relative to earthquake sensitivity and earthquake hazard specific to the pressurization of the injection well. This omission is critical. Public awareness and sensitivity has been heightened from injection well operations that have resulted in numerous earthquakes.

Notably, a 5.62 magnitude earthquake in Oklahoma on November 6, 2011, was injection well-related. Geophysicists at the University of Oklahoma, Columbia University and the United States Geologic survey found that an old oil well used for pressure injection of wastewater near a fault line triggered a small quake which in turn triggered the large earthquake plus a third (smaller) aftershock.

The large earthquake was the largest recorded in Oklahoma history. It destroyed 14 homes, injured 2 people, buckled pavement and was felt in 17 states. The injection well was near a fault that was not known for earthquakes.

A University of Oklahoma geophysicist stated that seismicity can be delayed as much as 20 years after injection and perhaps as little as 5 years from substantial increases in injection pressure. It's likely that the fluid injection triggered the earthquake. Existing pent-up tectonic stresses within the earth, especially along faults, will

cause the rock strata on either side of the fault to move (slip) in response to fluid injection under pressure, thereby causing earthquakes.

Increased earthquakes in Oklahoma, Texas, Arkansas, Ohio and Colorado have all been related to injection wells. In fact, in Colorado, by state law, a state seismologist has to review the location and design details of an injection well permit before it is issued. EPA should require this same scrutiny.

The United States Geologic Survey has noted that the frequency of quakes induced by waste fluid disposal wells for oil and gas operations has been increasing (Remarkable Spate of Man-Made Quakes Linked to Drilling, USGS Team, Energy Wire, March 29, 2012, Mike Soraghan). The USGS also expressed concerns that quakes may damage underground gas, oil and waterlines and wells that were not designed to withstand them. (How Fracking Disposal Wells are Causing Earthquakes in Dallas-Fort Worth. State Impact Texas, NPR 06/08/2012, Terrance Henry)

Within the planned location of the injection well, the PA Geologic Survey has mapped (Geology and Mineral Resources of the Southern Half of the Penfield 15-minute Quadrangle, Pennsylvania, William E. Edmunds and Thomas M. Berg, Atlas 74 cd, 1971, also see Plate 12) a number of persistent northeast striking reverse faults with probable splay faults between them.

The presence of the faults is a result of substantial tectonic forces in this area. These forces are unique to the area between the Chestnut Ridge Anticline and the Punxsutawney-Caledonia Syncline - the area of the proposed injection well. The tectonic forces focused on this locale long ago. They were partially relieved by the faulting, but never completely. Typically, the mechanics of the force, i.e., plate movement, continue to build stress. The residual stresses plus additional cumulative stresses create the potential for earthquakes induced by a trigger mechanism such as fluid injection.

This site is close to two mapped geologic faults of the above referenced fault system. The issuance of this permit at this location is inappropriate. It should not be issued as a result of the scientifically established correlation with the earthquake trigger mechanism, i.e., pressurized fluid injections near faults.

Also, the injection permit will allow the disposal of spent fracturing fluids. These fluids consist of 90% water, 9.5% sand and 0.5%

chemical additives. The additives, usually up to 12, are of substantial concern. A report (Chemicals Used in Hydraulic Fracturing, Committee of Energy and Commerce, U.S. House of Representatives, April 18, 2011) prepared for House Democratic members stated that of 2500 hydraulic fracturing products " more than 650 contained chemicals that are known possible human carcinogens, regulated under the Safe Drinking Water Act, or listed as hazardous air pollutants."

Consequently, the disposal of fracturing fluids (containing known carcinogens) in close proximity to a number of domestic USDW's with a high risk factor, due to proximity, conduits (faults, gas wells) plus long term pressurization, is unwise, imprudent and unsafe.

Other Permit Deficiencies

1. Testimony at the public hearing on December 10, 2012, indicated that the Oriskany formation is fluid saturated. Gas company operators and drillers stated that water has to be removed from the Oriskany regularly from gas wells in order to sustain gas production at a reasonable level. Since fluids are not compressible, the pressures developed by the injected fluids will displace the existing connate water beyond the zone of influence in short order to be followed by the waste water. The fluids will move along zones of weakness (joints, faults, bedding planes and inhomogeneities in the mineral and physical composition of the rock formations. [Variability in the mineralogy and physical characteristics of rock formations is normal, whereas homogeneity is abnormal.] Due to these variations, fluid movement beyond the zone of influence will be extreme at some locations and less so in other areas. The injected fluids will not spread uniformly about the injection well. Geology and hydrogeology are not sciences of exactitudes.
2. The application is deficient relative to its determination of the strength, porosity, permeability and transmissivity of the geologic materials within which the waste water is being pressurized for disposal. The EPA should not issue a permit without site specific geologic and hydrogeologic characterization so that accurate critical determinations can be made. Hydrogeologic and physical parameter characteristics used from sites that are many miles removed from this location is highly presumptive and devoid of scientific reason. Only the well area can provide the site specific information necessary for calculations of critical elements such as the porosity, permeability, maximum surface injection pressure, injection rate and the injection zone geometry. The applicant should have performed detailed subsurface seismic mapping; additionally, a professional geologist

should be present while drilling a pilot hole, log the lithologies, take samples, perform lab testing, run down hole geophysical tests, measure the porosity and permeability and conduct an injectivity test. The data should be scrutinized by a knowledgeable, experienced geologist in such matters whose well development recommendations are meaningful.

3. The application for the injection well permit presents no proof that the applicant has obtained subsurface fluid migration rights as required by Pennsylvania property law. Without compelling the applicant to obtain such rights from the owners of the subsurface, the EPA, by issuance of the permit, would be authorizing a defacto trespass violation by the applicant.

The draft permit under PART I, A. Effect of Permit, states: "Issuance of this permit does not convey property rights or mineral rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights or any infringement of State or local law or regulations." It is incomprehensible that the Federal EPA would not require the applicant for an underground injection well permit to provide proof of rights to inject wastewater fluids within someone else's subsurface ownership rights as a pre-condition of the issuance of the permit.

Beneath the Zelman and adjoining properties the gas is leased by CNX Gas which is a subsidiary of Consol Energy Corporation. The gas and mineral rights are owned by John and Brandon Fairman, each owning 50%.

Most owners of gas and mineral rights would not agree to have wastewater within their property. Especially wastewater which cannot be discharged unless substantially treated. Its presence compromises the owners' ability to fully develop and use their resources, i.e., a taking without compensation.

The Zelman property (surface rights only) is 19.87 acres. The Zelman's do not own the subsurface rights. The area of review used to evaluate the well is ¼ mile or a 1320 foot radius around the proposed injection well or 125.6 acres. The area of review is substantially larger than the Zelman surface property. The point being: the injected wastewater will be trespassing. No subsurface rights were presented by the applicant; therefore no permit should be granted.

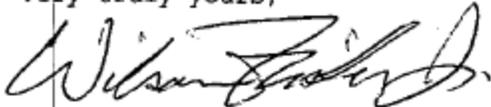
The Supreme court of Texas in an opinion of the court, dated August 26, 2011, found that physical trespass by subsurface migration from an injection well was an appropriate basis for a claim for damages.

4. Given the potential risk to public and private water supplies, township infrastructure and earthquake damage, the township requests that the applicant post a performance bond of \$5,000,000 with them, for:

- (1) Potential private water supply impact or loss.
- (2) Potential impact or loss of the public water supply wells for the Brady-Troutville Water Association, which derives its water from multiple deep groundwater wells in the township and serves over 1000 residents.
- (3) The township roads to be used for access to the injection well will require excess maintenance given the multiple heavy trucks expected to travel on them during the development and service of the well. [PennDot roads also may require maintenance bonding.]
- (4) Damages to homes and infrastructure from potential earthquakes.
- (5) Insure the maintenance, proper closure and monitoring of the injection well in the eventuality of bankruptcy by the applicant.

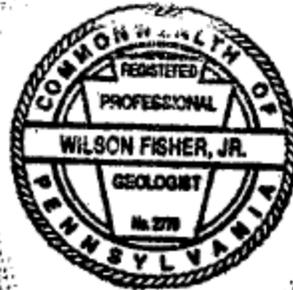
Your consideration of these matters is requested.

Very truly yours,



Wilson Fisher, Jr., P.E., P.G.
Brady Township Engineer

cc: file



RE: Windfall Oil & Gas, Inc.
Permit#: PAS2D020BCLE
Permitted Facility: Class II-D injection well, Zelman #1

Certificate of Service

I hereby certify that copies of the above appeal were sent to the following persons in the manner indicated:

By First Class U.S. mail:

Windfall Oil and Gas
63 Hill Street
Falls Creek, PA 15840

Shawn M. Garvin
Regional Administrator of EPA Region III
USA EPA Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

By Electronic Mail (e-mail)

Shawn M. Garvin, Regional Administrator of EPA Region III
R3_RA@epa.gov

On November 26, 2014 by:

Name: Wilson Fisher, Jr. 

Address: 36 N. 2nd St.

City, State, Zip: Clearfield, PA 16830

Email: wilsonf@hessfishereng.com

Phone: 814-765-7541

(287)

Response: For matters related to UIC well permitting, please see response to comment 2431.

For matters related to induced seismicity, please see response to comment 2415.

2438. Comment: On 14 March 2014, I submitted written comments to Pennsylvania's Environmental Quality Board (EQB) on the proposed oil and gas regulations.

Due to the passage of time, I am not certain if the same personnel and/or leadership are still in place at the EQB. Accordingly, I wish to re-submit my 2014 comments, plus some additional information, in this e-mail submission.

Here are my additional comments

I am an eye-witness to how oil and gas exploration can impact innocent bystanders in a residential neighborhood. In 2012, a new oil well project began in a lot directly neighboring my parents' homestead in Pleasant Township of Warren, County, Pennsylvania. Even though my parents' home is located in a neighborhood zoned R-1 Residential, Pennsylvania's Act 13 of 2012 vitiated those regulations, thus allowing this industrial activity to proceed. Despite my family's objections, personnel of the Pennsylvania Department of Environmental Protection (DEP) issued the permits to drill oil wells in close proximity to my family's home and water well. DEP personnel were already informed of the existence of an abandoned oil well on the Atwood homestead, signaling a serious vulnerability for the Atwood water well. Despite all of this, the wells were drilled and hydro-fracked in the months to follow. By 2013, the Atwoods were forced to drink bottled water because of DEP's finding of contamination of the water well. The Atwood family had no real choice but to lay 800 feet of water line to connect to municipal water on Farm Lane. This was done at the family's expense.

It has been my family's experience that the regulations governing oil and gas exploration are toothless in Pennsylvania. They are a "Paper Tiger", and enforcement is left in the hands of field offices whose personnel show little interest in actually enforcement.

No new oil or gas well should ever be drilled or hydro-fracked anywhere near any abandoned wells, ever. If DEP cannot plug the wells and safeguard existing nearby water wells and human dwellings, that permits for new oil and gas wells must be prohibited in said neighborhood. The risk to water supplies and property values is too great to warrant such reckless activity.

And wherever a home's water well is contaminated by oil and gas activity, the oil and gas operator must be bonded to cover damages and DEP must be required to hold the operator responsible to pay for hooking up the home to a municipal water supply if such a water line is available nearby. It is far too easy, under the current system, for operators to escape this responsibility. This disrespects homeowners' property rights (224).

Response: See response to comment 2388 regarding compliance and enforcement by the Department.

Plugging an identified well is a potential risk mitigation strategy available to an operator and this practice has been applied historically. However, assuming that all identified wells in the survey have not been plugged or pose equivalent risks, and mobilizing plugging equipment to each site to re-enter wells is beyond the scope of a reasonable regulation aimed at suitably addressing risk. By monitoring well sites appropriately as proposed in the regulation, an assessment can be made regarding the potential for environmental impact and corrective actions employed should an unanticipated communication event occur.

All violations of the Clean Streams Law must be addressed and appropriate remediation standards demonstrated. See the comments and the Department's responses on the comments on §§ 78.51 and 78a.51 relating to protection of water supplies.

2439. Comment: Charter revocation: Just as drivers' licenses can be revoked for serious infractions, so too, a point system of offenses should be structured for the gas industry, such that repeated environmental failures or fraudulent conduct is cause for the State to revoke the charter of an offending company. (17)

Response: Section 3253 of the 2012 Oil and Gas Act authorizes the Department to suspend or revoke a well permit or registration when there are continuing violations of the 2012 Oil and Gas Act, the Clean Streams Law, the Solid Waste Management Act, or other statute administered by the Department and the violation results in an unsafe operation or environmental damage.

2440. Comment: Even in the jungle capitalism called a "democracy", good health trumps crass profits!!!! (291)

Response: The Department acknowledges the comment.

2441. Comment: Motivate drillers to use processed mine wastewater in fracking. (292)

Response: The Department acknowledges the comment. The Department has developed a process to incentivize the use of mine influent water by oil and gas operators which is described in the White Paper: *Utilization of Mine Influenced Water for Natural Gas Extraction Activities*.

2442. Comment: Comments entered:

As I sent to Tom Wolf:

I am the voice of the stillborn who cannot speak,
I am the voice for the disabled in pain,
I am the voice of the asthmatics who cannot breathe,
I am the voice for those you have slain.

They breathe the air that's polluted by toxins,
They drink the water that's darkened by grime,
They scratch their skin raw on all the red rashes,
They go to school on roads covered in slime.

You are the cause of their sufferings and agonies,
You are the cause of their writhing in pain,
FRACKING is killing our totally defenseless,
It has no sympathy for those it has slain.

!!!DON'T KILL OUR KIDS TO PAY THE SCHOOLS!!! (264)

Response: The Department acknowledges the comment.

2443. Comment: In 2011, I co-founded the investigative news nonprofit Public Herald. I began this work to investigate you. Public Herald produced the documentary Triple Divide, which Scott Perry personally told me was “well done.” In Triple Divide we began to unveil how DEP has only pretended to protect the public.

I'd like to begin by dedicated these words to the people who've been harmed by this industry and agency: Terry Greenwood, Carl Stiles, Judy Eckert, The Carr and Headley families, The Sethman family, Jenny Lisak, Jennifer Goorelly, The Brown, Geary, and Latin families, Carolyn Knapp, The French family, The Ely, Carter and Pepper families, The Kretschman family, The Richardsons, The Barndts, Penni Lane and her children, and the countless others whom the DEP has harmed by issuing permits that led to the destruction of lives and lands.

It's time this agency stop pretending it can protect us; that it can replace contaminated water supplies, for example. I challenge everyone at DEP to wake up tomorrow morning and tell the truth that the true job of this agency is not to reduce pollution; its job is to increase it and then, sometimes, try to clean it up later.

Your authority is castrated as soon as a company feels it's in their best interests to deny responsibility. Companies tie you up in legal negotiations for months or years, and meanwhile real peoples' lives are destroyed, and you are forced to settle with the company in a “Consent Order.”

Right now, DEP admits to 256 cases of water contamination as of March 30, 2015, related to unconventional deep drilling and tracking operations. Of those 256, how many private water wells have you restored?

I'm baffled as to why Section 78.51. “Protection of water supplies” is even being reworted. What's the point?

I've looked at hundreds of your water investigations and guess how many restored water supplies I've found, out of more than 256 because you and I both know that number is incorrect. How many water supplies have been restored? Zero. Because a \$20,000 filtration system that requires electricity and routine maintenance is not a “restored water supply” folks, it's simple a very expensive water filter. Meanwhile, the dairy cows in the barn are still drinking the contaminated water, and their milk is going to market.

The icing on the cake is what you reward companies who deny responsibility with even more permits. Its absolute absurdity for the word “protection” to be used anywhere in your vicinity, and its high time you all be held accountable.

Martin Luther King Jr. fought for civil rights. I promise that as long as my body can stand, I will fight for the environmental rights that we are guaranteed by our Constitution and make sure that no one's rights continue to be abused:

Article I, Section 27 of the Constitution of the Commonwealth of Pennsylvania:

“The people have a right to clean air, pure water, and to the preservation of ...the environment. Pennsylvania's natural resources are the common property of all people, including generations yet to come.”

Acting DEP Secretary John Quigley had this to say about these regulations: “These proposed revisions focus on the need to protect public safety and the environment while enabling drilling to proceed.”

But I prefer the wise, courageous words of Martin Luther King, Jr, who said, “In the End, we will remember not the words of our enemies, but the silence of our friends.”

Will you continue to be silent? (311)

Response: The Department acknowledges the comment. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2444. Comment: Since both Chapter 78 and 78a are very similar, my comments apply to both chapters. Tonight I will address several general issues; specific comments will be presented at the other hearings.

Due to the wide-ranging impact these revisions will have on oil and gas operations it is important for industry to know if these new provisions will apply to existing wells and previously approved water management plans or sources. It is suggested that language be added to clarify the effective date for the new requirements and that wells constructed prior to that date are grandfathered in for purposes of the new requirements.

There are a number of definitions and sections of text that refer the reader to other statutes or regulations. This causes the reader to search elsewhere to find that other statute or regulation and look it up before being able to understand what Chapter 78a requires. This is not user friendly and does not facilitate regulatory understanding and compliance. For example, with regard to definitions, it would be better to provide the intended definition in §78/78a.1 or to state, “As defined in 25 Pa. Code § XXX.X,” rather than refer to a statutory citation that requires more effort to locate. This should be done for the definitions of process or processing, and regulated substance. It should also be done for §78/78a.13, §78/78a.51 (d)(2), § 78/78a.60 (a), and numerous other sections where citations to other statutes or regulations are given.

A number of sections are very detailed and prescriptive. It is suggested that these sections be given some flexibility to allow for the use of alternate methods as approved by the Department. These sections include § 78/78a.57a, Centralized tank storage, § 78/78a.59a. Impoundments embankments, § 78/78a.59b. Freshwater impoundments, and § 78/78a.68 Oil and gas gathering lines. There may be additional sections where it would be advantageous to both the Department and the operator to apply the same concept.

The proposed regulation does not recognize landowner rights. For example, in § 78/78a.73(c) and (d) it is presumed that the landowner will grant access to the well operator to monitor orphaned and abandoned wells during stimulation and to plug the orphaned and abandoned well if it is altered by the stimulation. The landowner is not required to grant the operator access, so the operator might not be able to comply through no fault of its own. It is recommended that in these instances, the operator should be allowed to certify the lack of cooperation by the landowner, or upon certification, the operator be relieved of the duty to comply.

There are numerous forms to be developed by DEP for use in implementing the proposed regulatory changes. Numerous of these forms are specified in the regulation and become a regulatory requirement. The forms have not been made available for review and comment, as is

required by Sec. S(a)(S) of the Regulatory Review Act, so these comments should not be considered complete. It is recommended that all such forms be made available for review and comment during the public comment period, and that the comment period be extended until such time as they are made available for review.

This regulation contains many new requirements beyond those contained in the previous version of Chapter 78 that was subjected to a 90-day public comment period and nine public hearings. These new requirements are extensive and, due to the format of old additions, new additions, old deletions and new deletions, difficult to read. It is recommended that, because of the amount of new material addressed and its complexity, a similar amount of opportunity for public participation be provided to the ANFR for Chapter 78a, with its many newly proposed requirements.

Thank you for the opportunity to testify this evening. API-PA and its member companies stand ready to continue to work with DEP on striking a balance between environmental protection and economic development. (296)

Response: See response to comment 2410 regarding grandfathering issues.

The Department acknowledges that the interrelation of environmental statutes and regulations can be complex, as befits the complexities of the activities being regulated under those authorities. There are two problems with inclusion of the referenced language in Chapter 78. First, and most importantly, if the referenced language changes through statutory amendment or regulatory development, the language in Chapter 78 would not automatically change to match the new language. This would create two sets of regulations addressing the same subject in different ways. Simply referencing the other statute or regulation allows for these updates to occur automatically. Second, including the cross-referenced language would result in Chapter 78 being significantly larger than it is without including that language. The Department notes that all of the cross-referenced authorities are available for free on websites accessible to the public. Additionally, the scope and content of the referenced sections is clearly defined with the rulemaking to allow the public and regulated community to determine the meaning and content of the regulations.

The sections identified by the commentator have appropriate provisions in place to allow deviation from the regulatory standard when appropriate.

The Department will develop clarifying guidance related to site access prior to promulgation of the final rule. Specifically, this issue will be addressed in a guidance document discussing the area of review requirements and the components of a suitable monitoring plan.

The Department plans to have all necessary forms, guidance documents, and procedures available at the effective date of the rule making.

See response to comment 2301 regarding the ANFR public review process.

2445. Comment: I thank the DEP for the opportunity to voice my views and those of our organization, Citizens Against Marcellus Pollution, over the proposed regulations.

I would characterize the proposed changes as modest beginnings with the need for far bolder improvements. Always of concern is the notorious Frack Pit, without question the most polluting

aspect of today's gas drilling. Last year, we presented you in Harrisburg with a petition and letters with over 17,000 signatures to Ban the Frack Pit, these open impoundments responsible for contaminating our water, soil, and the air we breathe.

What you are giving us, however, in the proposed regulations in place of the frack pit is, basically, a frack tank, a gigantic above ground-like swimming pool, allowed to be open at the top for the continuing evaporation of toxins like VOCs and a plastic lined bottom that will also be a continued source of leakage of cancer causing frack fluid. At one such tank located at the Trax Farm in Washington County, cars and trucks are dwarfed when parked next to the walls of this monstrosity. Needless to say, replacing the frack pit with such tanks is totally unacceptable since such frack tanks are in no way the closed loop system that was demanded and not the closed loop system encouraged by the U.S. Interior Dept. and adopted by such states as New Mexico and Illinois. Instead, you are giving us an above ground frack pit. And may God help us if the walls of these tanks are made of some cheap foreign material. One can only envision the devastation caused by a rupture of those walls. This regulatory change does not provide for the safety and welfare of Pennsylvanians and only a totally closed loop system will suffice in doing so.

Likewise, your allowing for the continued existence of centralized impoundments again is completely inadequate to protect our environment. The prohibition of these open waste impoundments must take effect immediately along with any open pits or tanks that are opened and plastic lined. The environmental degradation caused by such containments must end.

In so far as conventional drillers who are using unconventional fracking methods to frack shallow layers of shale, such drilling must also come under the same regulations pertaining to unconventional drillers, since their unconventional fracking is even closer to ground water and the danger of polluting this source even greater. Likewise, allowing conventional drillers to use road-spreading brine for de-icing and dust suppression is also unacceptable and should be prohibited and another reason why unconventional and conventional regulations should not be separated.

Likewise, failure to include any mention of polluting and noise emitting compressor stations is another area needing your prompt attention.

Finally, I would encourage you to read most carefully the Robinson Township decision handed down by the PA Supreme Court in which the Court provided valuable guidelines of what fiduciary role state and local governments must provide to ensure that Article 1, Section 27 of the PA Constitution is abided by. Use this enlightened ruling to guide you further on the role you must play in forming and providing regulations that protect our environment, as all DEP regulations should conform to this Supreme Court Ruling. We, the people, demand that the DEP through its regulatory duties truly act to provide for all the protections guaranteed under that Environmental Rights Amendment. The DEP must start doing the job of protecting us not just through modest means but through bold and decisive action. And let that action begin today!
(368)

Response: Regarding noise concerns, see the Department's response to comments submitted on § 78a.41. This section has been deleted from the rulemaking.

Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

See responses to comments 903, 1027 and 1365 regarding use of pits and impoundments.

See response to comment 1378 regarding the timeframes for compliance in §§ 78.59c and 78a.59c.

See response to comment 1910 regarding road-spreading of brine.

The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2446. Comment: I get my water from the Brockway watershed.

My concern is around 400,000 gallons of water are used daily! Currently they are fracking on our watershed. The gas company has drilled thru our aquifers and stopped the flow.

There is no way they can supply all water consumers with good clean and safe water as we NOW Have It!

Where are all the fracking fluids going? I know several truck drivers hauling fracking fluids and are having a hard time finding places to dump their polluted water! ARE THEY pumping it in streams, wood or into public water drains!

Who is going to guarantee our property value & great drinking water!

Our local senator Joe Scarnati is pro drilling! My major concern is all the lobby money has influenced all politicians' decisions on this process!!

The fracking on our Watershed could have been done off of our watershed with the horizontal drilling process. Drilling on our watershed has cost the citizens of the Brockway thousands of dollars on legal fees!

We the consumers of the Brockway Water Company are paying this in increased water & sewage bills.

Drilling on our watershed should be banned or anyone's water supply!

Recycling the fracking fluids should be done not using injections wells! Thank you. (279)

Response: There are many avenues for disposal of wastewater produced from drilling and stimulation of wells including beneficial reuse, underground injection control wells and centralized wastewater treatment facilities. The Department addresses illegal and improper disposal as it is made aware of the activity. Property value and political lobby concerns are beyond the scope of this rulemaking. Legal fees incurred by the Brockway water company are beyond the scope of this rulemaking.

To the extent that the commenter is suggesting a statewide ban on oil and gas operations in Pennsylvania, see the response to comment 2040. The Department believes that the revisions to Chapter 78 and 78a will establish responsible way to operate Oil and Gas industry and provide appropriate protections for public health and safety and the environment.

To the extent that the commenter is suggesting a statewide ban on injection control wells, that is beyond the scope of this rulemaking.

2447. Comment: Hydraulic fracturing will consume too much fresh water.

Incorrect - in the Susquehanna River Basin, the most fresh water that the industry has used in any single day is approximately half of what flows through the basin in 1 minute. That is less than one-half of one percent of the surface water available. Additionally, one of the combustion products of methane is water; some studies suggest that the combustion of methane creates more water than what is consumed by the oil and gas industry. (306)

Response: The Department acknowledges the comment.

2448. Comment: Hydraulic fracturing and underground injection of wastewater causes earthquakes.

Incorrect (mostly) - in the rare instances where earthquake activity has increased, which is less than 1% of instances, the causes are very site specific and can be explained in a geologic context. Now that this is better understood, we can avoid these instances going forward. (306)

Response: For matters related to induced seismicity, please see response to comment 2415.

2449. Comment: I have a private geological consulting and training firm in Waynesburg, Greene County, which is where I grew up and then a few years ago returned, before the Marcellus boom. Previously, I worked for one of the Marcellus operators, but also I have worked with a variety conventional and unconventional reservoirs in my long career, both across North America and internationally.

First, I want to commend and thank all of those who have worked diligently in drafting and vetting the proposed regulations. It is a LOT of work and all too often is a thankless, and in ways painful, process to make extensive and substantive changes to operating rules. I was involved intimately in a similar process in New Mexico a number of years ago, when the extensive development of coalbed methane in the San Juan Basin burst upon them much the same way that the Marcellus did here in Pennsylvania.

Having read through the proposed changes to Chapter 78, I have a three minor points that you may want to consider before all is finalized. I apologize for not having commented earlier in the process, so that these could be considered earlier, but I hope that my lateness does not diminish their possible consideration.

In several places in the proposed rules-some in hold-over wording from the previous rules, as well as in new changes-the terms “horizontal well” or “horizontal well bore” are used. Examples include §78.52a (a), its parallel §78a.52a (a), in §78a.72 (j), and even in regard to the drilling stream and road crossings while laying gathering lines under §78a.68a.

By definition the word “horizontal” means parallel to the horizon, at a right angle to vertical, level, midway between zenith and nadir.

Lateral well bores intentionally depart from vertical, through and out to any angle of deviation, and are only rarely truly horizontal. The Department recognizes that, under §78a.1, in the definition of a “non-vertical unconventional well” as being a well intentionally deviated from

vertical to be drilled diagonally or “horizontally”. The phrase “non-vertical conventional well” would be as equally cumbersome.

In all cases, any borehole being drilled intentionally away from vertical could easily be referred to by the more inclusive term “lateral” instead of “horizontal”. I suggest in the new rules that the word “lateral” be substituted for “horizontal” in all cases referring to a bore hole or well drilled intentionally away from vertical. (348)

Response: The Department believes that “horizontal” well is a term that is widely recognized with “directional” or “intentionally deviated” wells and respectfully disagrees that the suggested change would improve clarity in association with this rulemaking.

2450. Comment: I have been trying to educate myself by talking with Professionals, attending meetings and researching on websites concerning the impact of Marcellus Shale. I am presenting to you the follow information for the purpose of reinforcing the fact that “there is always an exception to the rule” in many different situations and so you can become more knowledgeable of our region. I am also giving you the following suggestions for those areas that are potential sites for gas and/or oil extraction, based on what I have learned to this point.

By far I am no expert, but God has blessed me with fairly good common sense and the ability to reason, along with a deep desire to protect our precious gifts of land and water, our means of survival. It is extremely unfortunate and yes even heart breaking that our society's mental ty has come to the point of: “food comes from the grocery store and water comes from the faucet.”

I would like to quote a Letter to the Editor written by Don Myers in the Tribune Review, April 3, 1989, a time during which I was involved in another community discrepancy.

"When the Europeans began settling North America, the air and rivers were pure, the landscape green, the Great Plains teeming with bison. Today we breathe smog, worry about toxic chemicals in our water, pave over the landscape and rarely see any large wild animal. Worse is surely to come. By the time we are old, half the world's species will be extinct, the air radioactive and the seas polluted with oil. Modern technology is a good place to look, but a change in attitude also may have contributed. Unlike modern society, at least some primitive people depend on and revere their local environment."

Don's letter goes on to quote Chief Seattle of the Duwamish, 1855 letter to President Franklin Pierce.:

“Every part of the earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every clearing and humming insect is holy in the memory and experience of my people. The white man is a stranger who comes in the night and takes from the land whatever he wants. The earth is not his brother but his enemy. Continue to contaminate your bed and you will one night suffocate in your own waste

I shared this to help demonstrate that the continuation of modern technology is not making things better, as we just keep spiraling downward towards self- destruction. Other natural God given alternatives, such as wind, solar and hydroelectric, need to be explored and must be supported more to help alleviate the growing need for energy, as someday the only thing that will be left in the ground will be huge voids that eventually will collapse. Increased education on energy conservation is something that can be very productive, as well. The following is my regulation

suggestions based on what I have researched and have experienced during these past, very few months.

Oil and Gas Regulation Suggestions:

Fresh drinking water:

1. Every effort possible must be made to protect the sources of our drinking water.
 - a. A thorough study of all sources, that includes “unnamed tributaries and springs”, must be part of the review process. Protection must be provided for them, along with the named streams, as this is where the water actually comes from that flows into the named streams.
 - b. This must be specified in the regulations, as the Ligonier Township Supervisors refuses to see their importance. They have made a 350 foot buffer, which I believe is too short of distance, for the named streams and they refuse to provide protection for the springs and tributaries.
 - c. The Chestnut Ridge and the Laurel Mountain, have the capability of producing some of the largest amounts of pure clean mountain spring water in all of Westmoreland County, via their springs and tributaries (see attached Penn State map, and Brook Trout info).

Will our aquifers, limestone, sandstone, etc. be able to withstand the extreme pressure of the fracking process?

2. Where Mountains and Ridges are involved, there needs to be specifications/exceptions to the general rule. Example:
 - a. There needs to be a specified distance allowance from the crest of a hill I mountain/ridge, in case there of a spill. Case in hand, the Four Mile Run is part of our back yard with the Chestnut Ridge, which was part of the Conservation District that no longer exists -now zoned as Agriculture, reaches 1,500 feet basically straight up on the opposite side with no bank.
 - b. I gave this scenario to the Supervisors that, “if there is a spill up on the Ridge, the toxic material is not going to stop coming down the hill side at 350 feet short of flowing into the stream. It will flow into the stream, thus a contamination of a “protected” stream will occur, so how is it protected?” They had no response and there is no allowance for the Tributaries.

PROTECTION particularly for people living in Valleys needs to be addressed since the horizontal portion of the drilling process can extend out well over a mile to possibly even two miles.

1. Please refer to “The Importance of Ligonier” letter enclosed, that addresses (on the top of page 3) my personal scenario diagram where, if drilling takes place under our house, our water table could possibly be only 4,500 feet above the fracking process.
2. The entire location of the fracking process should be protected with an additional buffer allowance beyond the tracking process, even if it is underground, as water and gas can

travel underground for miles, and there is the potential of other rock formation breakdown, as well.

- a. Example: if the drilling goes out horizontally for 1 mile, then there should be an additional distance beyond that 1 mile that the gas company should be accountable for the property owner's loss, especially water.
3. SMOG build up in valleys will be inevitable in areas that experience fog. Fracking and flaring should be banned from such a location to protect the residents from the potential of significant health issues.

(refer to Dr. Carpenter's report.)

Oil and Gas Regulation Suggestions, continued:

- a. Flaring should be prohibited within, at the very least, one mile from a crest of a Ridge and/or Mountain, as exhaust fumes will have the potential of lingering in the valley below.
- b. Truck traffic through valleys that have fog issues can present health issues too and protection allowances should be considered in this situation also.

(again, refer to Dr. Carpenter's report.)

4. There should be a means of Perpetual Care for monitoring the air, water and soil for radiation, toxic substances and any other natural elements that are harmful to the environment, animals and humans.
 - a. Fracturing shale is a process of chance for opening up cracks in multiple rock formations that could possibly allow the toxic chemicals and/or other elements to eventually work their way up to the water tables and/or the surface. (Looking at the LONG TERM effect: 5,10,20+ years ahead.)

WASTE WATER:

1. Open holding ponds / tracking pits should not be allowed, especially on top of ridges I mountains, due to the potential of spills and holding pond failure.
2. Flowback water should be pumped directly into tanker trucks that are surrounded with a protective barrier for added safety.
3. ALL trucks that haul waste water and/or sludge should have an electrically monitored system, similar to the US Postal Service, UPS & FedEx, to ensure that no illegal dumping occurs and that what goes out from the site is the same that is received at the destination for disposal location.
 - a. There should be no dumping wastewater of any kind on roadways, in streams, on bridges, etc.
 - b. This could then allow routes to become public record, thus making a means of helping to police the disposal process.

SETBACKS:

1. All setbacks are too small of distance, especially schools, streams and residents.
 - a. Yes, children are in school for a large portion of the day, let's say 6 -7 hours for 5 days a week, the reminder of the time they are mostly at home or a friend's house. There should be just as much consideration for their time at home, too.
 - b. Again, there needs to be full protection on all water sources that is defined in a manner that will secure for future generations. Our water comes from springs that flows into tributaries, then into our streams and finally to the rivers. Our Supervisors cannot see this, as they are NOT providing for “unnamed” streams. There needs to be a defined directive. **Please see Appendix 6 for attachments (293)**

Response: To the extent that the commentator suggests greater setbacks, in Section 3215(a) of the 2012 Oil and Gas Act, the General Assembly established setbacks prohibiting the drilling of oil and gas wells within certain distances from buildings and water supplies unless the well permit applicant obtains written consent of the owner of the building or water supply. For a conventional well, this distance is 200 feet; for an unconventional well, this distance is 500 feet. Additionally, unconventional wells may not be drilled within 1000 feet of a public water supply. To the extent that the commentator suggests amending setbacks, those changes should be made through a legislative amendment to the 2012 Oil and Gas Act.

See response to comment 224 regarding setbacks from streams.

Regulation of well construction and stimulation is beyond the scope of this rulemaking.

Air emissions from oil and gas operations are regulated under Article III. Revisions to Article III are beyond the scope of this rulemaking.

Regulating truck traffic on roadways is beyond the scope of this rulemaking.

Regulation of waste haulers is beyond the scope of this rulemaking.

See responses to comments 903, 1027 and 1365 regarding open pits and impoundments.

Secondary containment is required on unconventional well sites under § 78a.64a.

2451. Comment: API-PA is a division of the American Petroleum Institute (API), a national trade association that represents all segments of America's technology-driven oil and natural gas industry. Its more than 625 members - including large integrated companies, exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply firms - provide most of the nation's energy and are backed by a growing grassroots movement of over 25 million Americans. The industry also supports 9.8 million U.S. jobs and 8 percent of the U.S. economy, and, since 2000, has invested over \$3 trillion in U.S. capital projects to advance all forms of energy, including alternatives. Our members, who own and operate conventional and unconventional wells in Pennsylvania, have a direct interest in this Advanced Notice of Final Rulemaking (ANFR).

API is also a standard setting organization. For 90 years, API has led the development of petroleum and petrochemical equipment and operating standards. These standards represent the industry's collective wisdom on everything from drill bits to environmental protection and embrace proven, sound, engineering and operating practices and safe, interchangeable equipment and materials for delivery of this important resource to our nation. API maintains more than 650 standards and recommended practices. Many of these are incorporated into state and federal regulations; and increasingly, they are being adopted by the International Organization for Standardization. API encourages and participates in the development of state regulations that provide environmental safeguards and stewardship, and commends DEP on their regulatory oversight program; however we have concerns with several provisions contained in the draft final rulemaking. As such, we are providing comments on the Advance Notice of Final Rulemaking for 25 PA. Code Chapters 78 and 78a at the three public hearings. Since both Chapter 78 and 78a are very similar, my comments apply to both chapters. Tonight I will address several specific issues.

Thank you for the opportunity to testify this evening. API-PA and its member companies stand ready to continue to work with DEP on striking a balance between environmental protection and economic development. (334)

Response: The Department acknowledges your comments and has addressed each specific comment in the appropriate section of this ANFR document. (78.1 Definitions, 78.15 General Application Requirements).

2452. Advanced notices - the proposed regulations also have numerous requirements for advanced notifications to the Department for certain field activities. Each and every one of those requirements opens the operator to violations and fines that are not of a nature to cause any environmental harm, but are simply administrative in nature. (335)

Response: The numerous notification requirements are necessary to allow the Department to conduct have an understanding of the regulated activities that are occurring and ensure timely inspections.

2453. NOTE: Due to the length of this comment, the Department has provided responses intermittently to allow easier reading.

Comment: Range Resources-Appalachia, LLC ("Range Resources") appreciates the opportunity to comment on the proposed amendments to 25 Pa. Code §§ 78a. 1 -78a.404 ("Chapter 78a") published in the Pennsylvania Bulletin on December 14, 2013 and April 4, 2015 that seek to ensure that oil and gas operators employ effective measures that prevent pollution during surface activities, while allowing flexibility for the optimal development of the Commonwealth's natural resources.

We are a leading independent operator with a leasehold position of over one million acres across western and north central Pennsylvania. We strive to abide by all federal, state, and local laws and regulations within all of its operating areas. Whether Range Resources is constructing a new well site, operating an existing well site, managing water resources, or working with one of its landowner partners to restore a field for future landowner use, we're committed to conducting business safely and in a socially and environmentally responsible manner. Thus, we share the common goal of the Department of Environmental Protection ("DEP") to focus on performance over process.

As Environmental Compliance Manager, I implement Chapter 78a on a daily basis: advising a team of innovative and attentive Pennsylvanians on how to put this two-part goal into action. We, along with the DEP Oil and Gas Inspectors in the field, have to report with confidence to both of our respective management teams that we have assured compliance. The proposed amendments contain some provisions with language that is unclear, vague, and ripe for misinterpretation. On behalf of those of us that operate on the front lines, I ask that you please consider the following comments to support us in upholding our shared goal: preventing pollution while allowing for the optimal development of a natural resource. In so doing, you are providing necessary guideposts for preventing pollution that allow Pennsylvania landowners and employees of both the DEP and operating companies to prosper here in the Commonwealth we call home.

General Comments

A. Opportunity to Clarify Terms Throughout Chapter 78 to Create an Effective Compliance Tool

In general, we ask that the DEP clarify and streamline its use of terms throughout Chapter 78a to ensure uniformity of interpretation between the DEP and the regulated community. This is emphasized when the terms describe obligations for permit applications that relate back to the direction of Act 13 Section 3215(e) (related to well permit conditions for public resources). For example, in § 78a.15(d), the DEP proposes that operators consult PNDI regarding the presence of a federal or state threatened or endangered species where a well site or access road is proposed. It then states that the operator must “make a demonstration as to how an impact will be avoided or minimized and mitigated . . . to the satisfaction of the applicable Public Resource Agency.” This language should be further clarified as to set reasonable expectations. We therefore, propose that the DEP expressly limit this determination to be made by one agency, the DEP, and define clearly what type of impacts trigger this requirement and what would constitute a sufficient demonstration of avoidance, minimization, or mitigation. Such clarification will help to assure uniform consultation between the DEP and operators throughout the various DEP Regions.

Response: The Department does not have the authority or the expertise to establish expectations for other agencies. The public resource agency must define clearly what type of impacts trigger a requirement and establish what would constitute a sufficient demonstration of avoidance, minimization, or mitigation.

B. Need to Consider Landowner Rights and Contractual Obligations

In general, Chapter 78a should be amended to consider the ongoing relationship between the operator and landowner and the contractual agreements to perform or not perform certain activities on a landowner's property. The relationships between operators and private landowners are governed by the terms of lease, easement, and right-of-way agreements that are negotiated between the private parties. We wish to point out that some of the proposed requirements do not appear to accommodate such contractual constraints. For example, without the right to enter a landowner's property, an operator cannot carry out the requirements to visually monitor an abandoned or orphaned well as required by the proposed § 78a.73(c). Similarly, a landowner may not want an operator to restore his or her land to approximate original conditions or apply 70% perennial vegetative cover when final restoration is occurring after decades of production and the private landowner's needs may change- often there will be a different landowner entirely. However, the proposed §78a.65 does not appear to provide a flexible path forward for the landowner on how he or she wishes to use the private property.

Response: When an operator endeavors to establish a contractual agreement with a property owner the operator should be upfront with the landowner and be clear that there are certain requirements required by the Department that will need to be addressed such as the requirement for 70 percent perennial vegetative cover or to monitor an abandoned or orphaned well. Establishing these requirements during the development of the contractual agreements eliminate many of the concerns that arise.

Specific Comments:

1. 78a.1: Opportunity to Clarify Proposed Definitions

Gathering Pipeline: To the extent that the DEP must use the term “gathering pipelines” throughout Chapter 78a, its definition should be replaced and, therefore, made consistent with the PHMSA definition to ensure alignment with other regulating agencies at the federal and state levels. “Gathering line” is defined by PHMSA in 49 C.F.R. § 192.3 as “a pipeline that transports gas from a current production facility to a transmission line or main.” Pipeline terms get used interchangeably in common conversation, creating confusion and ambiguity. Thus, it is important to clearly and uniformly define the various types of pipelines in the regulations.

Response: The Department disagrees with the comment. The PHMSA definition quoted does not include oil or other liquid hydrocarbons. Chapter 78 regulations deal with more than just natural gas so using the PHMSA definition would create confusion and ambiguity.

Mine Influenced Water: The proposed definition appears to include all waters impaired by mine drainage. Given this breadth, the definition would include seemingly all surface waters throughout the Commonwealth, including sections of major rivers, such as the Allegheny, Monongahela, Youghiogheny and West Branch of the Susquehanna- some of which are widely used for public water supplies. The definition seems overly broad and does not provide any guidance. Storage and use of such a broad universe of waters should not be subject to the special approval requirements of § 78a.59b(h) for storing such water in a freshwater impoundment. To allow for the beneficial reuse of waters previously impacted by acid mine drainage, we recommend narrowing the definition to state: “Water contained in a mine pool or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to, waters of the Commonwealth.”

Response: See response to comment 75.

Other Critical Communities: We appreciate the DEP taking steps to further clarify the terms used in § 78a.15, including § 78a.15(f)(iv). Though strides have been made, it appears that further clarification remains necessary. In maintaining the language from Section 205(c) of the Oil and Gas Act of 1984 (“Act 223”) in the enacted Act 13, which expressly included the term “critical communities,” it does not seem likely or consistent with what the Pennsylvania Legislature intended for this language to be expanded to include “plant and animal species that are not listed as threatened or endangered.” We are concerned that this language in the proposed definition does not lead to an objective definition from which to garner a meaning for the limitations of this definition and, therefore, does not allow for the added definition to be used as an effective compliance tool. The regulated community and the DEP permit reviewers are left with substantial questions as to how to manage this term as it relates to permit conditions. We ask that the definition be reworked to include an enumerated list of what is included under the scope of the term. It is recommended that the list be limited to those critical communities that

are identified after agency review and accessible for planning via the PNDI tool as to create an objective, manageable standard. (383)

Response: See response to comment 94 regarding the definition of “other critical communities”.

2454. Comment: Injection wells should not be allowed near streams or water supplies. (Lately I’ve become leery of drinking my home’s water that comes from a spring fed well.) (145)

Response: For matters related to UIC well permitting, please see response to comment 2431.

2455. Comment: This Advanced Notice of Final Rulemaking (“ANFR”) proposes extensive new electronic application, reporting, and notification requirements. The intent of the electronic reporting and notification requirements should be to streamline regulatory processes, simplify required reporting, and facilitate transparency. The ANFR is not crafted in such a manner as to focus on the overall logistics of the electronic reporting by industry. In many instances in the proposed ANFR, there is a failure to consolidate required submissions by the operator (e.g. PPC Plan and other documents must be made available to other agencies or persons upon request but will also be readily available through the Department’s new electronic website) and in other cases multiple electronic notifications are required for items of little to no value (e.g. 3-day notification when filtering water, 3-day notification when blending fresh and reuse water, 3-day notice prior to waste disposal, etc.). For electronic submissions requiring payment (e.g. well permit applications), the website should generate an invoice to allow operators to pay by check or EFT, rather than requiring a credit card payment.

These proposed regulatory changes contain 30 different requirements for electronic applications, electronic notifications, and electronic record submittals, many of which will be immediately effective or due as of the effective date of the rulemaking:

1. Well Permit Applications [ANFR Section 78a.15]
2. Well Permit Extension Requests [ANFR Section 78a.17]
3. Notice of Landowner, water purveyor, or affected person complaint of water pollution or diminution [ANFR Section 78a.51]
4. Operator’s election to preserve its defenses under section 3218(d)(2)(i) of the act (relating to protection of water supplies) [ANFR Section 78a.52]
5. Operator’s Area of Review Report at least 30 days prior to drilling [ANFR Section 78a.52a]
6. Notice of Operator constructing modular above ground storage structure 3 days prior to construction [ANFR Section 78a.56]
7. Request to use practices other than those in § 78a.56 (Temporary storage) [ANFR Section 78a.56]
8. Notice of wells with underground or partially buried storage tanks at adoption of ANFR [ANFR Section 78a.57]
9. Permit for Centralized Tank Storage Site [ANFR Section 78a.57a]
10. Centralized Tank Storage Site inspection records [ANFR Section 78a.57a]
11. Centralized Tank Storage Site closure plans [ANFR Section 78a.57a]
12. Centralized Tank Storage Site quarterly well service list [ANFR Section 78a.57a]
13. Centralized Tank Storage Site restoration report [ANFR Section 78a.57a]
14. Well Site and Centralized Tank Storage Site Filtering, fresh/reuse mixing, and filtering 3 day notification [ANFR Section 78a.58]
15. Well Site and Centralized Tank Storage Site Filtering, fresh/reuse mixing, and filtering subsequent site 3 day notification [ANFR Section 78a.58]

16. Notice of existing fresh water impoundments at adoption of ANFR [ANFR Section 78a.59b]
17. Freshwater impoundment transfers to other operators [ANFR Section 78a.59b]
18. Closure plans for existing centralized impoundments at adoption of ANFR [ANFR Section 78a.59c]
19. Notice of disposal of drill cuttings 3 days prior to disposal [ANFR Section 78a.61]
20. Alternative waste management permit [ANFR Section 78a.63a]
21. Request to extend pad restoration period [ANFR Section 78a.65]
22. Post drilling restoration report submittal [ANFR Section 78a.65]
23. Post plugging restoration report submittal [ANFR Section 78a.65]
24. Borrow pit registration [ANFR Section 78a.67]
25. Notification of any horizontal or directional drilling beneath a water course [ANFR Section 78a.68a]
26. Oil and Gas Pipeline Directional Drilling Water Complaints [ANFR Section 78a.68a]
27. Quarterly Water Management Plan Reports [ANFR Section 78a.69]
28. Orphaned and abandoned well status change (those being monitored) [ANFR Section 78a.73]
29. Monthly Production Reporting [ANFR Section 78a.121]
30. Completions Report [ANFR Section 78a.122]

PADEP currently has no workable system in place to manage these proposed electronic application, reporting, and notification requirements other than the existing electronic well permit system (which we understand at this time that one operator actively uses) and the GreenPort System. As an example, the Oil and Gas Act of 2012 requires the Department to post inspection reports on its website, which must include electronic access to an operator's written response to the violation and the remedial steps taken by the operator or the Department to address the violation. The Department has not yet implemented this requirement, over three years removed from the enactment of the Oil and Gas Act of 2012. The Department has indicated on several occasions that the reason these reports are not available electronically to the public is due to the inadequacy and limitations of its current electronic system.

The Department will require a substantial increase in IT development and support staff to adequately develop and support such a new and comprehensive system, particularly under the time frames set forth in the ANFR. Forms required for these notifications, applications and submittals do not exist and PADEP does not have the resources or capability to develop these forms quickly. Electronic submissions should not require the use of proprietary software packages; rather, PDF format should be sufficient. Additionally, the Department should provide alternatives to electronic submittal of applications, reporting, and notifications, as it is likely that there will be unexpected periods of time where the electronic system may be nonfunctional.

For all electronic submissions, PADEP should provide operators with confirmation of receipt of the submission. (210)

Response: The Department acknowledges this comment. The Department currently has a number of online electronic reporting applications for the submission of information pertaining to oil and gas wells. These applications are accessed via the Department's GreenPort enterprise portal. The Department acknowledges that the online electronic reporting functionality with respect to oil and gas operations will need to be expanded as a result of this rulemaking. The Department strives to develop applications that are user friendly for both external users and Department staff. The Department will continue in this effort by releasing enhancements to existing applications based upon user feedback.

2456. Comment: The Department's regulatory analysis form does not demonstrate a need for mandatory electronic notification to the Department. In the form, the Department frames the electronic notification requirement as a measure that will “enhance efficiency for both industry and the Department.” The Department also states that: “Electronic reporting will consolidate or simplify reporting requirements for all operators.” While this is a nice-to-have for the Department, it is not something that is necessary for the Department in order to carry out its functions. It also places an undue burden on our membership, nearly half of whom do not own a computer. (201)

Response: Please see the Department’s response to comment 2318.

2457. Comment: Over the last several years, the Department has continued to improve the website and internet access to information related to the Oil & Gas program. We encourage the Department to continue to move along this path. Ideally, we would like to be able to review permit applications and authorizations, inspection reports, root cause analysis, consent order agreements, basically anything having to do with well development we’d appreciate being able to access online saving our time and that of the Department’s by reducing the need for file reviews. (170)

Response: The Department acknowledges the comment. It is the intent of the Department to utilize electronic filings and reports to enhance the transparency of the Department activities relative to oil and gas extraction in the Commonwealth.

2458. Comment: The Department will be wholly relying on electronic submissions, filings and associated reporting when these changes become active. It has been our experience that the Department’s electronic platforms are unreliable, somewhat temperamental and regularly fail to perform as designed/expected. We implore the Department to be committed to upgrading its systems and associated support as well as investing in the tools necessary to make these systems reliable and repeatable. (195)

Response: The Department acknowledges this comment. The Department strives to develop applications that are user friendly and reliable for both external users and Department staff. The Department will continue in this effort by releasing enhancements to existing applications based upon user feedback.

2459. Comment: Requiring electronic reporting facilitates transparency and public access to information. Final regulations should maximize such requirements. (206)

Response: The Department acknowledges the comment.

2460. Comment: DEP proposes to require oil and gas operators to file permit applications and required reports electronically. This change would improve data, efficiency, and enforcement and should be supported.

DEP should also make sure that all electronic filings and reports made by operators are also available to the public on DEP’s website on the same day they are deemed complete by DEP. Easy and timely access to information by the public is necessary to ensure agency transparency and operator accountability. (188, 294)

Response: The Department acknowledges the comment. It is the intent of the Department to utilize electronic filings and reports to enhance the transparency of the Department activities relative to oil and gas extraction in the Commonwealth.

2461. Comment: More transparency and public accessibility to information and decision making by the DEP is required. We support the requirements that submission by operators be made electronically but these documents must also be posted by DEP on a public web platform for access by the public and interested parties. We state this with the backdrop of a news article reporting that natural gas production reports filed by operators with DEP had incorrect data which had to be corrected by the agency 94 times since 2010. The news report contains a link to a DEP-generated document that shows several companies, operating in both unconventional and conventional formations, submitted incorrect information that DEP had to retract and resubmit to the database. Many of the errors were by the largest of companies such as Range Resources, Chevron, Chesapeake and Exxon's subsidiary XTO, companies that certainly should be able to use an electronic filing system with accuracy.

The provision of electronic filings and open access to operator information will also help DEP to satisfy the recommendation of the State Review of Oil and Natural Gas Environmental Regulations Inc. (STRONGER) that "DEP maintain consistent standardized data for tracking violations and enforcement actions to facilitate accurate internal DEP performance evaluation and to provide accurate information to the public". STRONGER recommends that this improvement be made by DEP in their program recommendations and that the public have access to the data and analysis of data.

The posting of these reports on a publicly available web platform is crucial as a means of supplying information about operators and gas development activities to the public - activities that directly affect many people who live, work and recreate in Pennsylvania. Much of this information is only available to the public through file reviews, which are time consuming, have costs associated with them, and is beyond the reach of most of the general working public. (182)

Response: The Department currently has more than a dozen interactive reports on our website that provide information such as: permits issued; operator well inventories; inspection, violation, and enforcement information; spud information; and target, oldest, and producing formations associated with each well. Users are able to run these reports based upon specific parameters such as: region, county, municipality, operator, date range, etc. Additionally, the Department has an Oil and Gas Mapping application on our website that allows users to geographically locate oil and wells using various map layers and aerial photography. The mapping application allows users to search for wells based upon numerous parameters. The mapping application also provides the additional functionality of displaying electronic copies of actual documents such as: well permits/applications, inspection reports, and operator's responses to violations. The Department will continue to expand both the amount of oil and gas well information available on our website, and the ability to readily locate, retrieve, and export that information.

In regard to data quality, the Department expects the information submitted by operators to be accurate and correct. However, with both electronic and paper submission of data, errors will occur. Upon discovery of such errors, the Department requires operators to correct them. In requiring electronic submission of information, it is anticipated that business rules can be incorporated into the electronic reporting applications that will limit errors to the greatest extent possible.

2462. Comment: The provisions of the proposed final rule requiring electronic notification to the Department are not in the public interest and should be withdrawn. (201)

Response: Electronic reporting provides many benefits to the public, including enhancing the Department's ability to perform its mission. For example, electronic reporting:

- **Allows the Department to more efficiently track well development and operations from beginning to end, enabling inspectors to focus on field inspections of the hundreds of thousands of wells in the Commonwealth rather than the review and management of paper submissions.**
- **allows the public to have easy access to data via the Department's website;**
- **allows the Department to develop business rules to ensure that the data submitted is complete and accurate, thereby reducing the workload for both the Department and operators in returning and addressing deficient submissions; and**
- **Allows the Department to have a complete picture regarding well development/operations to more efficiently determine compliance. For example, when reviewing production data, Department staff need to have permit, Well Record, Completion Report, and additional information readily available in order to help determine the validity of the production/waste data. Currently, paper files need to be retrieved, sometimes from other offices, to obtain this information.**

2463. Comment: There are important differences between the capabilities of small, independent businesses engaged in conventional well operations and large, billion dollar corporations engaged in unconventional well operations. The vast majority of our members are extremely small, family-run businesses who depend on the modest income derived from the conventional extraction of oil and gas from new and legacy wells to help supplement their incomes and feed their families. Our members live in the most rural parts of Pennsylvania, with little or no access to the Internet. In fact, approximately 45% of our members do not even own a computer. In many ways, our members have more in common with Pennsylvania's Amish population than they do with large, unconventional well operators whose proliferation across Pennsylvania are the driving force behind the revisions to Chapter 78.

The new proposed standards requiring electronic notification to the Department will do nothing to improve the quality of the environment or the public health, safety, and welfare of the people. While the movement towards solely electronic reporting will make it easier for the Department to carry out its functions with regard to regulation of large conventional and unconventional well operators, it will have the opposite effect with regard to small, independent conventional well operators. With nearly half of our members not owning a computer, and those that do living in rural areas where Internet access is spotty at best, the Department will receive less rather than more information from our members.

The direct and indirect costs of the new proposed standards requiring electronic notification to the Department are so high that they will put small, independent conventional well operators out of business when combined with the other costs generated by the draft final rule. With the price of a decent desktop or laptop computer running anywhere from \$500 - \$750 (excluding options and non-basic software), and home Internet access (where available) costing \$25-\$75 per month on average, our members who do not own a computer are facing an expenditure of approximately \$1,225 in the first year, and approximately \$600 per year in Internet service fees after that.

The new proposed standards requiring electronic notification will have an adverse effect on the productivity of small, independent conventional well operators. As explained above, the new

costs alone will drive these small operators out of business when the other costs generated by the proposed draft rule are considered. (201)

Response: If some well operators do not have a computer, it is not necessary to purchase the latest technology equipment to comply with Chapter 78 reporting requirements. There is an abundance of used computer equipment available for very modest prices. The Department of General Services routinely sends used computers to auction for nominal prices, and it is not the only source of used computer equipment. What many computer users would consider obsolete computer equipment would be more than adequate to comply with Chapter 78 reporting requirements, and there are a variety of ways such equipment can be obtained at little to no cost. In addition the reporting requirements will not force well operators to buy expensive broadband internet access, as there are free or inexpensive dialup internet options also available in many areas. If well operators must buy and learn to use a computer to comply with reporting requirements, the equipment and skills will easily be usable for other tasks and may increase the well operators' earning potential. Well operators may want to buy more expensive computers or services than are necessary to comply with Chapter 78 reporting requirements, but any such extra costs would be voluntary.

2464. Comment: There are provisions that will be impossible for small conventional well operators to comply with, irrespective of cost. For example, those conventional well operators living in rural areas without Internet access will simply be unable to comply with the electronic notification requirements. (201)

Response: See response to comment 2463 regarding the availability of dial up internet services.

2465. Comment: Also, for those conventional well operators who are not proficient in the use of a computer, the new electronic notification requirements present a serious hardship. (201)

Response: The Department provides assistance via the Help Desk and through the Office of Oil and Gas Management.

2466. Comment: The new proposed standards lack clarity and are ambiguous. The new standards require the submission of information electronically to the Department "on forms provided through its web site." These Internet forms are not included in the proposed final rule, making it difficult to estimate how much time it will take to complete the forms. There is also noting in the draft final rule requiring the Department to provide technical support to members of the regulated community. This is particularly problematic given the problems operators have had with the Department's web site in the past. (201)

Response: The Department disagrees with the comment. The Department believes that the final regulations are clear and unambiguous. Submission of information electronically will speed up the reporting of required information. The proposed electronic form will be developed in conjunction with input from the industry. Department personnel are available to assist the regulated community with the forms and the Department's website when necessary.

2467. Comment: In addition, the dozens of new electronic reporting and notification obligations would create unnecessary burden on operators, as well as obvious compliance problems, where the Department cannot currently manage its online systems and has yet to comply with the

express requirement of Act 13 to post all responses to NOV's online. Electronic reporting requirements must be accompanied by alternatives to accommodate likely system failures, as well as practical field realities that may prevent compliance with the obligations that would be created in the Draft Final Rule. (213)

Response: Operators will not be expected to submit information electronically if the Department has not yet developed an electronic portal to accept that information. The Department acknowledges that backup provisions will need to be in place for those situations during which the electronic portal is down.

2468. Comment: User Friendly Website. In the same vein as uniformity in data formatting and submission, throughout the Chapter 78 and 78a proposals reference is made to posting of information on the PADEP website to facilitate public review. As the new regulatory programs are further developed and finalized, we respectfully request that the department review, update and harmonize the formatting and access mechanisms to simplify and maximize the consistency of presentation of this information through the website to the public. (223)

Response: The Department agrees that its website should be user friendly.

2469. Comment: Many of the new rules refer to electronic submittal. The Department should provide for alternative submittal methods for situations where electronic portals are down or have not yet been established. (222)

Response: Operators will not be expected to submit information electronically if the Department has not yet developed an electronic portal to accept that information. The Department acknowledges that backup provisions will need to be in place for those situations during which the electronic portal is down.

2470. Comment: The DEP wants O&G operators to provide reports and applications electronically. These electronic filings should be made accessible by the public within 1 week of their filing. (230)

Response: The Department acknowledges the comment.

2471. Comment: DEP makes use of electronic filings for well permit applications, centralized tank storage applications, and notifications of on-site processing, to name a few things. In addition, DEP also utilizes the terms "on forms provided by the Department" without specifying whether paper or electronic submissions are involved. The public must have reasonable access to all of the information submitted by a well operator, whether this information is submitted on paper or electronically. How can the public determine what information is available? How does a person conducting a file review of DEP records determine if all information is made available to them? Does DEP intend to make electronically filed information available electronically? Easy and timely access to information by the public is necessary to ensure agency transparency and operator accountability. All of these concerns should be addressed in a final version of these regulations. (295)

Response: The Department does not believe that it is necessary to specifically address all of the noted concerns within the rulemaking. It is anticipated that all data submitted to the Department electronically will be available to the public via the Department's website. Information submitted to the Department on paper forms will continue to be available to the public by means of the existing file review process.

2472. Comment: Thank you for the opportunity to provide comments on the Department's proposed changes to Chapter 78 regulations. I am an environmental attorney and the Legal Director of the Center for Coalfield Justice, which is located here in Washington. The Center for Coalfield Justice was founded in 1994 by individuals organizing against the destruction caused by long-wall coal mining. Over the last 20 years, we have expanded our mission to work on issues related to extractive industries generally in Washington and Greene counties. CCJ has nearly two thousand members and supporters, most of whom live in Washington and Greene counties and live with the daily impacts of fossil fuel extraction.

Today, I will address four main areas of concern: (384)

Limits of Disturbance: The Department responded to this comment in the appropriate section (78.15) of This ANFR document.

Pits, Impoundments & Waste Management: The Department responded to this comment in the appropriate sections (78.56 and 78.57) of this ANFR document

Public Participation: Hearings and comment periods should be required for all proposed drilling-related activities, including well pads, impoundments, and pipelines.

We support the proposal to require oil and gas operators to file permit applications and required reports electronically. DEP should also ensure all electronic filings and reports made by operators are available to the public on DEP's website on the same day they are deemed complete by DEP. Public availability of timely information is necessary to improve agency transparency and operator accountability, two issues which were revealed to be extremely problematic by the Auditor General's Performance Audit last July.

DEP should require that tanks used for the storage of waste be completely enclosed. The revisions give operators the option of using tanks "without lids" to store waste on well sites-making it more likely that harmful spills and emissions will occur. (384)

Response: The Department declines to make this recommended change. The 2012 Oil and Gas Act outlines a notice, objection and conference process in Sections 3211(b)(2), 3212, and 3251. Since the statute does not require the recommended public participation process the Department declines to require it by regulation. The revisions to Chapters 78 and 78a are consistent with the constitution and applicable statutes and provide reasonable protections for public health and safety and the environment.

2473. Comment: Section 78.51(b) provides procedures for notifying DEP of water pollution or diminution of a water supply to request an investigation, but only covers impacts "as a result of well site construction, well drilling, altering or operating activities...." It is unclear whether "operating activities" includes all of the activities listed under "Oil and Gas Operations" in the definitions section of the regulations which provides a comprehensive list of activities. DEP should clarify this uncertainty by including the full range of activities listed in the definition of "Oil and Gas Operations" as actions that can trigger an investigation. (384)

Responses: The term "operating activities" is a comprehensive term that does include all the activities listed under the term "Oil and Gas Operations" in 78a.1.Definitions.

2474. Comment: We should lobby Governor Wolf to allow the SRBC to exercise the jurisdiction over

water quality in its legal organic statutes: that way the SRBC would be involved in issuing drill permits taking impact to water quality into consideration. Could a state effectively reverse the Halliburton loophole? (4)

Response: The comment is beyond the scope of this rulemaking.

2475. Comment: Given that methane is a potent greenhouse gas, the proposed regulations do not go far enough in terms of methane monitoring and capture during all phases from well drilling to plugging and beyond. As recent technologies now allow for improved and easier monitoring (e.g., infrared imaging), stringent regulations for preventing the release of methane gas into the atmosphere should be developed and implemented. (14)

Response: The comment is beyond the scope of this rulemaking.

2476. Comment: Outlaw industry practices of requiring landowners to sign non-disclosure agreements. Outlaw non-disclosure agreements. (13)

Response: The comment is beyond the scope of this rulemaking.

2477. Comment: Bear in mind that cement casings fail and all will fail eventually. We then will have their toxins in our aquifers and they will be long gone and counting their money. We deserve so much better! (84)

Response: The comment is beyond the scope of this rulemaking.

2478. Comment: Against the Atlantic Sunrise Project. (86)

Response: The comment is beyond the scope of this rulemaking.

2479. Comment: The statements of policy for inspections of oil and gas activities for both 78 and 78a were deleted from the final document. Inspections of these activities are vital to ensure compliance with the laws of the Commonwealth. Not all companies are reliable and conscientious. All companies must be equally monitored and held accountable for violations which may occur. (103)

Response: The Legislative Reference Bureau disfavors the codification of statements of policy in the Pennsylvania Code. Subchapter X was a statement of the Department's policy regarding inspections of oil and gas activities. That statement of policy is now contained in the Department's technical guidance document titled "Standards and Guidelines for Identifying, Tracking, and Resolving Oil and Gas Violations," DEP No. 820-4000-001 (January 17, 2015).

2480. Comment: I have been a resident of Lycoming County, PA for most of my life, living on a small farm in Proctor, PA and attending Vo-tech College Williamsport Area Community College. I was taught the basics of welding technology, returning years later to complete my degree work at Pennsylvania College of Technology (P.C.T). My trade was welding and specifically pipe welding, a skill I mastered from an early age. I went into the construction industry at 19 years old. During that time I advanced through the ranks of pipe welders, mechanical piping design and installation of piping systems and pipelines throughout the United States. My skills were perfected from working with seasoned workers, men who built this country with their hands and common sense skills, brought up in the United Association of Journeymen of the pipefitting

industry. After many years of running all over this country building Nuclear, Coal and Natural Gas Power Plants, Refineries, Paper Mills, Breweries, Pipelines and related facilities, I decided to return to my home town and settle down in 2001.

I taught college courses for three years at P.C.T. in the Advanced Welding Engineering department along with finishing my degree work. I was offered a full-time teaching position, but the pay was too low for my skill set and returned to the construction field. The Marcellus Shale play was just getting started in lower NY State. I was requested by a large pipeline contractor, Precision Pipeline Co, to set up and oversee a large fabrication facility in Westville, NY. This was not my first job working in the gas industry. I had spent most of my career working in this industry installing pipelines and facilities across the US. This was my first time working within the Marcellus Gas, although at the same I could see the potential for a lot of growth in the upcoming years for this market. As time went on and I moved on from contractor to contractor installing and fabricating piping systems, I decided with permission from my wife, to start my own Fabrication/Construction Company. It was the right time and place, if there ever was to move into such an adventure.

I saved up around \$250,000 of my own money from annuities and investments and began research on how to go about starting my own company, which began by renting a two car garage in Montoursville, PA in 2009. Filing with the state and buying up what tools and equipment I would need to get started, I then looked to my connections in the industry. A chief welding inspector, Paul Young, who knew me and my abilities, was working for Chief Oil & Gas, opening my first door. I started fabricating piping systems for Chief with the help of a few guys I knew and worked with over the years. In the first few months I could see my savings depleting fast due to the amount of money going out goes faster than the money coming back. My next step was trying to borrow more capital from a bank to run my business. The kind of capital I needed was not something the banks were offering. Thankfully, a relative of mine said he would help me out for a percentage in my business. This capital helped me move forward to \$1 million in business the first year, \$20 million in the next and close to \$30 million until 2014 I reached over \$34 million. I had to expand in 2010 and purchased a 15 acre industrial facility in Williamsport, PA, our fabrication facility, including our main office in Montoursville.

I have 23 full-time office employees comprised of engineers, drafts people, safety, accounting and administrative staff. Being a union labor contractor I average 98 union employees and at peak times over 200. 90% of my work force comes from the PA area. At peak times I have to take on workers from surrounding states, pulling the most qualified workers since this type of work requires very skilled crafts people. We do train a lot of local people and I help them enroll in the local unions creating high paying jobs with full benefits and retirement. This has been an up-hill battle proving “you get what you pay for”, although difficult, our repeated quality and reliability to get the job done on time and safely has ensured our success.

With our success our company and employees strive to keep a watchful eye on the activities behind the scenes. Everyday citizens from counties all around our area are my employees; they too live and appreciate the quality of life we have here in PA. We do not want to see the gas companies in any way degrading our environment because we all use the lands for hunting, fishing, hiking and other recreational activities; the outdoors here are the greatest gift to us. The most asked question I get from neighbors and others is what do you see out there every day with the fracking and pipelines? Do you think it is safe, do you think it is hurting our environment? My answer to them is this; my company is installing the pipelines and facilities and working under some of the most stringent rules and regulations in the construction industry to the point at times it seems quite ridiculous. For example, if we carry a bottle of water onto a site we cannot

pour it onto the ground without creating a “spill report;” go to any other construction site not gas related and see what they get away with on a daily basis, or just walk over to your neighbors farm and ask them if they have to fill out any reports for all the fertilizers, fuels, oils, pesticides, fecal matter and other chemicals they spill or use over the land daily.

From the prospective of common sense and first-hand knowledge the gas companies are the only hope we have in PA to create jobs and increase the quality of life for millions of residents. The gas related operations are extremely safe and environmentally sound. They are decreasing the carbon foot print in the environment by improving more usage of natural gas than traditional fuels. “The fact of the matter is what are we giving up as residents for the improved quality of life”. The only thing I have seen on the down side is the increased traffic from construction activities and this is only temporary.

Our state and this country has a great opportunity to become the world's leader in gas production becoming energy independent in addition to creating thousands of jobs and small businesses like mine throughout PA. (123)

Response: The Department acknowledges the comment.

2481. Comment: Americans with Disabilities Act Title II: State and Local Government Activities.

Under ADA title II state and local government activities: I am denied equal treatment when I cannot benefit with the ordinance changes made by Franklin TWP that only benefit the oil company (XTO) and destroys my health requirements. They disregard my rights as a 100% service connected disabled veteran with disabilities to provide an environment that will not affect the health of my immune system, respiratory, circulatory, and hearing difficulties. This is discrimination against me by the TWP changing residential/agricultural only zoning by adding heavy industrial without any regard to citizens’ complaints or needs. This is a federal law that you must follow. How can you allow drilling by disabled, diseased, handicapped, elderly, mentally compromised people and around and under a school for disabled children as they are proposing in Prospect, PA Cratty site by XTO? You must help me to stop this drilling site – it’s a federal law. (133)

Response: The comment is beyond the scope of this rulemaking.

2482. Comment: §§ 78.52a and 78a.52a. Area of review - Identification and plugging of abandoned and orphaned wells is of critical importance when you consider how many oil wells were drilled in the late 1800’s. Bonding amounts should be increased to at least \$25,000 per well with no “group rate” for multiple wells. (196)

Response: The bonding levels were recently updated by amendments to the Oil and Gas Act (now Act 13 of 2012), although levels for conventional well sites reverted back to 1985 amounts through changes to the fiscal code. The Department is planning a study to evaluate the current orphaned and abandoned well surcharges applied during permitting. Finally, permitting fees were recently increased. As this rulemaking does not address bonding or fees, this comment is also outside the scope of the rulemaking.