

ONE PAGE SUMMARIES

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

Dear Pennsylvania Environmental Quality Board,

January 8, 2014

Thank you the opportunity to submit my comments on new regulations for oil and gas development. While I believe this development can be done to the benefit of all parties involved with regard to the economy, domestic energy security, and concerns regarding climate change – all while minimizing damage to the environment and access to clean water - this currently is not the case.

At issue when crafting such regulations are the protection of streams and waterways from drilling operations; storage or freshwater and other fluids related to fracking; and the proper collection, analysis and disposal of waste materials at well sites, among many other concerns.

Listed below is a summary of concerns I have with the proposed regulations, as follows:

- 1) All fluids related to oil and gas development should be contained in engineered facilities, not "natural depressions." (Section 78.1, definition of "freshwater impoundment" and "pit," Section 78.56)
- 2) The definition of "seasonal high groundwater table" should be retained in the proposed regulations, because the term continues to play a key role in regulating oil and gas activities. (Section 78.1)
- 3) The permit applicant, not the Department of Environmental Protection (DEP), should bear the burden of determining whether proposed oil and gas operations would affect threatened or endangered species. (Section 78.15(d))
- 4) The DEP should respond to comments received about permits that may affect an important public resource. (Section 78.15(d))
- 5) The DEP should not compromise its legal obligation to protect the environment by balancing the citizens' constitutionally guaranteed right against private interests in oil and gas. (Section 78.15(g))
- 6) The DEP's duty to investigate water pollution should extend to all oil and gas activities. (Section 78.51(c)).
- 7) The prohibition on construction of fluid storage areas within 100 feet of certain water bodies should be extended to all water bodies. (Section 78.59c)
- 8) The DEP should stop promoting the disposal of residual waste at well sites. (Section 78.62)
- 9) The DEP should not allow natural springs to take the place of engineered monitoring wells used to measure the effects of fluid storage areas. (Section 78.59c(g)(2))
- 10) The DEP should strengthen its regulatory mechanisms for ensuring that pits and impoundments are constructed in a structurally sound manner and according to regulation. (Section 78.59c(m))
- 11) Any disposal of waste materials at well sites should require that representative samples of the material be taken and analyzed and submitted to the agency to demonstrate that, for example, the drill cuttings are not contaminated, or that residual waste meets the regulatory standards. (Sections 78.61 and 78.62)
- 12) The collection and analysis of chemical samples of waste that the operator intends to dispose on site should not be discretionary; the regulations should be clear that this is a mandatory obligation. This is particularly of concern where the disposal site does not need to be inspected by the agency prior to closure, and there is no long-term groundwater monitoring. (Section 78.63(19))
- 13) The DEP's proposed regulations for the road-spreading of brine pose unacceptable threats to the Commonwealth's water resources – and is unlawful. (Section 78.70a)
- 14) The DEP's revisions to Chapter 78 should contain meaningful standards for the final restoration of well sites and impoundment sites as well as for interim, "post-drilling" restoration period. (Sections 78.65, 78.59b, and 78.59c)
- 15) The DEP's proposed regulations regarding bonding are inadequate, because they fail to ensure that well sites and impoundment sites will be finally restored before they are released from operators' bonds. (Subchapter G)

These shortcomings of the new regulations for oil and gas development are common sense. The absence of such regulations constitutes neglect and – in many cases – complete dereliction of the DEP's legal obligations. To be effective, regulations need to be both comprehensive and enforceable, and the proposed regulations do not accomplish this. I hope the DEP will take these comments into consideration when revising these regulations.

Thank you for your time and consideration in this matter.

Sincerely, Sherwood Johnson - Gibsonia, PA



WILLIAMSPORT MUNICIPAL WATER AUTHORITY
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January 23, 2014

To the Pennsylvania Environmental Quality Board:

SUMMARY OF COMMENTS ON PROPOSED CHAPTER 78 REGULATIONS

Protection of the high quality surface waters and aquifers which are used as sources of public drinking water supplies needs to be among the highest priorities of the Commonwealth. Great economic and health-related damage can result from contamination of public drinking water supply sources (as illustrated by the recent incident on the Elk River in West Virginia).

The proposed amendments to 25 PA. Code Ch. 78 as published in the PA Bulletin on December 14, 2013 are welcomed as a major step toward responsibly regulating the process of permitting surface activities associated with development of oil and gas wells.

The proposed regulations need to be further strengthened under Section 78.15 to require Department staff reviewing applications and developing permits for oil and gas well drilling and associated activities to

- Utilize delineated Source Water Protection Zones (SWPZs) developed by professional hydrogeologists as part of the creation of Source Water Protection Plans approved by the Department;
- Notify the oil and gas permit applicants of public water supply SWPZs which have been developed in the areas of the proposed oil and gas activities;
- Develop appropriate isolation distances and setback requirements for oil and gas well pads and associated facilities from streams and aquifers, based on published SWPZs information in the areas of those applications, which may be greater than the currently proposed set default isolation distances;
- Set any other reasonable and appropriate permit conditions necessary to proactively protect the sensitive source waters in the delineated SWPZs.

The proposed regulations also need further amendment to

- Increase the time period in Section 78.15(f) for public water suppliers to respond with comments to at least 30 days after receipt of notice from the Department;
- Provide in Section 78.15(g) for public water suppliers, near whose SWPZs a proposed permit is being considered, to respond with comments on the draft permit within 60 days of notice of availability by the Department.

The Board of the Williamsport Municipal Water Authority appreciates this opportunity to comment on this very important rulemaking which needs to be strengthened and adopted to provide significant benefit in protecting the public health and economy of the Commonwealth.

January 24, 2014

SUMMARY OF COMMENTS ON 25 PA CODE CHAPTER 78—OIL AND GAS WELLS

The proposed regulations are not adequate to protect the environment and public health in Pennsylvania. To begin to protect Pennsylvania from the harmful effects of extracting this type of energy resource, DEP should provide leadership by zoning using a statewide screen filter, more strongly regulating, and taxing the fracking (unconventional well) industry. I urge the Department of Environmental Protection (DEP) to:

The Public Comment Process

1. Extend the public comment period on this rulemaking from 60 to 120 days. These are important regulations, and the public needs more time to study the issue and respond.
2. Run public hearings in all counties directly affected by drilling activities.

Protected Land Consideration

3. Our landscapes and ecosystems are precious resources that should be managed for the benefit of all, not just for the profit of a few. The current regulations regarding permitting and public resources are woefully inadequate to protect our natural and cultural resources. I suggest that DEP stop issuing drilling permits until it implements a statewide screening system (as states have done to determine siting for disposal of low-level radioactive waste) to determine areas that could be considered for drilling for natural gas. Eliminate from consideration for drilling in all areas referenced in Subsections 78.15(c) through (f) while also eliminating from drilling the following areas:

- a. Protected land, including federal (e.g., national forests, wildlife refuges, historical and archaeological areas), state (e.g., parks, forests, wildlife/game management areas), county and local parks and protected areas, **private conservation land, lands under a conservation easements, and land enrolled in the PA Clean and Green Tax program.**
- b. Public drinking water supplies, perennial and ephemeral streams, wetlands, and vernal pools.
- c. Land with known or suspected federal or state endangered or threatened species or species of conservation concern in PA.
- d. **Require a buffer of at least 0.75 mile around these sensitive areas. We know that in improper drilling situations, drilling fluid can migrate almost 0.5 mile (2,500 ft). There should be at least a 0.25 mile buffer around that minimal potential migration area for protection of sensitive areas. A buffer of 1 mile would be much better where feasible.**

Drilling Operations

4. Drilling companies should be required to disclose the chemicals used in their production processes. Pennsylvanians have a right to know what chemicals are being injected into the earth, waterways, and air via the entire fracking process.
5. Regulate and reduce air emissions from gas drilling.

Waste Disposal

6. No drilling waste should be allowed to be buried onsite. We do not need to create thousands of minilandfills across the state. Ban the use of drilling pits to store drilling wastewater for any period or in any location. These pits threaten water resources and can produce air emissions. Underground tanks for managing waste also should be prohibited.

Impact Fees and Royalties

7. Increase permit fees and create an escrow account to protect against damages, e.g., two times the value of a home to owners whose wells are damaged by drilling activities. In addition, implementing a fair royalty structure could provide revenue to increase staffing at DEP for regulatory enforcement, research funding, and site remediation in cases in which drillers cannot pay or cease operations.

**Summary of Comments on
Proposed Environmental and Protection Performance Standards
At Oil and Gas Well Sites (25 Pa Code, Chapter 78)**

Respectfully submitted by

Carol J. Cutler

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Environmental Quality Board

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March 3, 2014

While the Environmental Quality Board's (EQB) proposed changes represent an improvement, they do not go far enough to protect the Commonwealth's public and private water sources. I call on the Department of Environmental Protection to:

Institute pre-permitting consideration of impacts on public water resources which will ensure that the right of the public to pure water outweighs the industry's right of access to a resource that is clearly not as necessary for life as clean drinking water.

Establish a consistent and comprehensive list of parameters for pre-drill water quality testing--comprehensive enough to match with what DEP uses when it investigates contamination --and make that data available to the public through an online platform that protects individual homeowners' privacy.

Apply U.S. Resource Recovery and Conservation Act standards to regulate all aspects of the storage, transport, and use of the hazardous materials generated by shale gas extraction activities.

Eliminate the onsite storage of toxic materials in open pits and require a closed-loop system for handling onsite wastes.

Clearly define "freshwater" as used in oil and gas operations.

Prohibit the onsite burial of waste pits.

Prohibit the burial or land application of drill cuttings.

Prohibit the land application of top hole water, pit water, fill, or dredged material.

Prohibit the use of brine for dust suppression, de-icing, and road stabilization.

1. Pre-drill water testing and the restoration and replacement of contaminated water supplies (Sections 78.51 and 78.52). We learned through DEP's determination letters that natural gas drilling operations have impacted at least 161 water supplies statewide. The natural gas industry has fought to have water restored to only pre-contamination conditions—even if it is not safe to drink. In addition, DEP leaves it up to the driller to decide when, where, and how to conduct water quality tests before drilling starts. DEP should require:

- **Operators to restore contaminated drinking water to a quality that meets Safe Drinking Water Act standards**, no matter what the quality of the water prior to drilling. If the quality of a water supply prior to drilling was above these standards, the operator must restore the water to that higher standard; otherwise, good water supplies will be degraded.
- **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.** The parameters should be as comprehensive as possible, but at a minimum match what DEP uses when it conducts full contamination investigations and to ensure that complete baseline data is available.
- **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.

2. 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 which utilize tanks to store wastewater. DEP should:

- **Prohibit operators from using open pits for storage of regulated substances**, including wastewater, drill cuttings, and substances (like gels and cement) that return to the surface after fracking. Many spills, leaks, and other problems involving pits have occurred statewide that contaminate water, soil and air. Waste should be stored only in closed systems. January 6, 2014
- **Prohibit the onsite processing of shale drill cuttings**, which often contain hazardous substances and radioactive materials and require thorough analysis and special handling.
- **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.

3. Disposal of brine, drill cuttings, and residual waste (Sections 78.60, 78.61, 78.62, and 78.63, and 78.70) Operators currently escape the strict federal regulation of hazardous substances that other industries have to follow. Yet drilling and fracking generate large amounts of solid and liquid waste that can harm water supplies, air quality, land, health, and wildlife. Pennsylvania should apply U.S. Resource Recovery and Conservation Act standards to regulate all aspects of the storage, transport, and use of hazardous materials contained in pits, centralized impoundments, and tanks. In addition, DEP's proposed Chapter 78 changes don't address the risks posed by hazardous waste and do little to improve current regulations or ensure safe disposal. DEP should:

- **Prohibit the burial or land application of drill cuttings**, which can contain polluting and radioactive substances. DEP proposes different conditions for disposal of drill cuttings from above and below the well casing, but neither makes the practice safe. Cuttings from deep underground may contain more pollutants, but chemical additives and contaminated fluids are also found in drill cuttings from shallower areas.
- **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 use of brine for dust suppression, de-icing, and road stabilization.** Stormwater runoff carries brine into nearby waterways and wetlands. Not allowing the use of brine from shale gas wells is a positive step, but brine from conventional wells can also push salinity loads far above any naturally occurring conditions.
- **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.

4. Identification of orphaned and abandoned gas and oil wells (Section 78.52(a)). This is an important change and should be supported. About 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 before site and well construction and drilling** (not just fracking), so that the location of a new well can be changed if needed. Identified wells should be mapped on a publicly available web platform.
- **Plug and seal abandoned and orphaned wells** according to state safety standards *prior* to well site construction. The state lacks funding to address the large number of old wells, so drillers should be responsible for preventing pollution of adjacent water wells and air pollution from accidents when they occur.

One-Page Summary of Comments From Barbara Ruppert, Fairfield, PA, 3/6/14

As a citizen wishing to protect and enhance the soil and water quality in our state, I have made comments regarding proposed changes to Pennsylvania's oil and gas regulations. We have to take a long-term view and protect our health and safety instead of simply looking at economic returns; what good is more money if we all get sick because we contaminated the environment so badly?

I urge DEP to require that all drillers use a consistent, comprehensive list of parameters for pre-drill water testing, which DEP must establish before the proposed regulatory changes are adopted.

I urge DEP to prohibit the use of open pits for storage of regulated substances, rather than merely writing rules for the use of these dangerous pits. I also urge DEP to prohibit the onsite processing of shale drill cuttings, which often contain hazardous substances and radioactive materials.

I urge DEP to apply U.S. Resource Recovery and Conservation Act standards to regulate all aspects of the storage, transport, and use of hazardous materials. In addition, I urge DEP to prohibit the burial of drill cuttings and waste pits, which can leak and pollute groundwater. DEP should also prohibit the use of brine, which can be carried into nearby waterways and pollute them, as well as prohibiting the land application of water and fill from operations, which can contain pollutants.

I urge DEP to require operators to identify and publicly map existing wells before site and well construction and drilling (not just fracking), and to plug and seal abandoned and orphaned wells according to state safety standards prior to well site construction.

Thank you for doing all you can to protect the environment and health in our state.

Provisions for scenic, watershed and habitat conservation in utility and development right-of-ways

- Introduction
 - Description of Pennsylvania as a place of scenic, natural, and ecological value for its residents and visitors.
 - Impact of infrastructural right-of-ways on environment
 - Hydrologic implications – sedimentation, flooding, recharge
 - Habitat impact – lost connections, invasive introduction
 - Visual impact – break in forest cover, ridgeline disruption
 - Recent increase in energy development will continue to impact Pennsylvania's natural systems.
 - Current regulations address restoration but improved regulations focusing on the functional capabilities of restoration could improve upon the impacted systems previously detailed.
- Suggested regulation language
 - Section 1: Definitions – detailing terms specific to the example regulation proposed for restoration on right-of-ways.
 - Section 2: General Provisions – example regulation on right-of-way restoration practices.
 - A) Pipeline reseeded with grass mixture to prevent erosion and sedimentation
 - B) 5 Year vegetation management plan
 - Delineation of 3 planting zones
 - C) Species selection and diversity
- Supporting figures and images
 - Established and projected Pennsylvania well-pad locations.
 - Sullivan County current and projected pipeline development and topographic variation.
 - Graphic of well-pad development to pipeline distance and impacted acreage.
 - Chart of projected pipeline development impact on acreage across slope gradients in Sullivan County.
- Managing right of way width and configurations
 - Images
 - Existing Construction
 - Pipeline Planting Zones
 - Potential configuration – varied edge
 - Potential configuration – Island habitat connector
 - Pipeline Planting Zones – detailing the 3 planting zones and their vegetation types
 - Varied Edge – impact of planting program to vary the right-of-way vegetative edge
 - Island Habitat – impact of planting program to establish habitat connections across right-of-ways

Re: Comment on Proposed Regulations 25 Pa. Code Chapter 78 (Oil and Gas Wells)

As a Pennsylvania resident and voter, I think the far-reaching impacts from oil and gas development are profoundly and adversely impacting our Commonwealth. As an active observer of the North Carolina Mining and Energy Commission's effort to create regulations prior to authorizing oil and gas development in that state, I know that Pennsylvania's regulation is influential. What we do here is being watched elsewhere and will have impact beyond our borders.

Pennsylvania could be a national leader in regulating oil and gas industry for the general welfare and in the public interest. Now, however, in the eyes of many, it is a public policy laboratory for worst-case scenarios and a case study of inadequate regulation.

Proposed changes in Pennsylvania's regulation do not go far enough. In view of Article 1, Section 27 of Pennsylvania's constitution protecting reserved environmental rights of the Commonwealth's citizens and public natural resources, please require the following:

Sections 78.51 and 78.52

- Operators to restore contaminated drinking water to a quality that meets Safe Drinking Water Act standards
- 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.

Sections 78.56, 78.57, 78.58, 78.59

- Prohibit operators from using open pits for storage of regulated substances.
- Prohibit the onsite processing of shale drill cuttings
- Define "freshwater" that is used in oil & gas operations

Sections 78.60, 78.61, 78.62, 78.63 and 78.30

- Prohibit the burial or land application of drill cuttings
- Prohibit the onsite burial of waste pits
- Prohibit the use of brine for dust suppression, de-icing, and road stabilization
- Prohibit the land application of tophole water, pit water, fill, or dredged material

Section 78.52(a)

- Identify existing wells before site and well construction and drilling
- Plug and seal abandoned and orphaned wells

Submitted by Dr. Catherine F. Smith

Ridgeline, steep slope and viewshed protection for scenic, watershed and habitat conservation

- Suggested protective measures for scenic amenities, watersheds, and habitat
- Definitions of terms (ridgeline, steep slope, viewsheds, etc.)
- Protection for scenic overlooks, scenic waterways, scenic roadways, ridgelines, scenic natural and cultural amenities
- Proposed methods for better designed shale related infrastructure, drilling sites, pipeline right-of-ways, roads, and other related development
- Proposed protection for steep slopes because of their importance to habitat, biodiversity, scenic views, and water quality management
- Supporting images/diagrams/photographs

Submitted by Lacey Goldberg



MEHOOPANY CREEK WATERSHED ASSOCIATION
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March 12, 2014

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RegComments@pa.gov

RE: *Environmental Protection Performance Standards at Oil and Gas Well Sites Comment - Summary*

The Mehoopany Creek Watershed covers 134.5 square miles that encompasses Bradford, Luzerne, Sullivan and Wyoming Counties. Our comments are based on what our members discussed as being necessary to ensure that our watershed's integrity and that our greater community remains a healthy place to fish, hunt, recreate and raise our families. Below are just some of our concerns.

- **78.15** We support protections for species of special concern and the PNHP process. The notification zone 200' and 15 day comment period is inadequate.
- **§78.51** We support the guarantee provided by Act 13 for replacement and restored quality to either SDWAS or the quality of the predrill superior supply quality.
- **§78.52a.** We recommend the area of review be revised to 1,400'.
- **§78.56** Pits containing contaminated substances need to be eliminated.
- **§78.59c Centralized Impoundments** After lengthy discussion, our members determined that this is a method that needs to be prohibited; mandate 100% closed loop systems.
- **§78.61 §78.62 and § 78.63** Contaminated drill cuttings and contaminated residual waste must only be disposed of at landfills properly permitted for such substances.
- **§78.68** We recommend that the DEP be more involved in the stream crossing issues related to glacial till streams such as Mehoopany Creek. Riparian buffers need to be replaced 1:1 as wetlands are replaced.
- We recommend the adoption of corrosion control requirements. We also recommend that all gathering line classes - 1-2-3-4 for both unconventional and conventional wells are mandated to participate in PA ONE CALL.
- **§78.121** Many of our members are also royalty owners. We recommend that the production reporting change to a monthly reporting basis. It is well needed.
- **Subchapter G. BONDING REQUIREMENTS** - We realize the bonding revision was established by Act 13. However, based on the recent development in the State of Wyoming with a new inventory of abandoned wells [1,200] we are concerned the present schedule is inadequate.
- None of the municipalities are zoned within our watershed. Some of our members live very near well sites and have had intolerable impacts from noise, and some from lighting. The DEP needs to create some reasonable guidelines for operations which will assist folks that find themselves in such situations when the county and local governments are ill-equipped to respond.
- We recommend that the DEP create well pad spacing regulations.

Sincerely,

Roy "Rusty" Bennett
President



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Summary of Comments on Chapter 78 Submitted by API-PA

General – 1) clarify the effective date for the new requirements and grandfather permitted wells not yet drilled, 2) definitions and sections of text that refer the reader to other statutes or regulations. It would be better to provide the intended definition, 3) sections that are very detailed and prescriptive should be given some flexibility to allow for the use of alternate methods as approved by the Department, and 4) recognize landowner rights.

78.1 – suggest changes to definitions of approximate original contour, centralized impoundment, gathering pipelines, mine influenced water, pit and water source.

78.15 – clarification regarding business relationship, critical communities (special concern species), and need to develop criteria for conditioning permits.

78.52a – suggest grandfathering existing permits and place limit on waiting time for landowners to return completed questionnaire.

78.55 – oppose provision of PPC plan to F&BC and landowner.

78.56 – recommendations on method of determining liner integrity and reuse of liquids spilled within containment area.

78.57 – request determination of when flow-back becomes produced water.

78.58 – propose language to encourage reuse/recycling of fluids.

78.59b – propose removal of references to air pollution.

78.59c – specify liner installation procedures and monitoring well construction with protective casing.

78.65 – no need for section on removal of equipment from well site – in law.

78.66 – notification provisions (business days instead of calendar days).

78.67 – use of term “other laws” which does not specify what they are.

78.68 – approval for additives used in boring for pipelines and inspections.

78.69 – applicability of water reuse plan for operators with very few unconventional wells.

78.70 – use of parameters for road-spreading is not consistent with water quality standards.

78.73 – limit plugging of orphan wells to wells altered by hydraulic fracturing.

78.122 – determination of when a well is capable of production.

Summary

We thank you for the opportunity to comment on the Proposed Rulemaking on Environmental Protection Performance Standards at Oil and Gas Sites (25 PA.Code CH. 78) offered by the Environmental Quality Board. Many facets of this proposal are well received by the Center of Excellence of Environmental Toxicology at the University of Pennsylvania, and we feel environmental protection can be strengthened by their implementation.

The proposed rulemaking provides a framework for Compliance Assistance that states that *"the Department has worked extensively with representatives from the regulated community and leaders from several industry organizations"* in developing the proposed amendments. Were independent experts and researchers external to industry sources also included to assess potential environmental and ecological impacts? In addition, since many of the potential impacts may have significant public health consequences, were medical and health professionals invited to provide input to assess human health impacts that may dictate a more robust regulatory response? Given the degree of uncertainty that many scientific and public health experts have expressed regarding potential adverse impacts of this extraction technology the use of a primary compliance assistance strategy seems inadequate. Taking the Pre-Cautious Principle approach, because potential impacts remain to be fully defined suggests that a comprehensive enforcement strategy for industry and a suspecting public is warranted in the final regulations. Though not as popular an approach recently with regulatory agencies, enforcement is a basic tool that has historically yielded improved public health and environmental safeguards to protect our air and water quality.

We recognize these proposed amendments are an attempt to protect public resources. Many of the proposed changes, if successfully implemented with adequate resources, reduce current risks by expanding regulatory controls. But we want these changes to address risks that require a stronger scientific foundation to be fully confirmed. We encourage the Governor and his regulatory agency to take a Pre-Cautious approach in proposing new regulations, and to adopt policies and practices that take uncertainty into account when establishing revised regulations. We also encourage the Administration to provide research funding for initiatives that will better define public health risks that seem to have fallen below the radar screen in assessing health impacts to both workers and citizens in the prime extraction areas of the state.

Submitted by Trevor Penning, University of Pennsylvania

Comments on Proposed Regulations 25 PA Code Chapter 78 (Oil and Gas Wells)

These laws and regulations need to cover Class II Disposal Injection wells also.

As unconventional Marcellus drilling increases in PA, there will be more need to dispose of frack flowback, produced fluids, liquid from drill cuttings and other liquid waste from oil and gas operations.

Very few of the rules provide protection to citizens who must live near disposal injection wells, as the rules already partially protect those living near Marcellus drilling operations.

Any well driller who conducts a pre-drilling drinking water supply survey to protect himself should have to include a test for methane. A majority of well water contamination that results from drilling is caused by methane.

Notification must be given to all drinking water supply owners between 30 days and 60 days before the date a well is spudded, so that they can conduct their own pre-drilling certified water testing.

Disposal injection wells will cause high pressure underground for many years, unlike unconventional gas drilling operations using fracking that takes place during a matter of days or weeks. Because Class II Disposal injection wells will operate for many years, people living near injection wells need even MORE protection than those living near Marcellus wells. An injection well operates at high pressure for a long time. Marcellus wells are fracked under high pressure for only a short period of time. The injection well's high pressure for years means a longer time frame when water contamination or other damages are likely to occur.

Language that will provide protections and rights for those living near Class II Disposal injection wells needs to be incorporated into the regulations and laws.

Since Class II Disposal injection wells operate for many years, the setback distance needs to be larger than for unconventional horizontal gas wells. The Area of Review for those wells should not extend beyond the boundary of the surface tract on which the well operator has permission to construct the disposal well. Owners of drinking water wells within 1 mile of the disposal injection well should receive notice of well construction.

Submitted by Marianne Atkinson

Sheila Russell
31766 Route 187
Rome, PA 18837
Bradford, County; Orwell Township

Summary of Comments on
Proposed Rulemaking: Environmental Protection Performance Standards at Oil and Gas Well Sites

As a resident in the state of Pennsylvania who has been impacted by the oil and gas activity on our farm, I am encouraged by the proposed regulations, which will hopefully strengthen the DEP's role as protectors of our great state's environment and natural resources. However, I am also concerned about the DEP's ability to enforce new and heightened regulations when there is a history of the department's inability to manage and enforce the regulations already in place.

For example, at our well site alone, there have been multiple documented violations, which turned into ongoing violations, that went unresolved for many months and at times, for years. I am referring to well site named "Rexford 2H", Permit #015-20871, Bradford County, Orwell Township. Inspectors first documented a failed casing on 3/3/11 (within six months of hydrofracking this well), and hand-written notes on this report include: uncontrolled release of gas, safety concerns, "immediate attention needed" (DEP Inspection Record #1955193). Multiple subsequent inspection records noted this same violation continued unresolved for nearly a year. This same casing violation was written up by an inspector on 1/5/12 (DEP Inspection Record #2032629). This is the last copy of an inspection report that I have, but I know the operator (Chesapeake Energy) did not commence remediation of this failed casing violation until the fall of 2013, because I spoke to Chesapeake's project supervisor, Mr. Charles Brown at the well site about their remediation plans during that time. We still do not know for sure that the Rexford 2H well is fixed and operational.

I am very concerned about how the DEP will have the resources and personnel to enforce the proposed rules when history shows they were not able to enforce the rules already in place. I'm sure you can understand my concerns after experiencing and living next to a dangerous public safety violation that was allowed to continue unresolved for nearly three years. DEP documentation of the Rexford 2H well confirms a failed cement casing, uncontrolled gas leaks, methane migration into Commonwealth waterways, as well as violations that include building this well site within 50 feet of protected wetlands and within 100 feet of the Wysox Creek.

I sincerely hope the DEP can improve their success rate on enforcing Oil and Gas regulations in the future. Thank you for your efforts in strengthening the regulations.

Sincerely,
Sheila Russell

Sierra Club Pennsylvania Chapter
Summary of comments on proposed Chapter 78 regulations

The Pennsylvania regulations governing oil and gas wells have far reaching impacts that affect our communities, our environment, and the future of our Commonwealth. The Sierra Club has joined with others in providing detailed technical comments (See Earthjustice letter, March 14, 2014).

We are very concerned because the proposed changes do not go far enough to limit the damage our communities and environment are experiencing at oil and gas industry wells, frack pits, impoundments, pipelines, unpaved roads and related operations across the entire state. I support the tighter controls, but this proposal contain too few and simply does not go far enough to correct the harm that is being done. We have joined with other organizations in submitted detailed technical comments.

The "conventional" oil and gas industry should be subject to the proposed regulations. There are currently more than 129,000 conventional wells classified as "active" by the PADEP. This industry is also responsible for tens of thousands of orphaned and abandoned wells throughout the Commonwealth. Many of these wells are leaking gas and contaminated water. The proposed regulations would, in most cases, exclude application of best technology advances for conventional wells. Like unconventional wells, conventional wells use chemicals, water resources, disturb land, produce polluting waste, and require reservoir stimulation (including use of hydraulic fracturing in some cases). Conventional wells have also been involved in spills, accidents, and contamination (e.g., from methane migration).

The best protective measures should apply across the board to all operations in this industry:

- No open pits, or frack pits, should be allowed at well sites. Do not allow the use of pits for long-term storage and the burial of solid waste and other substances at well sites. Operators should not be allowed to bury waste on-site. Pits can leak and fail, and cause a substantially larger area impact than temporary tank use. Wastewater, flowback, and other fluids generated or used by oil and gas drilling should be stored in closed systems only.
- Centralized impoundments should be prohibited because they are inefficient, cause large-scale surface disturbance, pose a risk of surface and ground water contamination, and contribute to local air pollution.
- Orphan and abandoned oil and gas wells should be comprehensively identified, plugged and sealed before any site construction is allowed. These wells are a serious safety hazard in Pennsylvania and there should be every precaution taken to find them, avoid communication between new wells and old wells to avoid blowouts, gas migration, and accidents.
- Oil and gas operators should be required to use a consistent list of parameters for pre-drill water testing. The test parameters should include methane and should be comprehensive and at a minimum match what DEP uses when it conducts full contamination investigations and to ensure that complete baseline data is available.
- Oil and gas operators should be required to restore contaminated drinking water to a quality that meets Safe Drinking Water Act standards, no matter what the quality of the water prior to drilling. If the quality of a water supply prior to drilling was above these standards, the operator must restore the water to that higher standard.

Submitted by: Thomas Y. Au, conservation chair, Pennsylvania Sierra Club (March 14, 2014)



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**Summary Comments to the
Regarding the Proposed Oil and Gas Regulations**

The League of Women Voters of Pennsylvania thanks you for your numerous public hearings and opportunities to provide input into these important regulations. As you review all of the comments, we urge you to be guided by Article 1, Section 27 of our Constitution: *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.*

Err on the side of preservation and protection rather than degradation and devastation. Replace the word *regulated with polluttional* in reference to substances addressed by this proposal to reduce environmental risks.

We believe the following changes are critical in promoting public health and well-being:

- eliminate open pits for wastewater, production fluid, and flowback and replace them with closed tanks with optimal leak protection;
- eliminate the use of brine from unconventional wells for de-icing and dust control;
- monitor radioactivity of all oil and gas well products— solids, liquids, and gases on an on-going basis;
- include tracers to all chemicals used to frack wells for liability purposes;
- expand water testing parameters to petroleum distillates, heavy metals, and radioactivity;
- include regulations for production pipelines and those carrying fracking, reused, flowback, produced, and/or waste water.
- monitor air quality downwind of well pads and compressor stations continuously;
- treat each well pad as a superfund site where storage and reprocessing of wastewater are minimal, if at all.

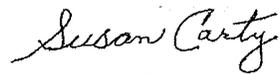
To make the document more user-friendly, include the complete text of cited documents for reader understanding – not just reference them.

For the benefit of taxpaying citizens: increase all fees and bonding to cover real and anticipated costs to avoid passing on expenses to Pennsylvanians of today and the future; and establish a super fund to cover unforeseen consequences.

All such regulations should include provisions for a periodic, 5-year review and updating so they can keep pace with technological advances and codify more advanced “best” practices. “Beneficial” uses should not be authorized without objective, peer-reviewed scientific studies to determine long-term impact.

Finally, consider the needs of conventional drillers while recognizing the potential for such wells to morph into sites for unconventional natural gas extraction processes.

Thank you for your consideration.

A handwritten signature in cursive script that reads "Susan Carty".

Susan Carty, President

Summary from Testimony of Ralph Kisberg, 1736 Almond St., Williamsport

To: Pennsylvania Environmental Quality Board

Public Comment on Rulemaking Amendments to 25 Pa. Code Chapter 78

Conventional Well Operators: Please study the Regulatory Analysis Form. If some small operators cannot afford to comply with the very limited number of proposed regulations applicable to them, (5), the harsh reality is that their resource production in the current era is insignificant. Their industry's history and legacy of environmental degradation is not.

Section 78.51 (2) regarding the restoration and replacement of contaminated water supplies: I suggest you delete the word "or" after the word "ACT", and replace it with the word "and". Operators tell us they do not affect water supplies often if at all. Why would it be much of burden to them to restore or improve water quality in so few situations where innocent landowners suffered and the problem was carefully determined to be an operator's fault? An improvement is not unreasonable concept.

Section 78.52a, Abandoned and orphaned well identification: Increase the distances measured from the surface above the horizontal well bores to 1,400'. This recommendation is derived from an explanation given by the Shell rep at the TAB meeting in State College of the maximum distance the energy in a frac operation can penetrate the rock around it. I suggest you look up the testimony to derive a distance based on science rather than an arbitrary, inadequate rounded figure. Shell's error in not identifying an abandoned well in Tioga Co. cost them dearly, I hope the board learns from their experience and listens to or reads carefully the brief lecture.

Section 78.15 (g). The Pennsylvania Constitution requires DEP to protect the public's environmental rights. I believe you are setting up a future problem with the word "optimal". That clause may be interpreted by well operators to argue that even if DEP determines a proposed well or access road will have a probable adverse impact on a public resource, it still cannot impose conditions that will prevent or mitigate that harm without first considering the impact of the condition on the individual mineral right owner's ability to "optimally" develop his or her oil and gas rights.

That reading of the regulation elevates the operator's definition of the concept of "optimal" development of oil and gas over the protection of public resources against likely adverse impacts, i.e. the public's concept of "optimal" development. If DEP's conditions do not constitute a taking of private property, the agency is obligated to condition permits protectively.



Pennsylvania Grade Crude Oil Coalition
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www.pagcoc.org

March 14, 2014

Environmental Quality Board
Rachel Carson State Office Building, 16th Floor
400 Market Street
Harrisburg, PA 17101-2301

SUMMARY of COMMENTS to the Proposed Amendments to 25 Pa. Code Chapter 78
Environmental Protection Performance Standards at Oil and Gas Well Sites

Honorable Members of the Environmental Quality Board:

The Pennsylvania Grade Crude Oil Coalition (PGCC) is an industry group representing drillers, operators and support services necessary to conventional oil and gas wells. PGCC's 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. On behalf of our members, we respectfully submit the attached analyses, comments, and recommendations for the promulgation of rules governing the oil and gas industry in Pennsylvania in a manner 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).

After careful review of the proposed revisions that were published in the *Pennsylvania Bulletin* on December 14, 2013, along with the Regulatory Analysis Form (RAF) that is required under the Regulatory Review Act to provide necessary background information and justification for the proposed rule, PGCC has been compelled to provide an extensive analysis of the numerous failings of the RAF with respect to the anticipated costs of the proposed rule and the required considerations for small businesses in Pennsylvania. The attached analysis provides a detailed description of the likely impacts of the proposed rule, which could put many if not all conventional oil and gas operations out of business shortly following implementation.

PGCC's members, many of whom have been in the oil and gas business in Pennsylvania for several decades and through several generations, strongly urge this Board to reorganize Chapter 78 to provide a set of rules for the oil and gas industry generally and to place rules that are necessary or required for unconventional operations in a new Subchapter F, which is a reserved subchapter in the current rule. Following the adoption of Act 13 in 2012, this rulemaking effort presents the perfect opportunity to create a new subchapter for unconventional operations. PGCC has attached a model for such a new subchapter, which reorganizes several provisions that are exclusively directed to unconventional operations, while leaving rules of general applicability in the current subchapters of Chapter 78.

Finally, PGCC has provided critical comments and concise recommendations to revise the Board's Chapter 78 proposal, creating a general rule that would properly balance the purposes of Act 13, allowing for the optimal development of the resource and respecting the property rights of oil and gas owners. A primary failing of the published rule is that no harms analysis was conducted or provided to demonstrate that the existing rules do not adequately protect the environment. PGCC respectfully submits that the proposed rule must be substantially revised or entirely rejected on this basis alone.

We appreciate your serious consideration of our recommendations.

Sincerely,

Michael Arnold
President



Summary of MSC comments on Proposed Amendments to 25 Pa. Code Chapter 78 (Proposal):

- The MSC supports strong environmental regulation to ensure the responsible development of Pennsylvania's valuable natural gas resources. We believe that Act 13 set a high bar for environmental performance and accordingly it is not necessary, nor in some cases lawful, for the Pennsylvania Department of Environmental Protection (DEP) to add additional costs and delays for the industry.
- We believe the Proposal: 1) exceeds statutory authority, for example, by expanding regulatory provisions beyond the terms of Act 13; 2) imposes standards on oil and gas operations that are more stringent than for other industries; 3) introduces operational complexity or obligations that have no meaningful environmental benefit; or 4) creates ambiguities or duplicative requirements.
- The DEP's Regulatory Analysis Form fails to satisfy the requirements of the Regulatory Review Act because the various subsections only address portions of the proposed rule, rather than the comprehensive rule package.
- DEP's Proposal must allow industry a reasonable amount of time to implement the sweeping new and complex operational and design criteria for well sites, impoundments, or other related operations permitted and constructed after the effective date of the final regulation and should clearly grandfather existing well sites and all other facilities associated with oil and gas operations.
- Section 78.15(f) should not equate "critical communities" with "special concern species" without an adequate basis in fact or law. DEP is seeking to create a binding regulatory requirement in excess of its statutory authority without following required rulemaking procedures.
- With regard to proposed section 78.52a, MSC supports a rule that requires reasonable diligence to identify abandoned and orphaned wells prior to hydraulic fracturing. However, the proposed rule is too vague and should be limited to a search of a robust DEP database.
- It is unreasonable for the DEP to require that the oil and gas industry address water supplies that do not meet drinking water standards for causes or constituents unrelated to oil and gas operations (78.51).
- Section 78.58 is a good step toward facilitating the maximum reuse of produced water. Section 78.58(b) should be expanded to include other pre-approved activities, including filtration of solids and removal of free-phase hydrocarbons. In addition, the regulations should include a residual waste storage and processing permit-by-rule.
- The proposed regulations have extensive and prescriptive new requirements for impoundments storing freshwater. No other person, group, or industry in Pennsylvania would be subject to these requirements and as such, the proposed regulation of freshwater impoundments for oil and gas is arbitrary and capricious. Consequently, freshwater impoundments must either be removed from the proposed oil and gas regulations, or Title 25 should be revised to regulate all persons, groups, or industries equally.
- We estimate that the cost of implementing the proposed amendments will likely be \$200 million to \$300 million annually, when all requirements are considered. We believe that the DEP has significantly underestimated both the operational and economic impacts the Proposal will impose on the unconventional gas industry and has failed to provide an adequate fact-based analysis for the rule that would allow for an objective assessment of whether any additional environmental protection measures are needed to address specific, documented environmental impacts.



Summary of Comments: Proposed Rulemaking, 25 Pa. Code Ch. 78¹

1. The rulemaking should be supported by scientific study and analysis of the cumulative impacts of oil and gas development on watershed and ecological integrity.
2. Best technology and management practices should be required for *all* oil and gas wells.
3. Rules should be developed requiring study of seismic risk and induced seismicity.
4. 78.1: New definitions of “freshwater and “inactive wells” are needed.
5. 78.15(b): Permit applications should not be deemed complete without a site restoration plan providing baseline field studies of existing conditions..
6. 78.15(d): All species of concern should be subject to PNHP consultation, and the area of analysis should include the full footprint of Oil and Gas Operations and all potentially affected surrounding areas.
7. 78.51: Restored water supplies never should degrade the quality of water that existed before a pollution event and always should meet Safe Drinking Water Act standards.
8. 78.52a: The rules for identification and plugging of abandoned and orphaned wells need to be strengthened substantially.
9. 78.53: After two years, stormwater management should be required on all portions of a well site not needed for safe well operations.
10. 78.1, 78.56, 78.59c, 78.62: Open pits, tanks, and centralized impoundments for contaminated fluids should be prohibited. Active pits should be phased out within one year.
11. 78.57, 78.60, 78.61, 78.63: Land application of drill cuttings, burial of contaminated wastes, and discharge to land of contaminated fluids should be prohibited.
12. 78.65: Well sites should be restored to baseline conditions and mitigation for impacts should be implemented when full restoration is not technically feasible.
13. 78.68: Gathering pipelines should not be exempt from any provisions Chapters 102 and 105.
14. 78.70, 78.70a: Production brine should not be used for dust control, anti-icing, or de-icing.
15. 78.72, 78.91, 78.102: The rules for blowout prevention, well plugging, and approval of inactive well status need to be strengthened substantially.
16. Subchapter G: New legislation is required to ensure that bonds are sufficient to correct and compensate for all damage to public natural resources, private property, and health.

¹ The comments summarized here were submitted by Earthjustice on March 14, 2014, on behalf of 16 environmental organizations actively working in Pennsylvania. Additional comments and regulatory language implementing our recommendations are included in technical comments prepared with the expert assistance of Harvey Consulting, LLC; Meliora Design; Kevin Heatley; and Briana Mordick.



Summary of PIOGA's comments on EQB's proposed amendments to 25 Pa. Code Chapter 78

PIOGA appreciates the difficult task of the Environmental Quality Board to promulgate necessary regulations for the conduct of oil and gas operations in Pennsylvania that provide a balanced protection of property rights and the environment, allowing for the optimal development of oil and gas resources. PIOGA believes, however, that this regulatory package should be disapproved and resubmitted after revision because:

- The regulations were not complete when submitted to the EQB for publication, in part because the Department did not fully consult with the Technical Advisory Board, as required under Act 13.
- The recent Pennsylvania Supreme Court decision in *Robinson Twp. v. Commonwealth* removed the EQB's authority to promulgate new rules pursuant to Act 13 Section 3215(c) or 3215(e);
- DEP failed to review, assess, or inform the EQB and the public about the true financial impacts of the rulemaking on the oil and gas industry, especially for conventional operations; and
- DEP failed to comply with the express requirements of the Regulatory Review Act, as amended in 2012 by Act 76, to provide for reasonable accommodations and exceptions for small businesses, which constitute the majority of conventional operators.

PIOGA's comments offer these recommendations to help turn this well-intentioned, expansive proposal for consideration into a legitimate proposed regulation with a more firm foundation for public comment:

- The current scope of Chapter 78 – drilling, operation, alteration and plugging of oil and gas wells – should be retained. New rules for pipelines or impoundments should not be developed to target this industry in a unique manner, as § 78.59a.-59c. and §78.68-68b do. These rules should be deleted.
- Section 78.15's proposed well permit application requirements would create unlawful and unnecessary burdens for permit applicants regarding "special concern species" and require authorizing legislation.
- It is unreasonable for the Department to require the oil and gas industry alone to address water supplies that do not meet SDWA standards for causes or constituents unrelated to oil and gas operations. Section 78.51 should not be revised in a manner that would alter current water restoration obligations.
- EQB should adopt rules that facilitate the reuse and recycling of flowback and drill cuttings. (§ 78.58)
- Section 78.65 (site restoration) may not improperly expand restoration obligations during the well site's production phase. It also should be revised to facilitate the review and approval of restoration extension requests per the clear legislative intent of Act 13, § 3216(g).
- Section 78.66 (spill reporting and remediation) should not *mandate* compliance with Act 2 or impose alternative onerous reporting or remediation obligations that have no compelling justification.
- Any new comprehensive regulation must allow industry a reasonable amount of time to implement the sweeping new and complex operational and design criteria and clearly grandfather existing well sites and facilities associated with conventional oil and gas operations.

PIOGA also specifically endorses the Pennsylvania Grade Crude Oil Coalition's recommendation to place into a separate subchapter the regulations exclusively directed toward unconventional wells.



RANGE RESOURCES®

Summary of Range Resources (Range) comments on the Proposed Amendments to 25 Pa. Code Chapter 78 (Proposal):

- Range supports strong environmental regulation to ensure the responsible development of Pennsylvania's valuable natural gas resources. We believe that Act 13 set a high bar for environmental performance and accordingly it is not necessary, nor in some cases lawful, for the Pennsylvania Department of Environmental Protection (DEP) to add additional costs and delays for the industry.
- We believe the Proposal: 1) exceeds statutory authority, for example, by expanding regulatory provisions beyond the terms of Act 13; 2) imposes standards on oil and gas operations that are more stringent than for other industries; 3) introduces operational complexity or obligations that have no meaningful environmental benefit; or 4) creates ambiguities or duplicative requirements.
- The DEP's Regulatory Analysis Form fails to satisfy the requirements of the Regulatory Review Act because the various subsections only address portions of the proposed rule, rather than the comprehensive rule package.
- DEP's Proposal must allow industry a reasonable amount of time to implement the sweeping new and complex operational and design criteria for well sites, impoundments, or other related operations permitted and constructed after the effective date of the final regulation and should clearly grandfather existing well sites and all other facilities associated with oil and gas operations.
- Section 78.15(f) should not equate "critical communities" with "special concern species" without an adequate basis in fact or law. DEP is seeking to create a binding regulatory requirement in excess of its statutory authority without following required rulemaking procedures.
- With regard to proposed section 78.52a, Range supports a rule that requires reasonable diligence to identify abandoned and orphaned wells prior to hydraulic fracturing. However, the proposed rule is too vague and should be limited to a search of a robust DEP database.
- It is unreasonable for the DEP to require that the oil and gas industry address water supplies that do not meet drinking water standards for causes or constituents unrelated to oil and gas operations (78.51).
- Section 78.58 is a good step toward facilitating the maximum reuse of produced water. Section 78.58(b) should be expanded to include other pre-approved activities, including filtration of solids and removal of free-phase hydrocarbons. In addition, the regulations should include a residual waste storage and processing permit-by-rule.
- The proposed regulations have extensive and prescriptive new requirements for impoundments storing freshwater. No other person, group, or industry in Pennsylvania would be subject to these requirements and as such, the proposed regulation of freshwater impoundments for oil and gas is arbitrary and capricious. Consequently, freshwater impoundments must either be removed from the proposed oil and gas regulations, or Title 25 should be revised to regulate all persons, groups, or industries equally.
- We estimate that the cost of implementing the proposed amendments will likely be \$200 million to \$300 million annually, when all requirements are considered. We believe that the DEP has significantly underestimated both the operational and economic impacts the Proposal will impose on the unconventional gas industry and has failed to provide an adequate fact-based analysis for the rule that would allow for an objective assessment of whether any additional environmental protection measures are needed to address specific, documented environmental impacts.