

**MINUTES
OIL AND GAS TECHNICAL ADVISORY BOARD MEETING
FEBRUARY 20, 2013**

A meeting of the Oil and Gas Technical Advisory Board (TAB) was held on February 20, 2013 in Room 105 of the DEP Rachel Carson State Office Building, Harrisburg.

TAB MEMBERS PRESENT

Chairman Robert Watson, Burt Waite, Gary Slagel, and Sam Fragale.

DEPARTMENT OF ENVIRONMENTAL PROTECTION STAFF PRESENT

Deputy Secretary Scott Perry, Kurt Klappkowski, Elizabeth Nolan, Shamus Malone, Stephen Brokenshire, Ann Mathew, Todd Wallace, Jessica Shirley, and Darek Jagiela attended from DEP.

INTRODUCTION AND OPENING REMARKS

Chairman Robert Watson called the meeting to order at 10:05 a.m. and introductions followed.

APPROVAL OF DRAFT MINUTES FROM THE PREVIOUS ADVISORY BOARD MEETING

Burt Waite stated he had reviewed the minutes from the September 17, 2012, Technical Advisory Board (TAB) meeting. A motion to accept the minutes passed.

DRAFT PROPOSED RULEMAKING, 25 PA. CODE CHAPTER 78, SUBCHAPTER C (SURFACE ACTIVITIES) – PRESENTATION AND DISCUSSION OF DRAFT PROPOSED RULEMAKING LANGUAGE AND TIMELINE

Deputy Secretary Scott Perry started the meeting off going through the Department's proposed amendments, explain why we have proposed these changes, and then get feedback from TAB. TAB's comments will be transcribed on the document. He clarified there is no intent to make changes today, just to get the comments accurately recorded.

Perry said the first thing he wanted to point out was the addition of new authorities. The Oil and Gas program regulates more than just drilling the well, and Perry said the additional authorities reflect what the Oil and Gas program works with in these revisions to Chapter 78, Subchapter C. In addition to the changes to Subchapter C, there are several definitions that have been revised along with the permitting regulations.

Under permitting, Perry said the Department wanted to define a public resource and the processes it's used for. The operator would provide that description to the entity responsible for managing the resource, and the consultation period must end prior to submitting the well application to the Department.

Another issue was the criteria by whether or not the Department would issue a well permit and potential permit conditions. Perry said the Department believes the definition of probable harmful impact can be based on other things like common sense, which are hard to define within the regulations. Chairman Watson stated he was wondering about the kind of conditions that might prevent a well from being permitted. Perry stated the conditions under which the Department does not have the ability to deny a well permit. He said the law requires the Department to consider the threats or impacts to an endangered species and that the Department's PNDI policy needs to be followed.

Burt Waite brought up a concern about obtaining information that might be confidential when dealing with public utility information. The Department requires the supply intake point be identified during the well permitting process. Perry said unconventional sites are not allowed to be built within 1000 feet of an “existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor” unless they get a variance.

Waite talked about the new forms that are going to be provided by the Department, asking if the forms are going to be part of the regulation review process. Perry said the Department is absolutely going to make those forms available for public comment. This regulation will not be finalized until the necessary forms and instructions are completed. Perry said he feels the Department is going to have to put a fair amount of meat on the bones of the regulations with the forms and instructions.

Waite said he does not want to see permits returned because the industry does not know all the functions and uses of the public resource. Perry said it will be important for the facilities to provide pertinent information to the Department about their functions. Perry stated the Department needs to flesh out the instructions, indicating there needs to be a better description than “it is a national forest.” The Department wants to know what is happening in the immediate vicinity of the well site.

For section 78.15(b) Waite said big corporations are scared of this because they have many subsidiary business entities. Perry said that he will discuss it with his staff and clarify it better when considering international companies. TAB asked what the scope of this section is, Pennsylvania operations or broader? Watson asked how far should the Department go back? Perry said the Department has the requirement to know if the entire company is in compliance, and if the Department is satisfied with their current compliance in Pennsylvania. If the Department is not satisfied and certain conditions are met (e.g., the Department has taken a final action in response to the violation), the statute allows the Department to deny a permit. This will not reflect upon actions of companies that were operating before Pennsylvania had these environmental laws. Watson asked if that is legal, Perry said it is required by the 2012 Oil and Gas Act. Perry said if an appeal is pending, and a stay is granted, that would block permit denial, but if no stay is granted, the Department has authority to deny the permit. He said an operator can appeal the Department’s decisions.

Perry said the Department is working on clarifying storage well regulations. He then noted that Marcellus Shale permitting fees will be rolled into a new unconventional well permit fee category, costing the same as other unconventional wells. He followed that by stating the Department has made revisions regarding water supplies, stating the presumption applies to the drilling time period.

Perry said the Department is moving very rapidly towards an electronic permitting environment similar to the SPUD notice system now; reinforcing that moving to an electronic environment will streamline the Department’s efforts. He gave an example where if the date of the operations for spudding a well is delayed, the Department only needs to know the new date, and the operator does not need to delay operations.

Waite took the discussion back to water supplies, posing the question if the operator and the resident reach an agreement, and are happy, would the Department be ok with allowing the matter to be settled? Perry said maybe, but it depends on if the Department finds there is no longer an issue that needs to be addressed. Perry reasserted that the standards for replacing someone’s water supply should be similar across the board.

Perry stated that section 78.52a is a new revision, responding to a recommendation made by the STRONGER review of the Department’s Oil and Gas program. The proposed rulemaking requires operators to survey for abandoned and orphan wells in the vicinity of their unconventional well prior to start of fracturing, if those wells penetrate the same formation. TAB asked if an abandoned well is

impacted by hydraulic fracturing activities, if the operator is required to plug the well. Perry stated that the Department's stance is usually that the operator is required to plug the affected well, but will be determined on a case by case basis.

Waite voiced concerns about getting the predrill water supply survey analytical results to the Department and homeowners within the area. Waite said he feels the results should be submitted as a package prior to drilling, and within 10 days of completion of surveying the area around the well, rather than piecemeal ten days after each water supply is sampled.

Sam Fragale asked about the Department's requirement for the GPS for the well plat, also wondering if the Department is getting a lot of orphaned wells. Perry said the Department is not asking for a scavenger hunt, but is asking operators to do their best in obtaining this information.

PUBLIC COMMENT

Laurie Barr from Save Our Streams PA spoke first. She asked a question about proposed plugging requirements on new wells near unconventional wells. She also asked if stray gas happens between unconventional and shallow wells.

Jared Santoro spoke next, commenting about pad liners and aboveground tanks. He asked if the Department is going to set standards for everything on a well site. Stephen Brokenshire emphasized that the Department does not want to regulate which liners are better. Perry asked for written comments.

Amy Randolph of the Department of Conservation and Natural Resources' (DCNR) Bureau of Forestry and Mineral Resources spoke last. With respect to Chapter 78, she said that DCNR's policies as a leasing landowner are stricter.

A break was called at 11:48 a.m.

DRAFT PROPOSED RULEMAKING, 25 PA. CODE CHAPTER 78, SUBCHAPTER C (SURFACE ACTIVITIES) – PRESENTATION AND DISCUSSION OF DRAFT PROPOSED RULEMAKING LANGUAGE AND TIMELINE (CONTINUED)

The meeting was recalled to order at 12:30. Perry talked about changes made when referencing regional and seasonal groundwater levels, to which Waite warned that DEP staff will have to be ready for different levels per area. Perry reassured him that this would be taken into consideration.

Perry then said the Department is interested in using degraded sources of water in fracing operations, which lead to the white paper on using Mine-Influenced Water (MIW) for fracing operations. The Department does have concerns about the storage of the MIW, but made a change to allow MIW to be stored in freshwater impoundments if it meets the Department's standards and requirements.

Perry said the Department has been requiring a separate permit for dam safety, and that he feels it is appropriate to pull these standards into Chapter 78 where the Oil and Gas program is responsible for certain impoundments, such as those that do not affect water resources or public safety. If they do, the operator is required to get a permit from the Dam Safety program. Perry said we have not yet had an operator propose a dam that would cause a public water resource or public safety problem. Perry said that the current centralized impoundment process and the proposed rulemaking language both borrow heavily from the Department's residual waste regulations.

Waite stated that the Department will not make a decision on a permit until the operator has reported a second round of water testing. He asked if this will affect the permit decision guarantee. Perry said that

he feels this is necessary for the permit application to be administratively complete. Centralized Impoundments are not in the permit decision guarantee policy at this time. Perry asked TAB how many samples one would have to take so you can show you are not in the regional groundwater table. He agreed that a better number needs to be established before establishing the amount of time it will take DEP employees to issue a permit so it can be included in the permit decision guarantee. Perry said in section 78.59c(o), an operator can propose alternatives to the standards established in the proposed rulemaking, which should give operators more flexibility.

Section 78.60 deals with managing topsoil water and the Department modified it to require operators to demonstrate that topsoil water does not violate standards that are in place. For the disposal of drill cuttings, the Department is trying to make consistent use of standards. The posting of approved solidifiers on the Department's website should streamline our approval processes. Perry stated the Department wants to be notified before encapsulation is done, adding that constituents that accumulate during the fracturing process should not be left on site, and the Department needs to be notified before they are disposed of.

The proposed regulations require the same containment around condensate tanks that the Department currently requires around oil tanks. Perry said significant improvement from the 2012 Oil and Gas Act has to do with containment standards, and that the well pads here are held to the highest standard anywhere. Perry said that due to these regulations, spills that could contaminate the environment will be all but eliminated unless the operator has a flaw in their containment. Perry said the law describes substances that require a secondary containment. These substances must be kept in special containment, other substances may be stored in general containment only. While a vehicle does not need to be on special containment, if it is containing pollutional substances on a well site, it should be parked on a liner. Perry acknowledged that pad liners get slippery, so the Department is allowing for other secondary containment options to be proposed.

The 2012 Oil and Gas Act brought new restoration provisions, previously it was 9 months after completion of drilling. Perry said this was problematic for operators, where drilling activity has slowed significantly. The legislature realized that it did not make sense for pads to be shrunk when they would be built back up later, so the Act allows the Department to grant a 2-year extension, making the total time 2 years and 9 months before restoration needs to be completed. An operator does need to implement Post Construction Management (PCM) Best Management Practices (BMPs) during this period however. The Act allows operators to leave the pad unrestored as long as they get landowner approval and maintain PCM BMPs. Perry said the Department is defining how much area you can leave behind, stating the Department doesn't want operators to leave behind a safety issue, such as getting a surface rig onto the site if there is a problem. Perry stated that the Department is making sure the land is ultimately restored so it can be put into other productive uses by the landowner. Finally, unconventional well operators must submit samplings of the cuttings if they are looking to encapsulate to ensure the standards are met.

Section 78.66 codifies the Department's spill policy. Five Gallons of 10,000 mg/l brine is not a lot of hazardous material, and the Department has changed it to require spills and releases of more than 5 gallons of any regulated substance to be reported. Perry said we are borrowing the definition of "regulated substance" from Act 2, and Klapkowski said that this also comes from the Clean Streams Law. Waite said 5 gallons is minimal. Perry said he cannot think of anything that is less of a concern than brine and the current regulations require brine spills of more than 5 gallons to be reported. Perry said if any volume is spilled that affects waters of the Commonwealth, a notification to the DEP needs to be made. Perry discussed remediation of the various categories of spills - small spills (less than a barrel), spills that can be addressed through an administrative process similar to storage tank cleanups, and spills that are remediated to the full Act 2 standards. The administrative process is what varies between Act 2 and the spill policy/section 78.66. Finally, Perry noted that if the spill is completely contained by secondary containment, this rule does not apply to it.

Watson was curious about this because typically you would use a vacuum to clean up these types of spills, but if it rains, a vacuum will pick up the rain. Perry said we do state if you've got stormwater that is contaminated by the well site activities, you need to clean it up. TAB asked about vehicles having drips, what do operators need to do? Perry says when the Department has noted spills, you usually see a sheen. If people have gone down the alternative process, but change their mind they want to go through Act 2, they can. Waite said there seems to be stronger and more restrictive language in the spill policy as opposed to the regulation. Perry said we still retain the authority, and Nolan said Act 2 has voluntary and involuntary means, and that we are trying to outline the alternatives in the regulation. Klappowski explained why the language is stronger in the policy than in the regulation.

Section 78.67 pertains to small quarries and rock pits that operators use to develop access roads. The 2012 Oil and Gas Act does exempt these facilities from the non-coal permitting law, but the Department believes that constructing these facilities and ultimately restoring them is important. When they are no longer servicing well pad development, they need to be restored. This is not a permit requirement but a performance requirement. Waite said this seems to hurt about small operators, and that this language only considers large operators, not small ones. Perry noted the comment of contemplating multi well site "projects" and keeping borrow pits open, stating that if an operator does not want to restore the pit, they can get a non-coal permit.

Perry discussed additional provisions for gathering lines in relationship to earth moving disturbances. Subsection (b) is different from permitting work, and sensitive areas are flagged. Some new provisions about maintenance of top soil, to maintain vegetation were added. The Department is proposing keeping vehicles and refueling outside of that protected area. Waite asked if lines that do not break the soil are subject to this section. Brokenshire said our definition tries to define temporary as its functionality, once the pipeline loses its functionality, it needs to be reclaimed. He said that a line that is servicing a well site is temporary by its definition.

Watson said he got a question about section 78.68(h) that seems to incorporate federal pipeline regulations in the Department's regulations, but this is in the PUC jurisdiction, not the Department's. Perry said he believes this to be pulled word for word from the 2012 Oil and Gas Act - Nolan confirmed that section 78.86(h) matches section 3218.4(a) of the Act word for word. Brokenshire said that someone from the industry advised the Department of the difference between the two, saying Part 195 is the only difference from being verbatim from Act 13. Perry said we have a lot of gathering pipeline going on right now, and where horizontal directional drilling is used and inadvertent returns to the surface occur, the Department is proposing several things to deal with this situation. The Department requires notification before drilling beneath these water courses, identifying where the water course is, requiring MSDS sheets be at the site, keeping staging areas outside of the flood way, making sure that drilling materials other than bentonite and water be approved by the Department. The Department is also requiring that the operators have inadvertent return contingency plans. Perry said the Department has been trying to determine when trenching is superior to horizontal drilling for pipeline and vice versa.

In section 78.68b Perry said the Department is going to be requiring any temporary line that carries anything other than fresh water be installed on the surface, and that there are valves along various lengths of the line to prevent catastrophic discharge. It will require lines be drained if they are not used for more than 7 consecutive days and that they be inspected prior to reuse.

With regard to section 78.69, Perry said the Department is only going to be reviewing and approving water management plans. It will be focusing on performance over process, and is proposing the plans used in the Susquehanna River Basin and the Ohio River Basin. The Department's intention is not to change the process with what folks are used to using, but to see everyone held to the same standard across the state. Waite referred to part of the regulations which by implementation state you can't take the

flowback from an unconventional well, and use it to frac a conventional well. Perry said it is only unconventional operators that need to have these plans in the first place. Perry said the Department will make it explicit that it is not limited to unconventional wells, and that the Department will see how it can address this.

Discussing section 78.70, Perry said he wants to make clear, water from unconventional sites cannot be used for de-icing and road stabilization. He said this is because he is not sure how the Department could do so and protect ground waters in all scenarios. Waite said after the fracturing process, the flowback is brine. Perry said that the flowback from unconventional usually consists of more chlorides. Waite said he would debate it, giving the example of Crawford County, where the Medina formation, which is conventional, has water that has a higher salt concentration than water in the Marcellus in most cases. In some cases there can be 368,000 mg/l of chloride from a shale well, which is ten times saltier than the ocean. Watson said that's super saturated, and is almost impossible outside of worst case scenarios, and that certain places precipitate salt. Dan Lapato said this is the starting point and the Department needs more data before allowing the flowback from unconventional wells for de-icing and road stabilization. TAB said that municipalities want conventional well brine for dust suppression purposes and that people drill brine wells in Michigan for dust suppression purposes. Perry said the lack of noted impact from spreading brine from conventional wells is why we should continue that way. A Waste Management permit spurred de-icing, but Perry feels that barely anyone uses it. Waite said they still use it in Northwest Pennsylvania. Perry said we have minimum salt level requirements for de-icing for that specific purpose.

The Department is requesting the country of origin and manufacture of casings to be provided in the well record, and information regarding methane encountered while drilling the well. The Department also had to make modifications to its frac fluid disclosure to ensure compliance with the 2012 Oil and Gas Act, changing it from percent by volume, to be percent by mass.

The amount required for a bond for conventional operators was questioned, to which Perry responded that he seriously questions an operator who cannot come up with \$25,000 for a blanket conventional well bond. If you cannot obtain a bond in that amount, you probably should not be taking over several wells in the first place.

Waite went back to section 78.52 and the pre-drill survey, mentioning that it came up during the Citizen's Advisory Board meeting the previous day, where concerns were expressed that the Department is not disclosing everything. He said the Department should consider coming up with a list of parameters for pre-drill surveys such that if it does not see alterations of those parameters post drilling, that it is deemed there was no impact from gas drilling. He stated there are several lists out there, but the Department's is shorter than most. Waite said there are a few key parameters that you check for first to see if there's been a change. He would like to see this list implemented to eliminate gas drilling as being the immediate suspect. Perry makes a note to consider developing a list of parameters that, if not present in post drilling samples, would deem the water supply to not be affected by gas drilling.

Watson asked if there is a standard being developed for methane sampling. Perry said it is being worked on, but has not been finished yet. He also said there is supposed to be a chloride standard for cleanup developed as well.

Perry stated the TAB meeting scheduled for March 21 does not give the Department adequate time to respond to comments. He proposed a mid to late April TAB meeting. This will give the Department time to make the appropriate revisions, and present TAB with a follow up document. Perry's goal is to take this package to the Environmental Quality Board as proposed in June or July, with a 60-day public comment period and public hearings across the state. Depending on the nature and volume of the comments received, it could have a fairly substantial setback on this schedule. He would like to catalog

and characterize the ideas the Department has received and evaluate them further. He then would bring that work back to TAB to vent the proposed revisions, make the revisions from TAB final, and then start the formal regulatory review process. Perry stated the process means we are at least a year and a half away from reaching the final document.

PUBLIC COMMENT / BREAK

Rich O'Brien of DA Nolt spoke first. He referred to section 78.64a, containment systems and practices at unconventional well sites. He asked for clarity in reference to liners and subsurface liners. He referred to subsection (g)(iii), wondering if surface liners are going to be held to the same standards as the subsurface liners, leading him to ask if a provision is going to be made to prevent the damage to the surface liner.

He asked if a surface pad liner qualifies for meeting the Department's requirements, would a subsurface only meet the requirement as well? Perry responded yes it would. He asked if the DEP can better explain when secondary containment needs to be used, such as if a secondary containment is needed during operations, fracing, drilling, and completion, asking if that is the point the Department is trying to make in subsection (f)? Perry said yes. O'Brien asked if the crank case is the first containment, and the pad is the secondary containment. Perry said you do not need to park the vehicle on the containment unless it is storing polluttional substances. O'Brien asked for this to be clarified. Perry said you could use jersey barriers, and then put the liner overtop of it. In that case another liner is welded to the surface pad liner becoming the bottom of the secondary containment system. O'Brien suggested the Department could create a surface pad liner that would meet secondary containment options. Finally, on behalf of DA Nolt, he asked that the Department consider surface liners being inspected weekly because they are easily compromised. Perry said if you spill something through a pad liner that has holes in it, that is a reportable release event. Perry expresses concern that operators could be spending a lot of money on something that does not provide any extra protection.

Emily Krafjack spoke next. She referred to section 78.62, old wells, with 500 feet notification to landowners, to find out if there are old wells in the area and recommends the townships also be notified. She then asks about sections 78.61 and 78.62, and if landowners have any say on this, or if it needs to be in their lease. Perry said it was not included in this revision, and he felt that ultimately the Department should not insert itself in the lease agreement. She then asked if centralized impoundment locations are considered in this. Perry said you need a permit from waste management. Krafjack asks if the landowners are given notification. The Department has no rule that the landowners be notified prior to encapsulation. The encapsulation and the fact that it occurred is reported to the Department in the site restoration paperwork.

She then asked how the Department is going to track borrow pits. Perry said the operators would not necessarily know what they are going to use at the time of well permitting, and given that uncertainty, we are collecting that information on the well record and completion report. Perry said the Department will design the database in such a way that we can query the system seeing when a particular borrow pit was utilized.

Krafjack then asked about section 76.68 and gathering lines installed in certain places that could cause environmental issues. She wonders if these issues could be addressed in this revision. She knows that the Department does not have staff look at every single one, but wonders if the DEP could reach out to the different associations who might. She stated that she supports horizontal directional drilling instead of trenching and thinks it is worthwhile endeavor.

Krafjack suggested establishing standards for pad spacing, following up that she preferred to see surveys and stakes be removed after they are no longer being used. She stated that a municipality is unable to go onto another landowner's property to do so. She would like the operators to remove them.

A break was taken at 2:07 p.m.

DRAFT FINAL POLICY, “ADDRESSING SPILLS AND RELEASES AT OIL & GAS WELL SITES” (DOCUMENT NUMBER 550-5000-001)

Kurt Klapkowski stated that the Department provided the draft in the first quarter of last year. The public comment process yielded 67 comments from 12 individuals and entities. Klapkowski said the Department made fundamental changes. The reason for it being brought back to TAB is because it closely parallels section 78.66 and the Department made changes to the spill policy due to changes made to the other regulations. The things he wanted to bring to TAB’s attention was the format of the policy, preparation for and responding to the release of a spill, reporting the release, and remediation of the release. He said the first part did not change much from proposed to final, the proposed policy discussed transportation releases in detail. He stated that the Department narrowed the policy to only spills and releases at oil and gas well sites.

Significant changes were made to the reporting section, this goes back to section 78.66. The Department made some structural changes to the regulations, and it is reflected in the policy. The intent is if section 78.66 changes that the spill policy will change too. Klapkowski said we are bound by the existing regulations in sections 78.66 and 91.33. We agreed to change “pollutional substance” to “regulated substance” in the proposed regulations, but the Department could not make that change in the spill policy itself because the term is used in section 78.66. He said there were a lot of comments about the policy’s use of “must” and “should,” and that the Department tried to make sweeping changes, making it this is what you have to do, and then this is what you should do but are not required to do.

Spills that impact waters of the Commonwealth have to be reported no matter the size of the spill. The rest of the reporting section is pretty much the same. For a small spill, Klapkowski said you basically remove the soil, dispose of it in accordance with proper method required by law and the cleanup is completed. The second method is the full Act 2 process. The Department has asked to be notified within 15 days if Act 2 is chosen. Alternative remediation is the third path, notice and review would not be followed, it would be more of a Department specific notice and review. This would be based on statewide health standards. This is a process in which the operator and Department have more communication. At the conclusion of an alternative remediation, relief from liability would not be offered to the operator.

Klapkowski said for restoration and revegetation, the standards are more towards human health standards. The goal of the spill policy is to make sure the area impacted by a spill or release gets revegetated and restored to the quality of the rest of the well site.

Klapkowski said the Department will be publishing it in the Pennsylvania Bulletin and at that point it would be considered in effect. Waite asked why the Department wouldn’t wait until the changes to Chapter 78 are finished. Klapkowski said that getting a consistent approach out now would help operators and the Department would respond consistently in each region, which is not happening now. He reiterated that it is just a policy, it is not statutory or regulatory requirements. It is intended to be a bridge to get a final regulation in place, and it is not unusual for the Department to have a policy before a regulation is in place.

Perry requested a recommendation to move forward from TAB, because of the document being public for a fair amount of time. Fragale asked if it is going to create more or less confusion. Perry said it will create less confusion, and it will help the Department act uniformly. Perry said leaving it in limbo and having people search for their own solutions is less helpful for all involved. He gives an example of being an operator in the Northcentral District as opposed to Southwest. Many people find having a finalized document for conducting their work, and they wonder if they can reference or rely on it prior to that. Perry said he thinks everyone agrees that spills need to be cleaned up to a standard and in a timely notice. Waite said he will not support it, Watson and Fragale said they will.

NEW BUSINESS

A meeting was planned for April 24, 2013. The Department will be reviewing its well permit fees. It intends to conduct the review and present the conclusions at the April meeting. The permit fees were last reviewed in October 2009.

PUBLIC COMMENT

There were no public comments.

ADJOURN

A motion to adjourn the meeting was made by Chairman Watson at 2:40 p.m.