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From: RegComments@pa.gov
Sent: Wednesday, April 09, 2014 10:12 AM
To: Environment-Committee@pasenate.com; apankake@pasen.gov; IRRRC;
RegComments@pa.gov; eregop@pahousegop.com;
environmentalcommittee@pahouse.net
Cc: ra-epmsdevelopment@pa.gov
Subject: Proposed Rulemaking - Environmental Protection Performance Standards at Oil and Gas Well Sites

3042



Re: Proposed Rulemaking - Environmental Protection Performance Standards at Oil and Gas Well Sites

The Environmental Quality Board (EQB) has received the following comment regarding the above-referenced proposed rulemaking.

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Commentor Information:

Terry Bossert
Range Resources ()
3000 Town Center Boulevard
Canonsburg, PA 15317 US

Comments entered:

No text comments were provided as part of this comment submittal. Please refer to attachments below.

These links provide access to the attachments provided as part of this comment. You are advised to save the attachments to your local computer or a network share when prompted by your browser.

One-page Summary: [Range Resources Chapter 78 Comments Summary Document.pdf](#)
Comments Attachment: [Range Resources Merged.pdf](#)

Please contact me if you have any questions.

Sincerely,
Hayley Book

Hayley Book
Director, Office of Policy
PA Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063

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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.

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March 13, 2014

Environmental Quality Board
Rachel Carson State Office Building
400 Market St, 16th Floor
P.O. Box 8477
Harrisburg, PA 17105-8477

3042

Sent via email: RegComments@pa.gov

Re: Comments on Proposed Amendments to 25 Pa. Code Chapter 78, Environmental Protection Performance Standards at Oil and Gas Well Sites [43 Pa.B. 7377-7415]

To Whom It May Concern:

Range Resources – Appalachia, LLC (Range) is a leading operator in the Marcellus Shale natural gas play with a leasehold position of over one million acres across western and north central Pennsylvania. Range appreciates the opportunity to provide comment on the proposed amendments to 25 PA. Code Chapter 78, Environmental Protection Performance Standards at Oil and Gas Well Sites [43 Pa.B. 7377-7415].

Introduction

Range supports strong environmental regulation to ensure the responsible development of Pennsylvania's valuable natural gas resources. Range was active in the discussions leading to the passage of Act 13 of 2012 (Act 13) and endorsed the passage of that legislation with its enhanced environmental provisions. We believe that Act 13 set a high bar for environmental performance, which has been copied by other states, and accordingly it is not necessary, nor in some cases lawful, for the Pennsylvania Department of Environmental Protection (DEP) to add additional burdens onto the industry. Unfortunately, we believe that in several areas the DEP has increased those burdens in ways that do not add meaningfully to environmental protections.

We believe the Proposal should not: 1) exceed statutory authority, for example, by expanding regulatory provisions beyond the terms of Act 13; 2) impose standards on oil and gas operations that are more stringent than for other industries; 3) introduce operational complexity or obligations that have no meaningful environmental benefit; or 4) create ambiguities or duplicative requirements. While the Proposal contains many appropriate provisions to enhance environmental protections, it also contains several excessive and costly provisions that go beyond Act 13, impose unique and unnecessary burdens on the industry and are overly prescriptive with little if any environmental benefit. These provisions will be discussed in detail below. Range supports Governor Corbett's "Energy= Jobs" Plan which recognizes the key role natural gas plays in Pennsylvania's energy portfolio. The Plan, among other things, states that "regulatory certainty



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saves time and money.” Please consider our detailed comments, provided below, with these principles in mind.

Cost of Compliance

In both the Preamble and the Regulatory Analysis Form (RAF) the DEP sets out its estimate of the costs of complying with the proposed amendments to Chapter 78. Range believes that the DEP has greatly underestimated those costs and has also failed to justify or demonstrate that adverse environmental impacts related to this industry warrant or require the imposition of regulations that are more stringent than existing regulation, or, that are more stringent than those for other industries. DEP’s description of the “compelling public interest that justifies the regulation” notes that DEP “evaluated all surface activity regulations and based on its analysis decided to initiate this comprehensive rulemaking.” (RAF 10) No such analysis or factual basis for the Proposal, however, has been provided. DEP appears to assume without explaining, that environmental impacts are not being addressed through current regulation of the oil and gas industry.

DEP estimates that the cost for unconventional operators will range from \$75 million to \$96.6 million annually (approximately \$58,000 to \$74,000 per well based on the estimate of 1300 unconventional wells drilled per year). However, that estimate evaluates only a small subset of the provisions in the Proposal, not the full cost of compliance. Range believes that, when all requirements are considered, the full cost of implementing the proposed amendments will more likely be \$200 million to \$300 million annually, \$154,000 to \$231,000 per well. A few examples will illustrate why we believe DEP significantly underestimates the economic burden being placed on the industry.

The proposed regulations have extensive new requirements for impoundments storing fresh water, beyond those any other industry must follow for storing fresh water. However, the DEP cost estimate considers only the cost of fencing around existing impoundments, ignoring all the other requirements associated with both existing impoundments and the construction of new impoundments, to reach an estimated cost of \$0.7 million to \$5 million. Range believes the cost of all the new requirements applicable to fresh water impoundments is more likely \$250,000 to \$500,000 per impoundment, producing a total cost of \$25 million to \$50 million.

The DEP failed to include any estimate for the costs associated with the new pad restoration requirements (Section 78.65). Rather, the DEP claims the industry will realize a cost savings because an operator may be able to obtain a 2 year extension to postpone the restoration. However, a mere postponement of a cost is not an avoidance of the cost. The DEP’s estimated savings of \$21.7 million (estimated by DEP as \$50,000 per site for 434 sites per year) is actually a cost that will ultimately be incurred, not a savings. Moreover, Range estimates that the cost of pad restoration, as proposed in the regulations will be approximately \$200,000 to



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\$300,000 per pad; not \$50,000 as DEP estimates. Therefore rather than a \$21.7 million savings, the restoration requirements as proposed are a cost of \$130 million.

The DEP also failed to properly balance the cost of permit conditions to protect public resources against the benefits of these provisions. In an attempt to demonstrate how the benefits of the new consultation and mitigation provisions outweigh the costs, the DEP simply compared the cost of consulting a database and a field site visit to the "permanent loss of a public resource." (RAF 18) Such a comparison is very misleading. That analysis assumes that every impact results in a total loss of a public resource or endangered species, which is a facially unreasonable assumption, and assumes there are no costs beyond the search of a database and a field visit. Yet when estimating the costs of the public resource provisions, the DEP fails to include even these costs and assumes that consultation costs are zero. (RAF 19) Experience with the current consultation requirement indicates that there will be considerable expense from industry personnel time, expert consultants needed for surveys, and project delays in receiving resource agency responses - all well beyond a simple field visit. Range believes the costs will be orders of magnitude higher than the DEP estimate, even without considering mitigation. DEP plainly acknowledges that it has included no estimate of mitigation costs, which precluded full analysis of the provision by EQB, the Independent Regulatory Review Commission, and interested stakeholders. Even under existing, less expansive, requirements individual operators have experienced mitigation costs in the hundreds of thousands of dollars.

The DEP has not complied with the Regulatory Review Act, 71 P.S. §745.5(a) ("RRA"). It has failed to perform a complete assessment of the costs of the Proposal and has, therefore, underestimated the full economic burden being placed on the industry. In addition, DEP's explanation of how the benefits of the Proposal outweigh any costs and adverse effects merely states that "costs associated with pollution prevention measures are a small fraction of the costs associated with the cleanup and remediation of an area impacted with pollution." (RAF 18) This over-simplified justification falls far short of providing the factual basis and analysis that would enable an objective review of the Proposal.

While Range recognizes and accepts that there are significant costs for environmental protection, when evaluating our concerns regarding specific provisions which we believe to be unnecessary or excessive, the true magnitude of the costs, as well as a factual description of the benefits, must be identified. Additionally, the DEP's Proposal must allow industry a reasonable amount of time to implement the 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. DEP has stated on a number of occasions that these proposed requirements, if enacted, would be among the most stringent state oil and gas industry environmental standards in the U.S. The vast majority of the requirements in the Proposal do not include a phased timeframe for implementation by industry. In fact, most requirements would be immediately applicable upon the effective date of the final regulation. As DEP is aware, the planning,



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design, permitting, and construction of oil and gas well sites and related operations are a lengthy and complicated process for operators involving many factors and considerations. A sudden and immediately enforceable change in regulatory requirements would create tremendous uncertainty for the oil and gas industry. For example, the Proposal's new design and approval requirements for impoundments will take time to incorporate into industry's business practices and planning. Furthermore, industry's identification of abandoned and orphaned wells will benefit from further development of the Department's database, and should be postponed until the database and mapviewer system is improved. Finally, any reporting that requires new forms to be developed by DEP or electronic submissions by industry to DEP should be delayed until DEP has finalized its forms and implemented its electronic interface. As such, Range believes that a phased implementation of many of the operational and design criteria in the Proposal would be appropriate to include in the rulemaking.

As currently proposed, it is unclear as to how the new and revised requirements will apply to existing oil and gas well sites and related operations. It would put an undue burden on the oil and gas industry both financially and practically to require that the Proposal's new operational and design criteria apply to existing operations already working within the scope of DEP's current regulations. Moreover, a requirement to retrofit or update existing operations would put Pennsylvania at a competitive disadvantage with respect to other states. As such, DEP should include a clear "grandfathering" provision in the Proposal. DEP's "grandfathering" provision should state that the new standards in the Proposal should not apply to well sites, impoundments, or other related operations that have been already constructed; to oil and gas well sites where wells have already been drilled; or to well sites, impoundments, or other related operations for which permit applications have been submitted to DEP by an operator prior to the effective date of the final rulemaking.

Key Issues

Range has provided detailed comments on numerous sections of the Proposal elsewhere in this document. However, there are some issues that warrant initial mention in addition to our more detailed comments.

1. Public Resource Impacts:

Section 78.15(f) proposes to equate "critical communities" with "special concern species" without an adequate basis in fact or law. That term is undefined by state or federal statute or regulation. No federal or state agencies have utilized the rulemaking process to designate any species as "special concern," and there is no rational ecological basis for equating the term "communities" to "species." This raises substantial questions about how any such list is generated, what criteria are used to determine whether there is an impact to these species, and why/how the DEP would develop well permit conditions to mitigate impacts to such species. To the extent the term is intended to refer to



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certain species on the Pennsylvania Natural Diversity Inventory (PNDI) database, such designation is not done by rulemaking. Accordingly, DEP is seeking to create a binding regulatory requirement in excess of its statutory authority and jurisdiction without following required rulemaking procedures. The proposed rule creates tremendous uncertainty about a permit applicant's obligations with regard to an ever-changing and undefined list, to which there is no public access. The provision places Pennsylvania at a serious competitive disadvantage with respect to other states. The reference to "special concern species" should be eliminated.

Section 78.15(g) replicates, in part, the language of Act 13 Section 3215(e) which recognizes the oil and gas owners' property rights to develop the oil and gas resources. However, Section 3215(e) also requires the EQB to develop criteria for the DEP to utilize in the imposition of any permit conditions to protect public resources while respecting those property rights and ensuring optimal development of those resources. DEP has not proposed any such criteria. The rule thus fails to comply with Act 13, which requires the EQB develop these criteria in this rulemaking.

2. Pre-Hydraulic Fracturing Assessment:

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. We also believe the identification should include active, inactive and plugged wells. The regulation should provide clear direction to both the DEP staff and well operators. The rule should provide a precise limitation of the area of review, both horizontally and vertically from the well bore, based upon potential risks related to hydraulic fracturing and communication with other wells in the area, rather than propose open ended obligations. There is a technical consensus that shallow wells are largely irrelevant to deep unconventional well operations. As such, the questionnaire as proposed is unlikely to yield useful information and is more likely to create confusion, administrative complications and delays for well operators and DEP staff without any benefit. The questionnaire should be eliminated.

The regulation should be amended to reflect that the operator's obligation consists of: a) consulting with the DEP's database to identify only those active, inactive, plugged, abandoned and orphaned wells that are known or reasonably expected to penetrate the area of review (i.e., located within the specified horizontal distance of a planned wellbore and extending deep enough to potentially be impacted by hydraulic fracturing of the target horizon); b) monitoring of abandoned or orphaned wells that penetrate the area of review during hydraulic fracturing by visual observation or other method approved by the DEP, including circumstances where an operator does not have access to the well; and c) taking appropriate remedial action on any well that is affected by hydraulic fracturing in



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such a way as to create an environmental risk, recognizing limitations of access and ownership of such well.

3. Waste Management at Well Sites:

Range supports regulations that encourage operators to beneficially reuse fluids and drill cuttings in an efficient, environmentally-responsible, and cost-effective manner that is practicable for operators to implement in the field. Section 78.58 is a good step in that direction but Subsection 78.58(b) should be expanded to include other activities that can be conducted without prior approval. These should include settling, as well as filtration of solids and removal of free-phase hydrocarbons. In addition, the regulations should include a residual waste storage and processing permit-by-rule option pursuant to the MSC's suggested modifications to the DEP's proposed Section 78.58 provided by the MSC to the Technical Advisory Board (TAB) for consideration at the August 14-15, 2013 Subcommittee Meeting. This permit-by-rule would provide unconventional operators with authority and flexibility to store and process fluids generated by the development, drilling, stimulation, alteration, operation, or plugging of a well for reuse by the operator. Additionally, the permit-by-rule would significantly reduce truck traffic and air pollution, caused by additional handling and by unnecessary transport of fluids by operators.

4. Water Supply Protection:

Sections 78.51 (b) and (c) implement Section 3218(b) of Act 13; however the proposed regulation adds "well site construction" to the list of activities enumerated in Act 13 that trigger the reporting and investigation activities set forth in Section 3218(b). DEP simply has no authority to amend the statutory language and this addition should be stricken. No one doubts that DEP can investigate complaints regarding water supplies; however, they cannot add new language onto the legislative language.

Range agrees with TAB's interpretation that "exceeded," as the term is used in Section 3218(a) of Act 13¹ and used by the DEP in its proposed Section 78.51(d)(2), refers to an operator's requirement to restore an affected water supply to its pre-drilling conditions, when that water supply did not meet Safe Drinking Water Act standards (SDWA) prior to drilling. The DEP's proposed contrary interpretation that operators would be required to improve each and every water supply to a

¹ "The department shall ensure that the quality of a restored or replaced water supply meets the standards established under the...Pennsylvania Safe Drinking Water Act, or is comparable to the quality of the water supply before it was affected by the operator if that water supply *exceeded* those standards..." Section 3218(a)(emphasis added).



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minimum of SDWA standards is unreasonable since it is well documented that many private water supplies do not meet SDWA standards for water quality parameters for reasons unrelated to oil and gas operations. It is also impractical to require operators to restore an affected water supply to pre-drilling conditions for individual parameters that were better than SDWA standards. In some cases the private water well will have had no pre-drilling samples taken or in other cases the pre-drilling sample may not be sufficient to reflect natural variability in water quality. Moreover, the cost to implement treatment technologies to achieve such uncertain pre-drilling conditions for individual parameters, even if possible, may be prohibitively expensive. Such a requirement has not been imposed upon any other industry and it would be unfair to impose it solely upon the oil and gas industry. Range accepts responsibility to address impacts to water supplies that they may have caused, but it is unreasonable for the DEP to require that the oil and gas industry address contamination in water supplies unrelated to oil and gas operations, as no other industry in Pennsylvania has been held to such a standard.

5. Definitions:

Numerous new definitions have been proposed that would expand the scope of obligations under Chapter 78, if adopted as written. Two definitions that potentially create major uncertainty are:

The definition of "Mine influenced water" gives DEP discretion to include all waters impaired by mine drainage. Given the breadth of the DEP's list of waters impaired by mine drainage this definition would include many surface waters throughout the Commonwealth, including sections of the major rivers such as the Allegheny, Monongahela, Youghiogheny and West Branch of the Susquehanna some of which are widely used for public water supplies. The definition is overly broad. Storage and use of such a vaguely defined and potentially broad universe of waters, which are routinely used for numerous other purposes by industries beyond the oil and gas industry, should not be subject to the special approval requirements of Section 78.59b(g).

The definition of "Regulated substances" refers to the definition in Act 2 that was developed to assist those conducting cleanup operations at brownfield sites throughout the Commonwealth. The definition, which includes substances "covered by" six other named statutes, is overly broad and fails to provide the necessary guidance for reporting obligations that would be imposed under the proposed Section 78.66(b). At a minimum, the definition must be further clarified by reference to some known list of substances, such as those found in Chapter 250. In addition, the term should be replaced or removed entirely where the intent of the rule is better served by a different term. See Sections 78.55 (Control and disposal planning), 78.56 (Temporary storage), 78.59c



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(Centralized impoundments), 78.61 (Disposal of drill cuttings), and 78.64a (Containment systems and practices at unconventional well sites) for specific recommendations below.

The DEP's Regulatory Analysis Form

The DEP is required by the RRA to provide a regulatory analysis of its proposed rulemaking to the Independent Regulatory Review Commission and the relevant standing committees of the Senate and House of Representatives. The DEP's RAF, which is posted on EQB's website along with the proposed rule and preamble, however, fails to satisfy the requirements of the RRA. Generally, the analysis is incomplete because the various subsections only address portions of the proposed rule, rather than the comprehensive rule package. Both the comparison to other states' regulations and the estimate of costs (as noted above) are limited in scope to only a few select provisions, failing to provide the required analysis.

In addition, the analysis is often incomplete or one-sided. For example:

- The RAF describes the compelling public interest as motivated by unconventional operations, which may result in earth disturbance "at least 10 times the size of earth impacted at a conventional site." (RAF 10) This characterization fails to acknowledge that unconventional well sites may have ten or twelve wells on one site, thus efficiently using a single earth disturbance to develop multiple wells and actually reducing the amount of earth disturbance required on a per well basis. Furthermore, the productivity of an unconventional well pad greatly exceeds that of a single conventional well and the earth disturbance is therefore much smaller on a production per well basis.
- In describing the "compelling public interest" for the rule, the RAF asserts that the draft rule protects the Commonwealth's tourism and recreation industries, merely assuming, without first demonstrating, that oil and gas operations have, in fact, affected those industries. (RAF 10) In describing small business impacts, the DEP alleges that small businesses which benefit from park visitors will benefit from the rule, without any foundation that those businesses have or will suffer losses from the oil and gas industry. (RAF 15 and 23) DEP has provided very detailed estimates of the anticipated annual economic activity and jobs generated by tourism without providing any comparable estimates of economic activity and jobs generated by the oil and gas industry.
- The RAF repeatedly states that the Proposal is "performance based," when in fact a review of the Proposal will reveal that it is unnecessarily prescriptive in many areas, as we explain in more detail below.



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Range recognizes the importance of strong environmental protections and accepts them as an essential part of its operations. However, we believe that the DEP has significantly underestimated both the operational and economic burden that 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. Accordingly, we believe the Proposal requires major revision as is suggested in our attached detailed comments and summary document.

Sincerely,

Terry R. Bossert
VP, Legislative & Regulatory Affairs – Appalachia

cc: Patrick Henderson, Deputy Chief of Staff & Energy Executive, Governor's Office

Range Resources – Appalachia, LLC
Detailed comments on Proposed Amendments to 25 Pa Code Chapter 78,
Environmental Protection Performance Standards at Oil and Gas Well Sites [43
Pa.B. 7377-7415]

§ 78.1. Definitions.

Approximate original conditions—Reclamation of the land affected to preconstruction contours so that it closely resembles the general surface configuration of the land prior to construction activities and blends into and complements the drainage pattern of the surrounding terrain, and can support the land uses that existed prior to oil and gas activities to the extent practicable.

Range comment:

Act 13 does not define or require well sites to be restored to approximate original “conditions.” The only place where the term is proposed by EQB to be used is in Section 78.66, where Range’s proposed revisions clarify that the term is not necessary or appropriate.

Suggested language:

Delete the defined term.

Borrow pit—An area of earth disturbance activity where rock, stone, gravel, sand, soil or similar material is excavated for construction of well sites, access roads or facilities that are related to oil and gas development.

Range comment:

As proposed, this definition would classify all site development activities as borrow pits since these activities involve earth disturbance. The definition would add additional permitting and bonding obligations under other applicable laws as referenced in the proposed Section 78.67. Borrow Pits.

Suggested language:

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

Centralized impoundment—A facility that meets the following:

(1) a natural topographic depression, manmade excavation or diked area formed primarily of earthen materials,

(2) designed to hold fluids or semi-fluids associated with oil and gas activities, including wastewater, flowback and mine influenced water, the escape of which may result in air, water or land pollution or endanger persons or property,

(3) constructed solely for the purpose of servicing multiple well sites.

Range comment:

Centralized impoundments may be designed to hold fluids or semi-fluids from “oil and gas operations,” as defined in this Chapter.

Suggested language:

Centralized impoundment—A facility that meets the following:

(1) a natural topographic depression, manmade excavation or diked area formed primarily of earthen materials,

(2) designed to hold fluids or semi-fluids associated with oil and gas operations, including wastewater, flowback and mine influenced water, the escape of which may result in air, water or land pollution or endanger persons or property,

(3) constructed solely for the purpose of servicing multiple well sites.

***Gathering Pipeline*—A pipeline that transports oil, liquid hydrocarbons or natural gas from individual wells to an intrastate or interstate transmission pipeline.**

Range comment:

To avoid confusion, Range suggests the regulation should use the Federal definition for a gathering pipeline contained in 49 CFR Part 192, which is consistent with how the term is defined in Act 13, Section 3218.5.

Suggested language:

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

***Mine influenced water*—Water contained in a mine pool or a surface discharge of water caused by mining activities that pollutes, or may create a threat of pollution to, waters of the Commonwealth. The term may also include surface waters that have been impaired by pollutional mine drainage as determined by the Department.**

Range comment:

The definition of "Mine influenced water" gives the Department discretion to include all waters impaired by mine drainage. Given the breadth of the Department's list of waters impaired by mine drainage, this definition would include many surface waters throughout the Commonwealth, including sections of the major rivers such as the Allegheny, Monongahela, Youghiogeny and West Branch of the Susquehanna, some of which are widely used for public water supplies. The definition is overly broad. Storage and use of such a vaguely defined and potentially broad universe of waters, which are routinely used for numerous other purposes by municipalities and industries beyond the oil and gas industry, should not be subject to the special approval requirements of Section 78.59b(g). The second sentence of the proposed definition should be deleted.

Suggested language:

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

* * *

Oil and Gas Operations—The term includes the following:

- (1) well location assessment, seismic operations, well site preparation, construction, drilling, hydraulic fracturing, completion, production, operation, alteration, plugging and site restoration associated with an oil or gas well;**
- (2) water withdrawals, residual waste processing, water and other fluid management and storage used exclusively for the development of oil and gas wells;**
- (3) construction, installation, use, maintenance and repair of:**
 - (i) oil and gas pipelines;**
 - (ii) natural gas compressor stations; and**
 - (iii) natural gas processing plants or facilities performing equivalent functions; and**
- (4) construction, installation, use, maintenance and repair of all equipment directly associated with activities specified in paragraphs (1), (2) and (3), to the extent that the equipment is necessarily located at or immediately adjacent to a well site, impoundment area, oil and gas pipeline, natural gas compressor station or natural gas processing plant.**
- (5) earth disturbance associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.**

Range comment:

Although this definition is provided, the proposed regulations also use the phrase "oil and gas activities" in numerous subsections. This creates confusion as to whether different meanings are intended. Please pay particular attention to our specific notes and suggested language in this comment

letter regarding the Department's use of the phrases "oil and gas operations" and "oil and gas activities" throughout its proposal.

Pit—A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials designed to hold fluids, semi-fluids or solids associated with oil and gas activities, including but not limited to fresh water, wastewater, flowback, mine influenced water, drilling mud and drill cuttings, that services a single well site.

Range comment:

To avoid any confusion, we propose that the Department use the phrase "activities at oil and gas well sites" in lieu of the Chapter 102 defined term "oil and gas activities" in this definition.

Suggested language:

Pit—A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials designed to hold fluids, semi-fluids or solids associated with activities at oil and gas well sites, including but not limited to fresh water, wastewater, flowback, mine influenced water, drilling mud and drill cuttings, that services a single well site.

Regulated substance—Any substance defined as a regulated substance in section 103 of The Pennsylvania Land Recycling and Environmental Remediation Act (Act 2) (35 P.S. §6020.103).

Range comment:

The definition of the term "regulated substance" is very broad and its use throughout the proposed regulation is often difficult to apply to the oil and gas industry. The term "regulated substance" was adopted in the context of Act 2 which focuses on characterization and remediation of releases causing impacts to environmental media. The term was not designed to be used in the context of affirmative regulatory obligations. Range recommends that revisions be made as suggested throughout the subsections below to address DEP's particular intent of the regulatory section in which the term has been proposed.

The term may be appropriate in the spill reporting and remediation Section 78.66, but even there, the scope of the term as defined above creates uncertainty with respect to reporting obligations in particular. Section 78.66(b) creates a two-tiered release reporting system for the oil and gas industry. The oil and gas industry is already subject to the requirements for reporting releases pursuant to 25 Pa. Code § 91.33 that apply to all other regulated entities in Pennsylvania, as well as the numerous federal reporting requirements under CERCLA, (e.g. 40 C.F.R. 302), CWA (e.g. 40 C.F.R. 112), and EPCRA (e.g. 40 C.F.R. 355) that provide specified reportable quantity thresholds.

In particular, Section 78.66(b)(1) as currently proposed would impose an obligation to report any spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system. This reporting obligation applies regardless of whether there is any actual or threatened impact to waters of the Commonwealth or any other impact to the environment or to public health or safety. In recognition that the EQB is proposing to eliminate the

existing “reportable release of brine” definition and provision, Range recommends that this additional requirement be clarified and limited to reporting brine spills over 5 gallons outside of containment.

See the subsections below for additional comments and suggestions that explain Range’s recommendations for terms that will serve the purpose of the regulation and provide better guidance to the regulated community.

Suggested language:

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

Temporary pipelines—Pipelines used for oil and gas operations that meet the following:

- (1) transport materials used for the drilling and/or hydraulic fracture stimulation of a well and the residual waste generated as a result of those activities;**
- (2) lose its functionality after the well site it serviced has been restored pursuant to 25 Pa.Code § 78.65 (related to restoration).**

Range comment:

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

Also, those portions of temporary pipelines that are located within the boundaries of unconventional well sites subject to the containment system requirements of Section 78.64a should be excluded from this definition.

Suggested language:

Temporary pipelines—Pipelines that are part of oil and gas operations and that:

- (1) transport materials used for the drilling or hydraulic fracture stimulation, or both, of a well and the residual waste generated as a result of those activities;**
- (2) lose its functionality after the well site it serviced has been restored under §78.65 (related to restoration).**
- (3) The term does not include those portions of pipelines that are located within the boundaries of unconventional well sites subject to the containment system requirements of §78.64a.**

Well site—The area occupied by the equipment or facilities necessary for or incidental to the drilling, production or plugging of a well.

Range comment:

This definition should be updated to reflect the fact that multiple wells will be located on one well site with unconventional shale gas development.

Suggested language:

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

§ 78.15. Application requirements.

Range comment:

The DEP failed to properly balance the cost of permit conditions to protect public resources against the benefits of these provisions. In an attempt to demonstrate how the benefits of the new consultation and mitigation provisions outweigh the costs, the DEP simply compared the cost of consulting a database and a field site visit to the “permanent loss of a public resource.” (RAF 18) Such a comparison is very misleading. That analysis assumes every impact results in a total loss of a public resource or endangered species, which is a facially unreasonable assumption, and assumes there are no costs beyond the search of a database and field visit. Yet when estimating the costs of the public resource provisions, the DEP fails to include even these costs and assumes that consultation costs are zero. (RAF 19) Experience with current consultation requirement indicates that there will be considerable expense in industry personnel time, expert consultants needed for surveys, and project delays in receiving resource agency responses - all well beyond a simple field visit. Range believes the costs will be orders of magnitude higher than the DEP estimate, even without considering mitigation.. DEP plainly acknowledges that it has included no estimate of mitigation costs, which precludes full analysis of the provision by EQB, the Independent Regulatory Review Commission, and interested stakeholders. Even under existing, less expensive, requirements individual operators have experienced mitigation costs in the hundreds of thousands of dollars.

(a) An application for a well permit shall be submitted [on forms furnished by the] **electronically to the Department through its website** and contain the information required by the Department to evaluate the application.

Range comment:

Given the complexity of establishing electronic permitting, Range recommends electronic submission be an option for a period of time, no less than 2 years, from the date electronic well permit submission is fully operational.

Range suggests that the Department carefully evaluate the placement of all submitted application forms on its public website for all public access, given the need expressed by public resource agencies to limit location information regarding threatened and endangered species and their habitat.

(b) The permit application will not be considered complete until the applicant submits a complete and accurate plat, an approvable bond or other means of complying with section [215]

3225 of the act [(58 P. S. § 601.215)] (58 Pa.C.S. § 3225), the fee in compliance with § 78.19 (relating to permit application fee schedule), proof of the notifications **required under section 3211(b.1) of the act (58 Pa.C.S. § 3211(b.1))**, necessary requests for variance or waivers or other documents required to be furnished by law or the Department, **and the information contained in subsection (c)–(e)**. The person named in the permit shall be the same person named in the bond or other security.

Range comment:

Range recommends that “complete” permit applications be further clarified, as provided in suggested language for Section 78.15(d) below, so that the applicant’s obligation to provide information with respect to threatened and endangered species is clear.

(c) The applicant shall submit information identifying parent and subsidiary business entities operating in Pennsylvania with the first application submitted after [effective date] and provide any changes to its business relationships with each subsequent application.

Range comment:

Range recommends clarifying language for “information identifying parent and subsidiary business entities.”

Suggested language:

(c) The applicant shall submit information identifying parent and subsidiary business entities operating in Pennsylvania with the first well permit application submitted after [effective date] and provide any changes to this information with each subsequent well permit application.

(d) The applicant shall provide proof of consultation with the Pennsylvania Natural Heritage Program (PNHP) regarding the presence of a State or Federal threatened or endangered species where the proposed well site or access road is located. If the Department determines, based on PNHP data or other sources, that the proposed well site or access road may adversely impact the species or critical habitat, the applicant shall consult with the Department to avoid or prevent the impact. If the impact cannot be avoided or prevented, the applicant shall demonstrate how the impacts will be minimized in accordance with State and Federal laws pertaining to the protection of threatened or endangered flora and fauna and their habitat.

Range comment:

This section restates, with minor edits, Section 102.6(a)(2). Range recommends the following modifications to clarify the consultation process and the extent of the plan or measures to avoid, prevent or minimize impacts to threatened or endangered species and their habitat.

Suggested language:

(d) The applicant shall utilize the Pennsylvania Natural Diversity Inventory (PNDI) to identify the presence or absence of a State or Federal threatened or endangered species where the proposed well site or access road is located and shall provide proof of notification and consultation with the applicable resource agency regarding the screening for the presence of such species and their critical habitat in the well permit application. For purposes of consulting with the Department, if the proposed well site or access road may adversely impact such species or their critical habitat, the applicant shall submit a proposed plan or measures to avoid, prevent, or minimize the impact in accordance with state and federal laws pertaining to the protection of threatened or endangered species and their habitat. An applicant's submission of the proposed plan or measures concludes the information required to be submitted to the Department pursuant to subsection (b).

(e) If an applicant seeks to locate a well on a well site where the applicant has obtained a permit under 25 Pa.Code § 102.5 (relating to permit requirements) and complied with 25 Pa.Code § 102.6(a)(2), the applicant is deemed to comply with subsection (d).

Range comment:

Because 78.15(d) essentially restates 25 Pa. Code 102.6(a)(2), it seems unnecessary to refer to Chapter 102. This section is apparently meant to preclude duplicate PNDI clearances for the same location. Range understands the purpose of this section to provide for circumstances where the applicant has obtained an ESCGP-2 for a well site, and the PNDI review would therefore not need to be duplicated for the permit application. Range recommends clarification that this deemed compliance also incorporates the application submission requirements under 78.15(b).

Suggested language:

(e) If an applicant seeks to locate a well on a well site where the applicant has obtained a permit under 25 Pa. Code § 102.5 (relating to permit requirements), the applicant is deemed to comply with the application submission requirements of subsections (b) and (d) with respect to supplying the required information regarding proof of consultation with the applicable resource agency and the Department.

(f) An applicant proposing to drill a well at a location listed in paragraph (1) shall notify the applicable resource agency, if any, in accordance with paragraph (2) and provide the information in paragraph (3) to the Department in the well permit application.

(1) This subsection applies if the proposed surface location of the well is located:

(i) in or within 200 feet of a publicly owned park, forest, game land or wildlife area.

Range comment:

Range recommends revisions to clarify language on the Department's definition of a wildlife area. This implies it is different from a forest game lands or park. There are several federal wildlife refuges

in Pennsylvania but there are also 2,000,000 acres of "Important Bird Areas" in Pennsylvania. These areas are not in any regulation that could be interpreted as a wildlife area.

(ii) in or within the corridor of a state or national scenic river.

Range comment:

Range recommends the Department provide a definition or additional clarifying language to the phrase "corridor of a state or natural scenic river".

(iii) within 200 feet of a national natural landmark.

(iv) in a location that will impact other critical communities. For the purposes of this section other critical communities means special concern species.

Range comment:

It is not the express language or the intent of Act 13 to impose oil and gas development restrictions based on undefined and unknown "other critical communities." Section 3215(c)(4) refers to habitats of rare and endangered flora and fauna and other critical communities. The Department's proposal in 78.15(f)(iv) equates other critical communities with special concern species without an adequate basis in fact or law, nor any rational ecological basis for equating "communities" with individual "species." The first sentence should be revised to properly focus on the well-established concept of critical habitats of threatened and endangered species, and the second sentence should be deleted.

In addition, Range has significant concerns about the selection, listing and public participation process for these species.

- The term "special concern species" has no legislative or regulatory definition in Pennsylvania law.
- The Department has no statutory authority to define, designate or list any plant or animal as a special concern species.
- No state or federal agencies have used rulemaking to designate any species as "special concern species" in Pennsylvania.
- DEP is improperly proposing to adopt as a binding requirement an undefined list of species that has not been adopted by rulemaking.

Suggested language:

(iv) in a location that will impact state or federal threatened or endangered species or their critical habitat.

(v) within 200 feet of a historical or archeological site listed on the Federal or State list of historic places.

(vi) in the case of an unconventional well, within 1000 feet of a water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor.

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

(i) an identification of the public resource.

(ii) a description of the functions and uses of the public resource;

Range comment:

Range believes that public resource agencies are in a much better position to provide this information.

Suggested language:

(i) An identification of the public resource, which may include a description of the functions and uses of the public resource.

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

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

Range comment:

Range recommends the Department add clarifying language regarding "discrete area."

Suggested language:

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

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

Range comment:

The proposed language of this section does not include any criteria as required by Section 32.15(e) of Act 13 for the Department to utilize in the imposition of permit conditions to protect public resources. The quality of the evidence required for the Department to determine that harm to a public resource is probable and impose a condition in the permit should be clear and convincing evidence.

Suggested language:

(g) Subject to satisfying and complying with the criteria prescribed in subsections (1)-(3), the Department may include conditions in the well permit to avoid or mitigate impacts to the public resource. As prescribed in Section 3215(e)(1) of the act, in determining whether to impose a condition, the Department shall utilize the following three sets of criteria:

(1) Criteria for the Department to use for conditioning a well permit based on its impact to public resources identified in § 78.15(f):

- (i) The permit condition is necessary to protect against probable harm.
- (ii) As shown by clear and convincing evidence, the harm to the public resource is probable, as opposed to merely possible or speculative.
- (iii) No permit condition may be more restrictive or limiting with respect to a well, well site or access road than the set-back prescriptions contained in Act 13 unless it is shown by clear and convincing evidence that the existing protections of Act 13, the Clean Streams Law and other applicable statutes are insufficient to protect against the specified harm or unless the applicant consents in writing to the condition.
- (iv) No permit condition may be more restrictive or limiting with respect to a well, well site, or access road, or activities incident thereto, than the existing measures and protections established and required under Chapter 78, Act 13 or any other applicable statute or regulation unless it is shown by clear and convincing evidence that the existing measures and protections are insufficient to protect against the specified harm or unless the applicant consents in writing to the condition.
- (v) The nature of the harm to be avoided or mitigated by the permit condition must be clearly described in the terms of a permit condition and permit condition terms must include a description of the expected duration of the probable harm and the duration of the permit condition. Physical construction or site-specific actions required of an applicant as a condition within a permit shall not extend beyond the discrete area or location of the well, well site, or access road unless the applicant consents in writing.

(2) Criteria, additional to those in paragraph (1), to ensure optimal development of oil and gas resources:

- (i) No condition implicating surface activities or operations that results in a commercially unreasonable burden on an applicant may be imposed.

- (ii) For purposes of conservation and avoiding the waste of recoverable oil and gas resources, no condition that results in alterations to the well design in a way that will reduce the anticipated volume of recoverable gas or oil resources may be imposed.

(3) Criteria, in addition to those in paragraphs (1) and (2) above, to use for respecting private property rights of oil and gas owners:

- (i) In accordance with subsection 3215 (g) (2) of the Act, no condition on well permits where the proposed condition itself alters or abridges the terms of any lease, deed, surface use agreement or similar contract or agreement between a surface owner and subsurface oil and gas owner or to which they are subject as signatories or successors in interest may be imposed.
- (ii) Denial of a well permit is not a prevention, avoidance, or mitigation measure authorized by this section.
- (iii) No permit condition may be imposed if the effect would deprive the owner of the oil and gas rights of the right to produce or share in the oil or gas underlying a surface tract.

(h) A decision to impose or not to impose a condition is non-precedential and does not bind the Department or applicant or require either party to adhere to or include the same condition or conditions addressing the same subject matter in any subsequent permits.

(i) The issuance of a permit containing conditions imposed by the Department pursuant to this subsection shall be an action that is appealable to the Environmental Hearing Board.

(j) In accordance with subsection 3215(g)(1) of the act, § 78.15(d), (f), & (g) are not applicable to a well proposed to be drilled on an existing well site for which at least one well permit has been issued prior to [effective date].

* * *

§ 78.51. Protection of water supplies.

* * *

(b) A landowner, water purveyor or affected person suffering pollution or diminution of a water supply as a result of **well site construction, well drilling, altering or operating [an oil or gas well] activities** may so notify the Department and request that an investigation be conducted. **Such notices should be made to the appropriate Department regional office or by calling the Department's state wide toll free number 1-800-541-2050.** The notice and request must include the following:

- (1) The name, address and telephone number of the person requesting the investigation.
- (2) The type, location and use of the water supply.

- (3) Available background quality and quantity data regarding the water supply, if known.
- (4) Well depth, pump setting and water level, if known.
- (5) A description of the pollution or diminution.

(c) Within 10 **calendar** days of the receipt of the investigation request, the Department will investigate the claim and will, within 45 **calendar** days of receipt of the request, make a determination. If the Department finds that pollution or diminution was caused by the **well site construction**, drilling, alteration or operation activities or if it presumes the well operator responsible for polluting the water supply of the landowner or water purveyor under section [208(c)] 3218(c) of the act [(58 P. S. § 601.208(c))] (58 Pa.C.S. § 3218(c)), the Department will issue orders to the well operator necessary to assure compliance with this section. **The presumption established by 58 Pa.C.S. § 3218(c) is not applicable to pollution resulting from well site construction.**

Range comment:

Sections 78.51 (b) and (c) implement Subsection 3218(b) of Act 13; however, the proposed regulation adds “well site construction” to the list of activities enumerated in Act 13 that trigger the reporting and investigation activities set forth in Subsection 3218(b). The Department has no authority to amend the statutory language and this addition should be removed. No one doubts that the Department can investigate complaints regarding water supplies but this rulemaking should not add new language onto the legislative language.

Suggested language:

(b) A landowner, water purveyor or affected person claiming pollution or diminution of a water supply as a result of drilling, altering or operating an oil or gas well may so notify the Department and request that an investigation be conducted. Such notices shall be made to the appropriate Department regional office or by calling the Department’s Statewide toll free number (800) 541-2050. The notice and request must include the following:

- (1) The name, address and telephone number of the person requesting the investigation.
- (2) The type, location and use of the water supply.
- (3) Available background quality and quantity data regarding the water supply, if known.
- (4) Well depth, pump setting and water level, if known.
- (5) A description of the pollution or diminution.

(c) Within 10 calendar days of the receipt of the investigation request, the Department will investigate the claim and will, within 45 calendar days of receipt of the request, make a determination. If the

Department's investigation finds that pollution or diminution was caused by the drilling, alteration or operation activities or if it presumes the well operator(s) responsible under section 3218(c) of the Act, the Department will issue orders to the well operator necessary to assure compliance with this section. The presumption established by section 3218(c) of the Act is not applicable to pollution resulting from well site construction.

(d) A restored or replaced water supply includes any well, spring, public water system or other water supply approved by the Department, which meeting the criteria for adequacy as follows:

* * *

(2) *Quality*. The quality of a restored or replaced water supply will be deemed adequate if it meets the standards established under the Pennsylvania Safe Drinking Water Act (35 P. S. §§ 721.1—721.17), or is comparable to the quality of the water supply before it was affected by the operator if that water supply **exceeded those [did not meet these]** standards.

Range comment:

The proposed change in §78.51(d)(2) sets a standard that is impossible to achieve in many cases. Act 13 provides at Section 3218(a) that:

“The department shall ensure that the quality of a restored or replaced water supply meets the standards established under the act of May 1, 1984 (P.L.206, No.43), known as the Pennsylvania Safe Drinking Water Act, or is comparable to the quality of the water supply before it was affected by the operator if that water supply exceeded those standards.”

It is unclear how the term “exceeded” is to be applied in this context. The long-standing policy of the Department has been to require that a replacement water supply meet only those PSDWA quality standards that the water supply met prior to being impacted. This policy is only logical, as in many areas of the Commonwealth, naturally occurring groundwater simply does not meet all secondary MCLs. An alternate interpretation of the term “exceeded” might require a replacement water supply to meet criteria that were better than (i.e., a lower concentration) PSDWA criteria, if that condition existed prior to the water supply being impacted. As an illustration of the problem with this alternate interpretation, consider a situation where an oil and gas operator impacts the water quantity from a water supply spring because of ground disturbance related to site construction. A groundwater well that is drilled to replace the spring supply meets all PSDWA primary and secondary standards but a number of dissolved constituents (calcium, magnesium, alkalinity, sulfate and potassium) have higher levels than the spring water previously utilized. It is very unlikely that water produced from a water supply well will ever have the low levels of many dissolved constituents that are found in spring water. Groundwater from deeper rocks generally contains higher levels of minerals than water found at shallower depths. In many cases, even replacing a spring water supply with public water would not meet the proposed standard under this alternate interpretation, as many public water supplies have higher levels of certain dissolved minerals than many spring water sources. Using this alternate interpretation of the term “exceeded” cases would create situations where replacement of an unreliable

and unhealthy spring water source with a more reliable and safer groundwater or public water source would not be permitted.

We believe it is essential that the Department clarify through regulation that it intends to interpret the statutory language in a manner consistent with its past practice.

Suggested language:

The problem discussed above can be solved by simply eliminating the proposed change to Subsection 78.51(d)(2) and using the current regulatory language.

* * *

§ 78.52. Predrilling or prealteration survey.

(c) The survey shall be conducted by an independent **[certified] Pennsylvania accredited** laboratory. A person independent of the well owner or well operator, other than an employee of the **[certified] accredited** laboratory, may collect the sample and document the condition of the water supply, if the **[certified] accredited** laboratory affirms that the sampling and documentation is performed in accordance with the laboratory's approved sample collection, preservation and handling procedure and chain of custody.

Range comment:

Subsection 78.52(c) should be revised to clarify that the laboratory does not need to conduct the survey itself, but simply analyze the samples collected. This section could be misinterpreted as stating that only laboratory employees can perform the survey.

Suggested language:

(c) The analyses of a pre-drill sample of the water supply shall be completed by an independent Pennsylvania accredited laboratory. A person independent of the well owner or well operator, other than an employee of the accredited laboratory, may collect the sample and document the condition of the water supply, if the accredited laboratory affirms that the sampling and documentation is performed in accordance with the laboratory's approved sample collection, preservation and handling procedure and chain of custody.

(d) An operator electing to preserve its defenses under sections **[208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i)** of the act **[(58 P. S. § 601.208 (d)(1))] (58 Pa.C.S. §§ 3218(d)(1)(i) and 3218 (d)(2)(i))** shall provide a copy of **all the sample results taken as part of the survey** to the Department **by electronic means in a format determined by the Department within 10 business days of receipt of all the sample results taken as part of the survey. The operator shall provide a copy of any sample results to [and]the landowner or water purveyor within 10-**business days of receipt of the **sample results. [Test]Survey** results not received by the Department within 10 business days may not be used to preserve the operator's defenses under sections **[208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i)** of the act **[(58 P. S. § 601.208 (d)(1))] (58 Pa.C.S. §§ 3218(d)(1)(i) and 3218 (d)(2)(i))**.

Range comment:

The language in (b), (c), (d) and (f) seems to indicate that the survey is for a singular water supply. Although we understand that the Department intends to allow batch reporting (submission of all sampling of water supplies done per well pad at one time), it is not clear in the regulation that submitting a single survey with the complete batch of sample results preserves the presumption.

Suggested language:

(d) An operator electing to preserve its defenses under sections 3218(d)(1)(i) and 3218(d)(2)(i) of the act shall provide a copy of all the sample results taken as part of the survey to the Department, and may submit those results in one batch submission per well pad by electronic means in a commonly utilized format determined by the Department within 10 business days of receipt of all the sample results taken as part of the survey for a particular well pad. The operator shall provide a copy of any sample results to the landowner or water purveyor within 10 business days of receipt of the sample results. Surveys received by the Department within 10 business days, including surveys submitted as described above with regard to batch submissions, may be used to preserve the operator's defenses under sections [208(d)(1)] 3218(d)(1)(i) and 3218(d)(2)(i) of the Act.

(e) The report describing the results of the survey must contain the following information:

- (1) The location of the water supply and the name of the surface landowner or water purveyor.
- (2) The date of the survey, and the name of the **independent [certified] Pennsylvania accredited** laboratory and the person who conducted the survey.
- (3) A description of where and how the samples **[was] were** collected.
- (4) A description of the type and age, if known, of the water supply, and treatment, if any.
- (5) The name of the well operator, name and number of well to be drilled and permit number if known.
- (6) The results of the laboratory analysis.

(f) A well operator who wishes to preserve the defense under sections [208(d)(1)] **3218(d)(1)(i) and 3218(d)(2)(i)** of the act [(58 P. S. § 601.208 (d)(1))] **(58 Pa.C.S. §§ 3218(d)(1)(i) and 3218 (d)(2)(i))** that the landowner or water purveyor refused the operator access to conduct a survey shall confirm the desire to conduct this survey and that access was refused by issuing notice to the person by certified mail, or otherwise document that access was refused. The notice must include the following:

- (1) The operator's intention to drill or alter a well.
- (2) The desire to conduct a predrilling or prealteration survey.

(3) The name of the person who requested and was refused access to conduct the survey and the date of the request and refusal.

(4) The name and address of the well operator and the address of the Department, to which the water purveyor or landowner may respond.

Range comment:

The rule should provide for a time frame for response and action by the landowner once notice has been provided, so that operators may proceed with operations knowing that access was refused.

Suggested language:

(g) Refusal shall be presumed if the operator does not receive a response within 30 business days of confirmed receipt.

§ 78.52a. Abandoned and orphaned well identification.

(a) Prior to hydraulically fracturing the well, the operator of a gas well or horizontal oil well shall identify the location of orphaned or abandoned wells within 1,000 feet measured horizontally from the vertical well bore and 1,000 feet measured from the surface above the entire length of a horizontal well bore in accordance with subsection (b). Prior to hydraulically fracturing the well, the operator of a vertical oil well shall identify the location of orphaned or abandoned wells within 500 feet of the well bore in accordance with subsection (b). For the purposes of this section a gas well is a well which is producing or capable of producing marketable quantities of gas or of gas and oil with a gas-oil ratio of more than 100 MCF per bbl. of oil.

(b) Identification shall be accomplished by conducting the following:

(1) A review the Department's orphaned and abandoned well database;

(2) A review of applicable farm line maps, where accessible; and

(3) Submitting a questionnaire on forms provided by the Department to landowners whose property is within the area identified in subsection (a) regarding the precise location of orphaned and abandoned wells on their property.

(c) Prior to hydraulically fracturing a well, the operator shall submit a plat to the Department showing the location and GPS coordinates of orphaned and abandoned wells identified pursuant to subsection (b) and proof of notification that the operators submitted questionnaires pursuant to subsection (b)(3).

Range comment:

The location coordinates for a large number of wells that may exist in the Department's database are likely derived from sources other than field GPS coordinates. Some coordinates may have been

derived from old maps. For a variety of reasons, a well with latitude/longitude coordinates in the Department's database may not be visible on the ground, perhaps because the coordinates are inaccurate, or possibly because the well does not exist.

It seems appropriate that any wells which appear on the Department's database should be identified, provided their total depth extends below the interval that could reasonably be influenced by hydraulic fracturing. A vertical isolation distance of 1,500 feet above wellbore perforations in an unconventional well and 500 feet above wellbore perforations in any other well is a reasonable isolation distance that exceeds the normally expected vertical growth of induced fractures.

A requirement to consult "applicable farmline maps, where accessible" in order to identify wells lacks clarity required for a regulation. There are many sources of information on old wells in Pennsylvania, including many reports by state agencies, as well as privately owned maps and records maintained by various operators. If the Department's database could be sufficiently enhanced, a review of the database should be an adequate obligation for well identification. A partnership effort between industry and state government seems an appropriate method of compiling available data on historical oil and gas wells.

Because of the generally higher rate, volume and pressure used in hydraulic fracturing of the Marcellus and other deep shales, constructing a more comprehensive database of historical deep wells (those that penetrate to a depth at least 1,500 feet above the Marcellus Shale) would be a priority. It is hoped that with good cooperation, this could be accomplished within a few months, as the state's current database for this set of deeper wells is believed to be nearly complete.

Enhancement of the shallow well database will require significantly more work, time and expense, and is likely a multi-year project.

The proposed language in Subsection 78.52(b)(3) would require submission of a questionnaire to landowners on forms provided by the Department. There has been no opportunity to review the proposed questionnaire and no details provided with regard to what the Department envisions as the operator's obligations to verify information received. There is far too much uncertainty related to this provision to support it as a regulatory requirement.

Additionally, the oil and gas industry's identification of abandoned and orphaned wells will benefit from further development of the Department's database, and should be postponed until the database and mapviewer system is improved. Accordingly, the Department should consider a phased implementation of this new section.

Suggested language:

§ 78.52a. Well identification prior to hydraulic fracturing

- (a) Prior to hydraulically fracturing an unconventional well, the operator shall identify in accordance with subsection (b) the location of active, inactive, plugged, orphaned or abandoned wells within 1,000 feet measured horizontally from the surface projection of any portion of the wellbore whose total depth is known or reasonably expected to be less than 1,500 feet above

the shallowest vertical depth to be perforated or isolated for hydraulic fracturing. Prior to hydraulically fracturing a conventional well, the operator shall identify the location of active, inactive, plugged, orphaned or abandoned wells within 500 feet of the well bore whose total depth is known or reasonably expected to be less than 500 feet above the shallowest vertical depth to be perforated or isolated for hydraulic fracturing.

- (b) Identification shall be deemed to have been satisfied by conducting a review of the Department's database for active, inactive, plugged, orphaned and abandoned wells.
- (c) Prior to hydraulically fracturing a well, the operator shall submit a plat to the Department showing the location and GPS coordinates of wells identified pursuant to subsection (b) whose total depth is known or reasonably expected to be less than 1,500 feet, in the case of an unconventional well or 500 feet, in the case of any other well, above the shallowest vertical depth to be perforated or isolated for hydraulic fracturing. The operator may identify on the plat those wells that are identified on the Department's database but which have not been located on the ground using reasonable efforts.
- (d) This subsection shall become effective six months from final publication in the Pennsylvania Bulletin.

§ 78.53. Erosion and sediment control.

[During and after earthmoving or soil disturbing activities, including the activities related to siting, drilling, completing, producing, servicing and plugging the well, constructing, utilizing and restoring the access road and restoring the site, the operator shall design, implement and maintain best management practices in accordance with]Any person proposing or conducting earth disturbance activities associated with oil and gas activities shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control). [and an erosion and sediment control plan prepared under that chapter.] Best management practices for erosion and sediment control for oil and gas well [operations] activities are listed in the [Oil And Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001 (April 1997), as amended and updated] Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008, as amended and updated, and the Oil And Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001, as amended and updated.

Range comment:

There is an important need to update the referenced manuals as sources of best management practices to be used for oil and gas well activities. Recent efforts to develop model plans for erosion and sediment control, post construction stormwater management and site restoration should be finalized. Range is willing to assist with development and training for new and enhanced best management practices.

The defined term “oil and gas operations” should be used in lieu of the undefined term “oil and gas activities.” All oil and gas operations should comply with Chapter 102, to the extent it applies. However, the second sentence of the proposed language regarding best management practices is not necessary, as the required practices are already addressed in Chapter 102. Additionally, the Department’s manual and guidance, which are subject to future amendment without the procedures required for regulatory development, should not be incorporated into a rule.

Suggested language:

Any person proposing or conducting earth disturbance activities associated with oil and gas operations shall comply with the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control.)

..*

§ 78.55. Control and disposal planning; emergency response for unconventional wells.

(a) *Preparation and implementation of plan for oil and gas operations.* [Prior to generation of waste, the well operator] Persons conducting oil and gas operations shall prepare and implement site specific PPC plans according to the requirements in 25 Pa.Code § 91.34 and 102.5(l).

Range comment:

This provision should clarify that PPC planning is required to the extent 25 Pa. Code Sections 91.34 and 102.5(l) apply to the subject activity. It also appears that Section 78.55(a) overlaps and duplicates requirements that are set forth in Section 78.55(b). While Section 78.55(b) requires well operators to prepare PPC plans for activities at well sites, Section 78.55(a) covers “oil and gas operations” and applies to any “person” conducting such operations thereby introducing significant uncertainty and confusion as to how these provisions are to operate in tandem. Range recommends that Section 78.55(a) be clarified to apply only to oil and gas operations that do not take place at well sites (well sites are covered under Section 78.55(b)) and that at such locations, the person or entity in charge of the operations be responsible for preparing and implementing a PPC plan, as appropriate, to eliminate the potential for preparation of multiple, competing PPC plans.

Suggested language:

(a) *Preparation and implementation of plan for oil and gas operations at a location other than a well site.* Persons conducting oil and gas operations at a location other than a well site shall prepare and implement site specific PPC plans according to Sections 91.34 and 102.5(l), as applicable.

(b) *Preparation and implementation of plan for well sites.* In addition to the requirements in subsection (a), the well operator shall prepare and develop a site specific PPC [a] plan [for the control and disposal of fluids, residual waste and drill cuttings,] prior to storing, using,

generating or transporting regulated substances to, on or from a well site [including top-hole water, brines, drilling fluids, additives, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids and drill cuttings] from the drilling, alteration, production, plugging or other activity associated with oil and gas wells.

Range comment:

The use of the term “regulated substance” in this subsection is unclear and is difficult to apply to the oil and gas industry. The potential for an overly broad interpretation is high with the Department’s proposed definition, which includes literally thousands of substances, many of which are naturally occurring and many of which are environmentally benign. In addition, the proposed paragraph appears to include some grammatical confusion, which should be clarified.

Suggested language:

(b) *Preparation and implementation of plan for well sites.* The well operator shall prepare a site specific PPC plan, in accordance with Sections 91.34 and 102.5(l), as applicable, prior to storing, using, generating or transporting substances subject to those provisions to, on or from a well site.

[(b)](c) *Containment practices.* The unconventional well operator’s PPC plan must describe the containment practices to be utilized and the area of the well site where containment systems will be employed as required in section 78.64a. The PPC plan shall include a description of the equipment to be kept onsite during drilling and hydraulic fracturing operations that can be utilized to prevent a spill from leaving the well site.

Range comment:

The Proposal has not clarified the nature of equipment that should be described in the PPC plan. The second sentence of this subsection should be deleted.

Suggested language:

(c) *Containment practices.* The unconventional well operator’s PPC plan must describe the containment practices to be utilized and the area of the well site where containment systems will be employed as required under section 78.64a.

[(d)](d.2) *Copies.* A copy of the well operator’s PPC plan shall be provided to the Department, the Pennsylvania Fish and Boat Commission or the landowner upon request and shall be available at the [well] site during drilling and completion activities for review.

Range comment:

Since the parties listed in (d.2) have no jurisdiction over operations at the well site, Range objects to a requirement to provide a copy of the PPC plan to the Pennsylvania Fish and Boat Commission.

Suggested language:

(d.2) *Copies.* A copy of the well operator's PPC plan shall be provided to the Department upon request and shall be available at the well site during drilling and completion activities for review.

* * *

§ 78.56. [Pits and tanks for t] Temporary [containment] storage.

(a) Except as provided in §§ 78.60(b) and 78.61(b) (relating to discharge requirements; and disposal of drill cuttings), the operator shall contain **[pollutional] regulated** substances from the drilling, altering, completing, recompleting, servicing and plugging the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit, tank or series of pits and tanks **or other approved storage structures**. The operator shall install or construct and maintain the pit, tank or series of pits and tanks **or other approved storage structures** in accordance with the following requirements:

Range comment:

This section should be clearly entitled to reflect the scope of the provisions, which are limited to the use of pits and tanks for temporary storage. In addition, the use of the term regulated substances is overly broad and created uncertainty under this subsection, which should be better focused on the substances at well sites that would be contained in pits, tanks or other approved storage structures.

Suggested language:

§ 78.56. Temporary storage in pits, tanks and other approved storage structures

(a) Except as provided in Sections 78.60(b) and 78.61(b) (relating to discharge requirements; and disposal of drill cuttings), the operator shall contain substances generated from and used for the drilling, altering, completing, recompleting, servicing and plugging the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit, tank or series of pits and tanks or other approved storage structures. The operator shall install or construct and maintain the pit, tank or series of pits and tanks or other approved storage structures in accordance with the following requirements:

(1) The pit, tank, **[or]** series of pits and tanks **or other approved storage structure** shall be constructed and maintained with sufficient capacity to contain all **[pollutional] regulated** substances which are used or produced during drilling, altering, completing, **recompleting, servicing** and plugging the well.

(2) **Modular aboveground storage structures that are assembled on site may not be utilized to store regulated substances without Department approval. The Department shall maintain a list of approved modular storage structures on its website. The owner or operator shall notify the Department at least 3 business days before the commencement of**

construction of these storage structures. This notice shall be submitted electronically to the Department through its website and include the date the storage structure installation will commence. If the date of installation is extended, the operator shall re-notify the Department with the date that the installation will commence which need not be 3 business days in advance.

[(2)] (3) A pit shall be designed, constructed and maintained so that at least 2 feet of freeboard remain at all times. If open tanks **or open storage structures** are used, the tanks **and storage structures** shall be maintained so that at least 2 feet of freeboard remain at all times unless the tank **or storage structure** is provided with an overflow system to a standby tank or pit with sufficient volume to contain all excess fluid or **[waste] regulated substances**. If an open standby tank **or open storage structure** is used, it shall be maintained with 2 feet of freeboard. If this subsection is violated, the operator immediately shall take the necessary measures to ensure the structural stability of the pit, or tank **or other storage structure**, prevent spills and restore the 2 feet of freeboard.

Range comment:

It appears the word “standby” was inadvertently omitted from the next to last sentence in subsection (3) in association with the “storage structure.”

In addition, the term “regulated substance” should be replaced in accordance with the comment above to provide clarity with respect to the obligations under this section.

Suggested language:

(1) The pit, tank, series of pits and tanks or other approved storage structure shall be constructed and maintained with sufficient capacity to contain substances which are used or produced during drilling, altering, completing, recompleting, servicing and plugging the well.

(2) Modular aboveground storage structures that are assembled on site may not be utilized to store substances resulting from the drilling, altering, completing, recompleting, servicing or plugging the well without Department approval. The Department shall maintain a list of approved modular storage structures on its website. The owner or operator shall notify the Department at least 3 business days before the beginning of construction of these storage structures. The notice shall be submitted electronically to the Department through its website and include the date the storage structure installation will begin. If the date of installation is extended, the operator shall re-notify the Department with the date that the installation will begin, which does not need to be 3 business days in advance.

(3) A pit shall be designed, constructed and maintained so that at least 2 feet of freeboard remain at all times. If open tanks or open storage structures are used, the tanks and storage structures shall be maintained so that at least 2 feet of freeboard remain at all times unless the tank or storage structure is provided with an overflow system to a standby tank or pit with sufficient volume to contain all excess fluid. If an open standby tank or open standby storage structure is used, it shall be maintained with 2 feet of freeboard. If this subsection is violated, the operator immediately shall take the necessary

measures to ensure the structural stability of the pit, or tank or other storage structure, prevent spills and restore the 2 feet of freeboard.

(5) For unconventional well sites, unless an individual is continuously present at the well site, a fence or fences shall completely surround all pits to prevent unauthorized acts of third parties and damage caused by wildlife.

Range comment:

Since no fence can absolutely ensure “prevention” of unauthorized acts by third parties or damage by wildlife, Range recommends replacing “prevent” with “discourage”.

Suggested language:

(5) For unconventional well sites, unless an individual is continuously present at the well site, a fence or fences shall completely surround all pits to discourage unauthorized acts of third parties and damage caused by wildlife.

(6) Unless an individual is continuously present at the well site, operators shall equip all tank valves and access lids to regulated substances with reasonable measures to prevent unauthorized access by third parties such as locks, open end plugs, removable handles, retractable ladders or other measures that prevent access by third parties. Tanks storing freshwater, fire prevention materials and spill response kits are excluded from the requirements of this paragraph.

Range comment:

Since no lock, plug, handle, etc. can absolutely ensure “prevention of unauthorized acts by third parties or damage by wildlife, Range recommends replacing “prevent” with “discourage.”

Suggested language:

(6) Unless an individual is continuously present at the wells site, operators shall equip all tank valves and access lids to substances under this section with reasonable measures to discourage unauthorized access by third parties such as locks, open end plugs, removable handles, retractable ladders or other measures that discourages access by third parties. Tanks storing freshwater, fire prevention materials and spill response kits are excluded from the requirements of this paragraph.

(7) The operator of an unconventional well site shall display a sign on or near the tank or other approved storage structure identifying the contents, and containing an appropriate warning of the contents such as flammable, corrosive or a similar warning.

Range comment:

Range recommends the removal of unnecessarily prescriptive language by striking “such as flammable, corrosive or a similar warning.”

Suggested language:

(7) The operator of an unconventional well site shall display a sign on or near the tank or other approved storage structure identifying the contents, and containing an appropriate warning of the contents.

[(4)] (8) A pit, [or] tank or other approved storage structure that contains drill cuttings from below the casing seat, [pollutional] regulated substances[, wastes] or fluids other than tophole water, fresh water and uncontaminated drill cuttings shall be impermeable. [and comply with the following:]

Range comment:

The renumbering proposed below, combined with the proposed deletion of the phrase “and comply with the following” in (8) above, would have the effect of proposed paragraphs (9) through (16) applying to all pits, including those containing tophole water, fresh water, and uncontaminated drill cuttings. Consistent with the current construct in existing Subsection 78.56(a)(4), Range recommends retaining the suggested language below:

Suggested language:

(8) A pit, tank, or other approved storage structure that contains drill cuttings from below the casing seat or fluids other than tophole water, fresh water and uncontaminated drill cuttings shall be impermeable, and comply with (9) – (16) of this subsection.

[(iv)] (14) If a liner becomes torn or otherwise loses its integrity, the pit or approved storage structure shall be managed to prevent the [pit] contents from leaking [from the pit]. If repair of the liner or construction of another temporary pit or approved storage structure is not practical or possible, the [pit] contents shall be removed and disposed at an approved waste disposal facility or disposed on the well site in accordance with § 78.61, § 78.62 or § 78.63 (relating to disposal of residual waste—pits; and disposal of residual waste—land application).

Range comment:

The subsection should not require disposal of pit liners or contents where those materials can be reused. The second sentence should be deleted.

Suggested language:

(14) If a liner becomes torn or otherwise loses its integrity, the pit or approved storage structure shall be managed to prevent the pit contents from leaking from the pit.

(16) The unconventional well operator shall notify the Department at least 3 business days before the installation of the pit liner. This notice shall be submitted electronically to the Department through its website and include the date the liner will be installed. If the date of installation is extended, the operator shall re-notify the Department with the date of installation

which does not need to be 3 business days in advance. Notice is not required if the licensed professional engineer or geologist that designed the well site submits a statement on forms provided by the Department certifying that the pit and the pit liner, as built, are compliant with this section. This certification shall be submitted within 10 business days of installation of the pit liner.

Range comment:

Range recommends that an appropriately trained professional can provide a statement that a pit and its liner have been built in compliance with this section. Requiring a statement from a licensed professional engineer or geologist imposes an unnecessarily strict, and potentially expensive, requirement.

Suggested language:

(16) The unconventional well operator shall notify the Department at least 3 business days before the installation of the pit liner. This notice shall be submitted electronically to the Department through its website and include the date the liner will be installed. If the date of installation is extended, the operator shall re-notify the Department with the date of installation which does not need to be 3 business days in advance. Notice is not required if the appropriately trained professional that designed the well site submits a statement on forms provided by the Department certifying that the pit and the pit liner, as built, are compliant with this section. This certification shall be submitted within 10 business days of installation of the pit liner.

(d) [Unless a permit under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) or approval under § 78.57 or § 78.58 (relating to control, storage and disposal of production fluids; and existing pits used for the control, storage and disposal of production fluids) has been obtained for the pit,] [t]The owner or operator shall remove or fill the pit within 9 months after completion of drilling, or in accordance with the extension granted by the Department under section [206(g)] 3216(g) of the act [(58 P. S. § 601.206(g))] (58 Pa.C.S. 3216(g)) and § 78.65(d). Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 calendar days of construction.

Range comment:

This subsection 78.56(d) should be clarified to require removal or filling of pits after the completion of all drilling on a well pad and to acknowledge that pits used for onsite disposal of drill cuttings or residual waste in accordance with Sections 78.61 or 78.62 do not have to be removed and filled under this paragraph (d).

Suggested language:

(a)(17)(d) The owner or operator shall remove or fill the pit within 9 months after completion of last well, or in accordance with the extension granted by the Department under section 3216(g) of the act (58 Pa.C.S. 3216(g)) and §78.65(d). Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 calendar days of construction.

§ 78.57. Control, storage and disposal of production fluids.

(a) Unless a permit has been obtained under § 78.60(a) (relating to discharge requirements), the operator shall collect the brine and other fluids produced during operation[, **service and plugging**] of the well in a tank[, **pit**] or a series of [**pits or**] tanks, or other device approved by the Department for subsequent disposal or reuse. **Open top structures shall not be used to store brine and other fluids produced during operation of the well.** Except as allowed in this subchapter or otherwise approved by the Department, the operator may not discharge the brine and other fluids on or into the ground or into the waters of this Commonwealth.

Range comment:

This section could be interpreted as excluding the use of centralized impoundments (Section 78.79c).

Suggested language:

(a) Unless a permit has been obtained under § 78.60(a) (relating to discharge requirements), the operator shall collect the brine and other fluids produced during operation of the well in a tank or a series of tanks, centralized impoundment, or other device approved by the Department for subsequent disposal or reuse. Open top structures shall not be used to store brine and other fluids produced during operation of the well with the exception of centralized impoundments permitted under § 78.79c. Except as allowed in this subchapter or otherwise approved by the Department, the operator may not discharge the brine and other fluids on or into the ground or into the waters of this Commonwealth.

(e) Underground or partially buried storage tanks may not be used to store brine or other fluids produced during operation of the well unless approved by the Department. Existing underground or partially buried storage tanks shall be removed within 3 years of the effective date of this subsection. A well operator utilizing underground or partially buried storage tanks as of the effective date of this section shall provide the Department with a list of the well sites where the underground or partially buried storage tanks are located and schedule for removal of the tanks within six months from the effective date of this subsection.

Range Comment:

The obligation to remove existing underground or partially buried storage tanks within three years of the effective date of this subsection imposes excessive and unnecessary costs on legally adopted and utilized equipment and procedures for the storage of brine or other production fluids. The Department has not provided justification for a blanket rule that would impact hundreds of existing operations. Such justification would require analysis and review of a highly factual and site specific nature, which is entirely absent. Nor has the Department included any cost estimate in the Regulatory Analysis Form associated with removal and replacement of those tanks; only an estimate for registering those tanks (RAF19).

Suggested language:

(e) A well operator utilizing underground or partially buried storage tanks as of the effective date of this section shall provide the Department with a list of the well sites where the underground or partially buried storage tanks are located within six months from the effective date of this subsection.

**§ 78.58. [Existing pits used for the control, storage and disposal of production fluids.]
Onsite processing.**

[For pits in existence on July 29, 1989, the operator may request approval for an alternate method of satisfying the requirements of § 78.57(c)(2)(iii) (relating to control, storage and disposal of production fluids), the angle of slope requirements of § 78.57(c)(2)(v) and the liner requirement of § 78.57(c)(2)(vi)—(viii) by affirmatively demonstrating to the Department's satisfaction, by the use of monitoring wells or other methods approved by the Department, that the pit is impermeable and that the method will provide protection equivalent or superior to that provided by § 78.57. The operator shall request approval under § 78.57(c)(1).]

(a) The operator may request approval by the Department to process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(b) Approval from the Department is not required for the following activities conducted at a well site or centralized impoundment permitted under § 78.59c:

- (1) mixing fluids with freshwater;**
- (2) aerating fluids; or**
- (3) filtering solids from fluids.**

(c) The operator may request to process drill cuttings only at the well site where those drilling cuttings were generated, by submitting a request to the Department for approval. The request shall be submitted on forms provided by the Department and demonstrate that the processing operation will not result in pollution of land or waters of the Commonwealth.

(d) Processing residual waste generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells other than as provided for in subsections (a) and (b) shall comply with the requirements of the Solid Waste Management Act.

(e) Processing of fluids in a manner approved pursuant to subsection (a) shall be deemed to be approved at subsequent well sites provided the operator notifies the Department of

location of the well site where the processing will occur prior to the commencement of processing operations. This notice shall be submitted electronically to the Department through its website and include the date activities will commence.

(f) Sludges, filter cake or other solid waste remaining after the processing or handling of fluids pursuant to subsections (a) or (b), including solid waste mixed with drill cuttings, shall be characterized pursuant to 25 Pa. Code § 287.54 before the solid waste leaves the well site.

Range comment:

The regulations should encourage and facilitate the processing, recycling and beneficial reuse of fluids and other waste materials at well sites. The Department has maintained on several occasions that it is a goal for the Commonwealth, where appropriate, to promote the responsible recycling and reuse of oil and gas wastes to reduce the demand on fresh water resources for oil and gas well development and operations. The establishment of regulatory provisions to govern the recycling and reuse of oil and gas wastes will protect public health, safety and the environment, as well as be a benefit to the oil and gas industry. Range's suggested language below clarifies that operators may conduct processing, recycling and beneficial reuse activities at well sites and such operations under the jurisdiction of the Department's Office of Oil and Gas Management.

Range supports the Department's proposed Subsection 78.58(b), and suggests that the physical removal of free phase hydrocarbons and the addition of biocides to reuse fluids be included as activities that would not require approval from the Department. Additionally, Range is in favor of allowing the Department to post other activities on its website, as appropriate, that would not require approval from the Department if conducted at a well site or centralized impoundment permitted pursuant to Section 78.59c.

Processing of drill cuttings under Subsection 78.58(c) should be included as one of the activities in Subsection 78.58(d) that does not require compliance with the requirements of the Solid Waste Management Act.

Suggested language:

§ 78.58. Onsite and offsite processing.

(a) The Department supports the processing, recycling, and beneficial reuse of fluids and other materials generated by the development, drilling, stimulation, alteration, operation or plugging of oil or gas wells, where the processing of the fluids or other materials for recycling or beneficial reuse will not result in pollution of land or waters of the Commonwealth. The operator may process fluids generated by the development, drilling stimulation, alteration, operation or plugging of oil or gas wells at the well site where the fluids were generated or at the well site where all of the fluid is intended to be beneficially used to develop, drill or stimulate a well. Such processing may not result in pollution of land or waters of the Commonwealth.

(b) Approval from the Department is not required for the following activities conducted at a well site or centralized impoundment permitted under § 78.59c:

- (1) mixing fluids with freshwater;

- (2) aerating fluids;
- (3) filtering solids from fluids;
- (4) physical removal of free phase hydrocarbons;
- (5) the addition of biocides to reuse fluids; or
- (6) any other activity approved by the Department and posted on its website.

(c) An operator may temporarily store and/or process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of an oil or gas well at a well site other than the well sites where the fluids were generated or are to be ultimately reused, so long as the following conditions are met:

1. The well site where the storage or processing is to occur is permitted and bonded;
2. The well site maintains a current PPC plan that is consistent with the Department's regulations;
3. The operator maintains accurate transportation records of the fluids entering and leaving the well site, consistent with Section 3218.3 of Act 13;
4. Temporary storage complies with applicable requirements of the act and regulations relating to tanks;
5. Temporary storage occurs in approved storage structures in accordance with applicable requirements of Sections 78.56 and 78.57;
6. Processing of fluids is conducted in accordance with this section;
7. Temporary storage and/or processing will not exceed a single consecutive twelve month period; all onsite activity incidental to temporary storage and/or processing must occur within this timeframe;
8. The operator must notify the Department of locations where temporary storage and/or processing will occur a minimum of three (3) days prior to the commencement of activity. This notice shall be submitted electronically to the Department through its website and include the intended date(s) of activity commencement;
9. An operator that stores, processes or beneficially reuses fluids pursuant to this section in accordance with this paragraph shall be deemed to have a residual waste permit by rule under Article IX of Title 25;
10. An operator subject to a permit by rule under this section is not required to apply for a permit under Article IX of Title 25 or comply with the operating requirements of Article IX of Title 25 so long as the authorized storage, processing and beneficial reuse activities are conducted in accordance with this Chapter.

(d) An operator may request approval from the Department to temporarily store and/or process fluids generated by the development, drilling, stimulation, alteration, operation or plugging of an oil or gas well at a location other than a well site or centralized impoundment. The request shall be submitted on forms provided by the Department, accompanied by a written consent from the landowner, and subject to the following conditions:

1. The operator prepares and maintains a current PPC plan that is consistent with the Department's regulations for the location;
2. The operator maintains accurate transportation records of the fluids entering and leaving the location consistent with consistent with Section 3218.3 of Act 13;
3. Temporary storage complies with applicable requirements of the act and regulations relating to tanks;
4. Temporary storage occurs only in above ground tanks subject to applicable requirements of Sections 78.56 and 78.57;
5. Any processing is conducted in accordance with this section;
6. Temporary storage and/or processing will not exceed a single consecutive twelve month period and all onsite activity incidental to temporary storage and/or processing must occur within this timeframe;
7. The operator must notify the Department of the locations where temporary storage will occur a minimum of three (3) days prior to the commencement of activity. This notice shall be submitted electronically to the Department through its website and include the intended date(s) of activity commencement;
8. An operator that stores, processes, or beneficially reuses fluids pursuant to this section in accordance with this paragraph shall be deemed to have a residual waste permit by rule under Article IX of Title 25;
9. An operator subject to a permit by rule under this section is not required to apply for a permit under Article IX of Title 25 or comply with the operating requirements of Article IX of Title 25 so long as the authorized storage and beneficial re-use activities are conducted in accordance with this Chapter.

(e) An operator may process drill cuttings at the well site where those drill cuttings were generated where such processing will not result in pollution of land or waters of the Commonwealth.

(f) Sludges, filter cake or other materials remaining after the processing or handling of fluids pursuant to this Section, including materials mixed with drill cuttings, shall be characterized pursuant to 25 Pa. Code § 287.54 before the material leaves the well site.

§ 78.59a. Impoundment embankments.

Range comment:

The Department is proposing new regulations for activities that have been implemented through forms, approvals and policies for several years. As a regulation, flexibility must be added to address changes that may become necessary to address unforeseen issues that may arise or to address other practical issues that may be very onerous if implemented as absolute regulatory requirements. Range recommends that specific requirements remain in guidance documents and forms. If the rulemaking under these sections proceeds to a final rule, please consider the following comments.

(a) Embankments constructed for freshwater and centralized impoundments for oil and gas activities shall meet the following requirements:

Range comment:

Under this proposal, the Department will be regulating freshwater impoundments which are not regulated under Chapter 105 or any other portion of Title 25 Environmental Protection. Regulating only Oil & Gas freshwater impoundments and no other person, group, or industry's freshwater impoundments is arbitrary and capricious. Consequently, freshwater impoundments must either be removed from the proposed Oil & Gas regulations, or Title 25 needs to be revised to regulate all persons, groups, or industries equally.

Additionally, the requirements of Section 78.59a are too prescriptive and do not provide the Department with the flexibility to approve alternate methods. Lastly, both freshwater and centralized impoundments are defined in this Chapter and do not need to be qualified in this section as being used "for oil and gas activities."

Suggested language:

(a) Unless otherwise approved by the Department, embankments constructed for freshwater and centralized impoundments must meet the following requirements.

(1) The foundation for each embankment must be stripped and grubbed to a minimum depth of 2 feet below existing contour prior to any placement and compaction of fill.

Range comment:

This section is overly detailed and prescriptive. If not altered to allow performance based standards, flexibility must be provided in the rule. In many cases this requirement would cause an unnecessary excavation through suitable subgrade material. In some cases this requirement may allow unsuitable subgrade material to remain.

It is suggested that the citation be revised to require the removal of unsuitable material prior to fill placement, and add a suggestion to retain a Professional Engineer to provide foundation construction oversight.

Suggested language:

(1) The foundation for each embankment must be stripped and grubbed to a minimum depth of 2 feet below existing contour prior to any placement and compaction of fill, or as otherwise approved by the Department.

(2) Any springs encountered in the embankment foundation area shall be drained to the downstream toe of the embankment with a drain section 2 foot by 2 foot in dimension consisting of PennDOT Type A sand, compacted by hand tamper. Geotextiles shall not be used around sand. The last 3 feet of this drain at the downstream slope shall be constructed of AASHTO #8 material.

Range comment:

This section is overly detailed and prescriptive. If not altered to allow performance based standards, flexibility must be provided in the rule. The use of PennDOT Type A sand in this application poses the following design issues: (1) Due to the small grain size of the sand particles, those particles can migrate into the pipe perforation of piping typically used in the drain. Sand migration/erosion could cause void space to develop in the pipe bedding. Or, sand could block the pipe perforations or block flow in the pipe; and (2) the sands permeability is low as compared to other more available aggregates. The sand is a slower draining material that could cause adjacent soils to become saturated. It is suggested that "coarse aggregate" and minimum permeability of 1×10^3 cm/sec be specified.

The use of a geotextile wrap around the aggregate should be allowed when designed by a Professional Engineer. Geosynthetic design calculations for geotextiles used as a separator, such as this application, are available.

Suggested language:

(2) Any springs encountered in the embankment foundation area shall be drained to the downstream toe of the embankment with a drain section 2 foot by 2 foot in dimension consisting of PennDOT Type A sand, compacted by hand tamper; coarse aggregate with a minimum permeability of 1×10^3 cm/sec; or an alternate material approved by the Department. Geotextiles shall not be used around sand, unless approved by the Department. The last 3 feet of this drain at the downstream slope shall be constructed of AASHTO #8 material.

(5) Soils to be used for embankment construction shall be classified in accordance with ASTM D-2487 (Unified Soils Classification). Soil samples shall be classified at a minimum rate of 1 sample per 1,000 cubic yards of placed fill. Results of testing of materials shall be provided to the Department upon request.

Range comment:

The testing frequency specified is excessive and in most cases would generate redundant results. At the proposed frequency, preconstruction sampling would not be economically feasible. Consequently, sampling and testing at 1 per 1,000 cubic yards would need to be performed during the course of the earthwork and could cause expensive construction delays while waiting for test results. For a typical impoundment, approximately 70,000 cubic yards of earthwork would be required. Pursuant to the proposed section, 70 samples would be required for testing. It is suggested that the specification be change to state "Soil samples shall be classified at a frequency of 1 sample per soil type."

Suggested language:

(5) Soils to be used for embankment construction shall be classified in accordance with ASTM D-2487 (Unified Soils Classification). Soil samples shall be classified at a frequency of 1 sample per soil type. Results of testing of materials shall be provided to the Department upon request.

(6) The embankment shall be constructed out of soils designated as GC, GM, SC, SM, CL or ML, only. Soils with split designations where one of the designations is not GC, GM, SC, SM, CL or ML shall not be used. Soils shall contain a minimum of 20% of No. 200 sieve materials or larger. Results of testing of materials shall be provided to the Department upon request.

Range comment:

Acceptable slope stability factors of safety can be achieved using soils with less than 20% of the particles retained on the No. 200 sieve, and an acceptable factor of safety can be achieved with soils that do not meet the textural classifications specified. Therefore, it is recommended that the section be modified to allow site-specific soils to be evaluated within the proposed design by an appropriately qualified professional utilizing laboratory analysis (if needed) and supporting calculations.

Suggested language:

(6) The embankment shall be constructed out of soils designated as GC, GM, SC, SM, CL or ML, only. Soils with split designations where one of the designations is not GC, GM, SC, SM, CL or ML shall not be used. The soils' gradation shall have a minimum of 20 percent retained on the No. 200 sieve, unless site-specific soils with less than 20 percent retained on the No. 200 sieve are part of an alternate design provided by an appropriately trained professional. Results of testing of materials shall be provided to the Department upon request.

(9) Exposed embankment slopes shall be permanently stabilized using one or a combination of the following methods:

(i) Exposed embankments shall be limed, fertilized, seeded and mulched and permanent vegetative ground covering in compliance with 25 Pa. Code § 102.22 must be established upon completion of construction of the impoundment.

(ii) Compacted rockfill or riprap placed on the downstream face of the embankment as a cover having a minimum depth of two feet. The rockfill shall be durable, evenly distributed, and underlain by a Class 2, Type A geotextile.

Range comment:

In most cases the rock layer placed on the out-slope of the embankment will consist of a well graded soil consisting of oversized rock with fines from the site excavation, which will not be susceptible to stormwater infiltration and erosion of the embankment-to-rock-fill interface. Due to the time consuming effort necessary to install a geotextile separation layer and the added cost, it is recommended that Class 2, Type A geotextile is only necessary when a course aggregate with very few fines is used as fill.”

Suggested language:

(ii) Compacted rockfill or riprap placed on the downstream face of the embankment as a cover having a minimum depth of two feet. The rockfill shall be durable, evenly distributed, and underlain by a Class 2, Type A geotextile when a course aggregate with very few fines is used as fill.

§ 78.59b. Freshwater impoundments.

Range comment:

The proposed regulations have extensive new requirements for impoundments storing fresh water, beyond those that any other industry must follow for storing fresh water. The Department’s cost estimate considers only the cost of fencing around existing impoundments, ignoring all the other requirements associated with both existing impoundments and the construction of new impoundments, to reach an estimated cost of \$0.7 million to \$5 million. Range believes the cost of all the new requirements applicable to fresh water impoundments is \$250,000 to \$500,000 per impoundment, producing a total cost of \$25 million at the low end of the estimate, or five times the Department’s figure.

See also Range’s comment to 78.59a above. Regulating freshwater impoundments for only the oil and gas industry is arbitrary and capricious. Unless Title 25 is revised to regulate all freshwater impoundments, they should be removed from these subsections.

(c) Freshwater impoundments shall be constructed with a synthetic impervious liner.

Range comment:

This subsection should not be included, synthetic liners should not be required because onsite soils may provide sufficient permeability for use as a liner.

Suggested language:

(c) Freshwater impoundments shall be designed to hold water without significant leaks that could affect the integrity of the embankment.

(d) Unless an individual is continuously present at a freshwater impoundment, a fence shall completely surround the freshwater impoundment to prevent unauthorized acts of third parties and damage caused by wildlife.

Range comment:

Since no fence can absolutely ensure "prevention" of unauthorized acts by third parties or damage by wildlife, Range recommends replacing "prevent" with "discourage."

Suggested language:

(d) For unconventional well sites, unless an individual is continuously present at the well site, a fence or fences shall completely surround all pits to discourage unauthorized acts of third parties and damage caused by wildlife.

(e) The bottom of the impoundment shall be at least 20 inches above the seasonal high groundwater table. The applicant may maintain the required separation distance of 20 inches by artificial means such as an under-drain system throughout the lifetime of the impoundment. In no case shall the regional groundwater table be affected. The operator shall document the depth of the seasonal high groundwater table, the manner in which the depth of the seasonal high groundwater table was ascertained, the distance between the bottom of the impoundment and the seasonal high groundwater table, and the depth of the regional groundwater table if the separation between the impoundment bottom and seasonal high groundwater table is maintained by artificial means. The operator shall submit records demonstrating compliance with this subsection to the Department upon request.

Range comment:

This section requires the same groundwater table determination practices for freshwater impoundments as for produced water impoundments. This proposed subsection is excessive and unreasonable for freshwater. The cost in time, resources, and capital funding will be excessive to perform the studies required by this subsection and it is unreasonable to require the separation. This proposed subsection is excessive and unreasonable. Range recommends that it be removed.

(f) Freshwater impoundments shall be restored by the operator that the impoundment is registered to by removing excess water and the synthetic liner and returning the site to approximate original conditions, including preconstruction contours, and can support the land uses that existed prior to oil and gas activities to the extent practicable within nine months of completion of drilling the last well serviced by the impoundment. A two-year restoration extension may be requested pursuant to section 3216(g) of the act (58 Pa.C.S. § 3215(g)). If written consent is obtained from the landowner, the requirement to return the site to approximate original contours may be waived by the Department if the liner is removed from the impoundment.

Range comment:

Freshwater impoundments, when not needed for operations and not wanted by the surface owner, should be restored in accordance with applicable site restoration plans. There is no obligation to return such sites to approximate original contours. In addition, the use of impoundments for operations at multiple well sites requires additional flexibility in the rule. For example, the phrase "completion of drilling" should be changed to "completion of the last well." Also, section 3216(g) does not directly address freshwater impoundments, so extensions would not be limited to two years.

Suggested language:

(f) Freshwater impoundments shall be restored by the operator to whom the impoundment is registered by removing excess water and the synthetic liner and restoring the site in accordance with a site restoration plan within nine months of completion of the last well serviced by the impoundment. A restoration extension may be requested consistent with the extension requirements described under section 3216 of the act (58 Pa.C.S. §3216(g)) that apply to well site restoration obligations.

(g) Prior to storing mine influenced water in a freshwater impoundment, the operator shall develop a mine influenced water storage plan and submit it to the Department for approval.

(1) The mine influenced water storage plan shall be submitted on forms provided by the Department and include the following:

(i) a demonstration that the escape of the mine influenced water stored in the freshwater impoundment will not result in air, water or land pollution or endanger persons or property;

(ii) a procedure and schedule to test the mine influenced water. This testing shall be conducted at the source prior to storage in the impoundment; and

(iii) a records retention schedule for the mine influenced water test results.

Range comment:

The reference to air is unnecessary and should be removed. Chapter 78 is not the place to insert obligations related to air emissions, which are addressed at length in other State and Federal regulations.

Suggested language:

(i) a demonstration that the escape of the mine influenced water stored in the freshwater impoundment will not result in water or land pollution or endanger persons or property include:

§ 78.59c. Centralized impoundments.

(a) A well operator proposing to build a centralized impoundment that is also classified as hazard potential category 4 and size category C pursuant to 25 Pa. Code § 105.91 (relating to classification of dams and reservoirs) shall obtain a permit on forms provided by the Department prior to construction of the impoundment and shall also comply with this section. An operator proposing to build a centralized impoundment that is also classified as hazard potential category 1, 2 or 3 or size category A or B pursuant to 25 Pa. Code § 105.91 shall obtain a permit from the Department prior to construction of the impoundment and comply with 25 Pa. Code Chapter 105.

(b) The embankment of the centralized impoundment shall meet the requirements of 25 Pa. Code § 78.59a.

(c) Centralized impoundments shall not be constructed in any portion of the following areas:

- (1) In a floodplain of waters of this Commonwealth as defined in section 3215(f)(5) of the act (58 Pa.C.S. § 3215(f)(5)).**
- (2) In or within 100 feet measured horizontally of a wetland greater than 1 acre in size.**
- (3) In areas underlain by limestone or carbonate formations where the formations are greater than 5 feet thick and present at the uppermost geologic unit. These areas include areas mapped by the Pennsylvania Geological Survey as underlain by the formations, unless competent geologic studies demonstrate the absence of limestone and carbonate formations.**

Range comment:

The proposed section appears to have been copied from Pennsylvania's Solid Waste Regulations, which includes this provision due to the acidic nature of landfill leachate. If landfill leachate were to penetrate a landfill's liner system and infiltrate into a limestone layer, there is increased potential for that acidic water to dissolve and erode away the limestone. Flowback, production, and other waters encountered during operations are pH neutral, however and would not affect limestone in the same fashion. Additionally, duplicative requirements for activities already addressed through other regulatory programs should not be added to Chapter 78.

Suggested language:

Delete subsection (c)(3).

- (4) Within 500 feet measured horizontally from an occupied dwelling without the written consent of the owner of the building.**

Range comment:

A point of reference is needed for consistency.

Suggested language:

(4) Within 500 feet measured horizontally from an occupied dwelling to the inside crest of the impoundment's embankment without the written consent of the owner of the building.

(5) Within 100 feet measured horizontally from any solid blue line stream, spring or body of water, except wetlands, identified on the most current 7.5 minute topographic quadrangle map of the United States Geological Survey.

Range comment:

A point of reference is needed for consistency.

Suggested language:

(5) Within 100 feet measured horizontally from any solid blue line stream, spring or body of water, except wetlands, identified on the most current 7.5 minute topographic quadrangle map of the United States Geological Survey to the limit of disturbance unless a stream encroachment permit is acquired.

(6) Within 500 feet measured horizontally of a private water supply without the written consent of the owner of the water supply.

Range comment:

A point of reference is needed for consistency.

Suggested language:

(6) Within 500 feet measured horizontally of a private water supply to the inside crest of the impoundment's embankment without the written consent of the owner of the water supply.

(7) Within 1,000 feet measured horizontally of an existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor without the written consent of the water purveyor.

Range comment:

A point of reference is needed for consistency.

Suggested language:

(7) Within 1,000 feet measured horizontally of an existing water well, surface water intake, reservoir or other water supply extraction point used by a water purveyor to the inside crest of the impoundment's embankment without the written consent of the water purveyor.

(d) The bottom of the impoundment shall be at least 20 inches above the seasonal high groundwater table. The applicant may request approval from the Department to use an alternative that maintains the required separation distance of 20 inches by artificial means such as an under-drain system throughout the lifetime of the impoundment, by submitting a request to the Department for approval. In no case shall the regional groundwater table be affected.

(e) Centralized impoundments shall be constructed with a liner system composed of the following components:

(1) A sub-base that:

Range comment:

The soil quality specified below may not be available on or near many proposed locations. Consequently, this subsection should include an allowance for the use of alternative materials such as Geosynthetic Clay Liners (GCLs) and/or soil amendments.

Suggested language:

(1) A sub-base that meets the following, or is otherwise approved by the Department.

(i) Bears the weight of the liner system, impounded fluid, and equipment operating on the impoundment without causing or allowing a failure of the liner system.

(ii) Accommodates potential settlement without damage to the liner system.

(iii) Is compatible with the impounded fluid.

(iv) Covers the bottom and sidewalls of the impoundment.

(v) Is covered with non-woven geotextile fabric to cushion the secondary liner and allow for adequate venting between the secondary liner and sub-base to prevent entrapment of gases beneath the liner system.

(vii) Is constructed of a natural clay material and include an upper 6 inches that is:
(A) Free of coarse rock fragments greater than 0.75" in diameter.

(B) Hard, uniform, smooth and free of debris, rock fragments, plant materials and other foreign material.

(C) No more permeable than 1.0×10^{-6} cm/sec., based on laboratory and field testing. Soil compaction and permeability testing shall be conducted on the bottom and sides at a minimum rate of once per 2,500 square feet.

Range comment:

The soil compaction test (i.e., moisture/density testing) frequency is excessive, where one test per 2,500 square feet results in 18 tests per acre. Typically, the 6-inch thick subbase layer in a landfill liner system is tested at a frequency of one test per acre. It is suggested that the test frequency be one test per acre per soil type.

The soil permeability testing in the proposed section is excessive. In addition, the subsection could be misinterpreted to require field permeability testing which is impractical. It is suggested that laboratory permeability testing be performed at a frequency of 1 sample per soil type. In addition, it is suggested that the proposed section be changed to utilize a correlation between laboratory Proctor and permeability testing that is used to specify parameters for field compaction testing.

Suggested language:

(C) No more permeable than 1.0×10^{-6} cm/sec. Laboratory standard Proctor and permeability testing shall be used to delineate limits for field moisture/density testing. Field limits shall be delineated for each soil type used, and at least one Standard Proctor and Permeability test per soil type shall be performed. Field moisture density testing shall be performed at a frequency of one sample per acre per 6-inch thick lift per soil type.”

(2) A secondary liner that:

(i) Prevents the migration of fluid from the impoundment.

(ii) Is designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the impounded fluid, and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility

Test for Wastes and Membrane Liners.

(iii) Covers the bottom and sidewalls of the impoundment.

(iv) Is composed of a synthetic material with a coefficient of permeability not greater than 1.0×10^{-10} cm/sec., based on laboratory testing.

(v) Has a minimum thickness of 40 mil unless a greater thickness is recommended by the manufacturer's specifications.

Range comment:

Manufacturers in the geosynthetics industry utilize geomembrane manufacturing standards specified by the "Geosynthetic Institute," which utilize nominal and not minimum values. It is suggested that manufacturing specifications follow the "Geosynthetic Institute's" manufacturing standards.

(vi) Is installed according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. A Department approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

Range comment:

The proposed section, as written, gives governing supervision or authority to geosynthetics manufacturers. It is suggested that the section be changed to indicate that Quality Assurance shall be performed under the direction of an appropriately trained professional.

Due to the unique nature of geosynthetics manufacturing and construction, a Construction Quality Assurance and Quality Control Plan (CQAQC Plan) needs to be prepared under the direction of a qualified professional with geosynthetics experience. It is recommended that the Department work with the MSC to develop a standard CQAQC Plan. If the standard plan were to be used, review and approval would not be required for each application.

(vii) Is inspected for uniformity, damage and imperfections during construction and installation.

(viii) Use of a composite secondary liner may not be substituted for a separate primary liner.

(3) A leak detection system that meets the following:

(i) Rapidly detects and collect liquid entering the leak detection zone, and rapidly transmit the liquid to a sump.

(ii) Withstands chemical attack from the water or wastewater being impounded.

(iii) Withstands anticipated loads, stresses and disturbances from impounded liquid.

(iv) Functions without clogging.

(v) Does not affect the primary or secondary liner by puncturing, cracking, tearing, stretching or otherwise losing its physical integrity.

(vi) Cover the bottom and sidewalls of the impoundment.

(vii) Create a flow zone between the secondary liner and the primary liner equal to, or more permeable than 1.0×10^{-2} cm/sec., based on laboratory testing and, when required by the Department, field testing.

Range comment:

Field testing of the flow zone would require an extremely complex testing scenario that would be very difficult to develop and acquire approval at the Department's regional level. The proposed subsection as written is therefore impractical. The permeability/permittivity of geosynthetic flow zone products and aggregate meeting standard AASHTO gradation are well known and documented.

Suggested language:

(vii) Create a flow zone between the secondary liner and the primary liner equal to, or more permeable than 1.0×10^{-2} cm/sec., based on manufacturer/supplier's published specifications.

(viii) Contain a perforated piping system capable of detecting and intercepting liquid within the leak detection zone and conveying the liquid to a collection sump.

Range comment:

Due to the extremely high flow volumes that can be transmitted through geosynthetic flow zone products and many aggregates, they can, in nearly every instance, more than adequately transmit flow without piping. The requirement for the use of transmission piping significantly complicates grading and liner configurations to accommodate piping.

Suggested language:

(viii) If the leak detection zone cannot adequately transmit detection zone flow, the system shall contain a perforated piping system capable of detecting and intercepting liquid within the leak detection zone and conveying the liquid to a collection sump.

(A) The collection sump shall be equipped with a sump pump with a switch to automatically activate the pump if a leak occurs.

(B) Discharge from the sump pump shall be directed back into the impoundment or other suitable containment. The sump shall have no outlet other than the sump pump discharge.

(C) The pump and sump shall be of sufficient size and capacity to convey any leak that may occur back into the impoundment without a discharge.

(ix) A piping system that meets the following requirements:

(A) The slope, size and spacing of the piping system shall assure that liquids drain from the leak detection zone.

(B) The pipes shall be installed as close to perpendicular to the flow as practicable and shall have a minimum post-settlement grade of at least 2%.

Range comment:

A minimum slope of 2% was borrowed from the solid waste regulations, which was specifically developed for landfills due to the limitations of aggregates that were originally used in their designs. In the last 25 years, geosynthetic drainage layers have been developed that have superior performance to aggregates. For oil & gas impoundments, pipes can be operated with a 1% slope with the use of geosynthetics. Consequently, it is suggested that the minimum slope be changed to 1%.

Suggested language:

(B) The pipes shall be installed as close to perpendicular to the flow as practicable and shall have a minimum post-settlement grade of at least 1%

(C) The minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater as specified by ASTM, or equivalent.

Range comment:

The wall thickness specified is significantly over designed for most impoundments that the industry is expected to design and build.

Suggested language:

(C) The pipe (if needed) shall be designed under the direction of an appropriately trained professional, or if a design is not prepared, the minimum diameter of the perforated pipe shall be 4 inches with a wall thickness of Schedule-80 or greater as specified by ASTM, or equivalent.

(D) The pipes shall be cleaned and maintained as necessary to ensure the effectiveness of the system.

(x) A minimum bottom slope of 2%.

Range comment:

A minimum slope of 2% was borrowed from the solid waste regulations, which was specifically developed for landfills due to the limitations of aggregates that were originally used in their designs. In the last 25 years, geosynthetic drainage layers have been developed that have superior performance to aggregates. Oil & gas impoundments can be operated with a 1% slope with the use of geosynthetics. Consequently, Range suggests the minimum slope be changed to 1%.

(xi) Designed to allow the operator to monitor and record leakage rates.

(xii) Not contain carbonate stones or aggregate with sharp edges.

Range comment:

This subsection was borrowed from the solid waste regulations, and "not contain carbonate" is a specification relevant to that industry where the acidic nature of landfill leachate can dissolve carbonate aggregate and affect leachate collection systems. Due to the fact that all aggregate has some carbonatious content and "not contain carbonate" is an impractical specification, a small percentage of carbonate content in aggregates is allowed in solid waste projects.

The waters handled in the oil & gas industry are typically pH neutral and would not affect a carbonatious aggregate. In addition, landfills permanently store waste. For an oil & gas impoundment, detection zone problems can be repaired because the contents are not permanently stored. Therefore, it is recommended that this proposed subsection be deleted.

(xiii) The operator shall monitor the leak detection zone weekly to determine whether liquid is flowing from the zone. These records shall be made available to the Department upon request.

(4) A primary liner that meets the following:

(i) The effectiveness of the primary liner may not be adversely affected by the physical or chemical characteristics of the impounded fluids from the impoundment.

(ii) Designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the impounded fluid and be resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners, or other compatibility tests approved by the Department.

(iii) Cover the bottom and sidewalls of the impoundment.

(iv) Composed of a synthetic material with a coefficient of permeability not greater than 1.0×10^{-10} cm/sec., based on laboratory testing.

(v) A minimum thickness of 40 mil unless a greater thickness is required by manufacturer recommendations.

(vi) Installed according to manufacturer's specifications under the supervision of an authorized representative of the manufacturer. A Department approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

Range comment:

The proposed subsection empowers geosynthetics manufacturers where that industry should not have any governing supervision or authority. It is suggested that the subsection be changed to indicate that Quality Assurance shall be performed under the direction of an appropriately trained professional.

Due to the unique nature of geosynthetics manufacturing and construction, a Construction Quality Assurance and Quality Control Plan (CQAQC Plan) needs to be prepared under the direction of a qualified professional with geosynthetics experience. It is suggested that the Department work with the MSC to develop a standard CQAQC Plan. If the standard CQAQC Plan were to be used, review and approval would not be required in each application.

Suggested language:

(vi) Installed according to manufacturer's specifications under the supervision of an appropriately trained professional. A Department approved quality assurance and quality control plan shall be implemented in the field during the installation of the liner.

(vii) Inspected for uniformity, damage and imperfections during construction and installation.

(viii) Use of a composite primary liner does not relieve the operator of responsibility for a separate secondary liner.

(ix) Allowable leakage rates through the primary liner shall be determined based upon the maximum depth of the impounded fluid as specified in Table 1. The area shall be calculated as the area of the liner in contact with the impounded fluid. Weekly leakage rates shall be documented and provided to the Department upon request. These records shall be made available to the Department upon request.

Table 1

Fluid Height (ft)	Allowable Leakage Rate (gallons/acre/day)
$h \leq 10$	340
$10 < h \leq 15$	420
$15 < h \leq 20$	490
$20 < h \leq 25$	550
$25 < h \leq 30$	610
$h > 30$	case by case

(x) In the event that the flow rate of leakage through the primary liner, as collected in the leak detection sump, exceeds the value in Table 1 for a given fluid depth, the operator shall notify the Department within 24 hours, drain the impoundment to the extent necessary to repair the impoundment and shall repair the

impoundment. Notice shall be made electronically to the Department through its website.

(f) Hydrogeologic investigation—An operator that intends to construct a centralized impoundment must initially complete a baseline hydrogeologic investigation to document background conditions pursuant to this subsection.

(1) The investigation shall determine the groundwater flow beneath the site and adjacent area, based on an initial round of water quality testing, a groundwater elevation study and a review of reasonably available secondary source information. The results of the initial round of water quality testing shall be submitted with the permit application.

(2) A second round of testing, including water quality testing and water level measurements, shall also be completed. The second round of testing shall be conducted between 90 and 120 calendar days from the initial round of testing. The results of the second round of water quality testing may be submitted after the permit application is submitted. The Department will not make a decision on the permit application until the operator submits the results of the second round of water quality testing.

(3) The water quality testing required by this subsection shall include the constituents listed subsection (i)(6) below.

(4) If during the groundwater elevation study, soil mottling is apparent within the intended confines of the impoundment or within 20 inches of its base, or if the seasonal high water table will be adjusted using engineering controls in order to accommodate the impoundment, the requirements of 289.121-123 (relating to description of geology, soils and hydrology; general requirements; geology and groundwater description; and groundwater quality description) shall be followed and the groundwater monitoring period must be extended to four quarterly tests.

Range comment:

Soil mottling does not provide conclusive evidence of a seasonal high water table. In fact, Section 289.432(a)(1), of the solid waste regulations, states "Soil mottling may indicate the presence of a seasonal high water table." Therefore, it is recommended that this section be revised to allow groundwater elevation data in place of soil mottling, as an option, to delineate the seasonal high water table.

Regarding the period over which groundwater elevation data is needed prior to its manipulation, "four quarterly tests" is not required by the solid waste regulations for permanent waste disposal facilities, and is excessive for the temporary storage of flowback and production water, based on empirical evidence that the seasonal high groundwater condition occurs within the first five months of the year. Consequently, if groundwater data has been collected during that period, it should be sufficient to proceed with manipulation. Data from that period should be sufficient to proceed with the permitting and approval process.

Suggested language:

(4) If during the groundwater elevation study, groundwater elevation determined by surface water or wells, or soil mottling in the absence of surface water or well data, is apparent within the intended confines of the impoundment or within 20 inches of its base, or if the seasonal high water table will be adjusted using engineering controls in order to accommodate the impoundment, the requirements of §§ 289.121-123 (relating to description of geology, soils and hydrology; general requirements; geology and groundwater description; and groundwater quality description) shall be followed and the groundwater elevations data must be collected within the first five months of the year.

(5) Only passive drainage systems that lower the seasonal high water table and do not alter the supply of receiving water bodies or downgradient groundwater users may be utilized to adjust the seasonal high groundwater table.

(g) An operator that operates a centralized impoundment shall install, operate and maintain a water quality monitoring system that can detect the entry of regulated substances into the groundwater or surface water. The water quality monitoring system shall accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system shall include the following:

Range comment:

The requirement in this subsection would prevent the use of Best Available Technology. Due to the size of centralized impoundments (approximately 4 acres or less), a drainage layer beneath the impoundment with discrete monitoring points would provide complete coverage, provide leak information in the shortest possible time, and could be used as a control. The proposed subsection is too definitive for regulation and should be in a Department issued guidance document. At the very least, the language should be revised to allow alternatives.

The design and operating methods for monitoring wells are still evolving. Considering the inflexible, static nature of regulations, it does not make sense to include such detailed specifications. It is strongly recommended that the design, construction and operation of groundwater monitoring wells be specified in guidance and not be included in regulation.

In addition, the use of the term "regulated substance" in this subsection creates a confusing and perhaps impossible standard to meet. A centralized impoundment may have a system that detects leaks, but it is not clear what monitoring system could detect "the entry of regulated substances into the groundwater or surface water" if those substances are not from the impoundment itself, and it is equally unclear why an operator would be obligated to detect the entry of all such substances.

Suggested language:

(g) An operator that operates a centralized impoundment shall install, operate and maintain a water quality monitoring system that can detect the entry of substances contained in the impoundment into the groundwater or surface water. The water quality monitoring system shall accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system shall include the following:

(1) A minimum of one monitoring well at a point hydraulically upgradient from the impoundment area in the direction of increasing static head that is capable of providing representative data of groundwater not affected by the impoundment, except when the impoundment occupies the most upgradient position in the flow system. In that case, sufficient down gradient monitoring wells shall be placed to determine the extent of adverse effects on groundwater from the impoundment in the event of a liner system failure.

(2) A minimum of three monitoring wells at points hydraulically downgradient in the direction of decreasing static head from the area around a centralized impoundment. In addition to the downgradient wells, the Department may allow one or more springs for monitoring points if the springs are hydraulically downgradient from the impoundment, if the springs are developed and protected in a manner approved by the Department and if the springs otherwise meet the requirements of this subchapter.

(h) The upgradient and downgradient monitoring wells shall be:

(1) Sufficient in number, location and depth to accurately characterize water quality.

(2) Located so that they do not interfere with routine operations.

(3) Located within 200 feet of the permitted centralized impoundment and at least 100 feet closer to the centralized impoundment than the nearest private drinking water well, except as necessary to comply with paragraph (4).

(4) Upgradient monitoring wells shall be located so that they will not be affected by adverse effects on groundwater from the impoundment.

(5) Downgradient monitoring wells shall be located so that they will provide early detection of adverse effects on groundwater from the impoundment.

(6) The well equipment and materials shall be decontaminated prior to installation.

(i) Monitoring wells and casing of monitoring wells shall be constructed as follows:

(1) The casing shall maintain the integrity of the monitoring well borehole and shall be constructed of material that will not react with the groundwater being monitored.

(2) The minimum casing diameter shall be 4 inches unless otherwise approved by the Department in writing.

Range comment:

A 2 inch diameter pipe can and is often used for groundwater monitoring wells. It is our understanding that a 4 inch diameter pipe is being specified solely to allow the well to be used as an extraction well point, if needed, for a future remediation. Since it is unlikely that the wells in and of themselves would

be used for this purpose, the added cost to drill a larger bore and for increased materials to construct a well are not reasonable.

In addition, standard groundwater monitoring procedures include well purging. Use of a 2 inch well increases the likelihood of being able to collect a sample from a well. Consequently, it is strongly recommended that the well diameter be changed to 2 inches.

Suggested language:

(2) The minimum casing diameter shall be 2 inches unless otherwise approved by the Department in writing.

(3) The well shall be constructed with a screen that meets the following requirements:

(i) The screen shall be factory-made.

(ii) The screen may not react with the groundwater being monitored.

(iii) The screen shall maximize open area to minimize entrance velocities and allow rapid sample recovery.

(iv) The well shall be filter-packed with chemically inert clean quartz sand, silica or glass beads. The material shall be well rounded and dimensionally stable.

(v) The casing shall be clearly visible and protrude at least 1 foot above the ground, unless the Department has approved flush mount wells.

(vi) The annular space above the sampling depth shall be sealed to prevent contamination of samples and the groundwater.

(vii) The casing shall be designed and constructed in a manner that prevents cross contamination between surface water and groundwater.

(viii) Alternative casing designs for wells in stable formations may be approved by the Department.

(4) Monitoring well casings shall be enclosed in a protective casing that shall:

(i) Be of sufficient strength to protect the well from damage by heavy equipment and reasonably protected from the unauthorized acts of third parties.

(ii) Be installed for at least the upper 10 feet of the monitoring well, as measured from the well cap, with a maximum above grade surface of 3 feet, unless otherwise approved by the Department in writing.

Range comment:

Sites are evaluated often through the use of a groundwater monitoring well in advance of any correspondence with the Department. Considering that conditions are often encountered where 10 feet of casing cannot be installed, this requirement should be removed, and guidance should be included in a Department guidance document for well construction.

Suggested language:

Delete Subsection (4)(ii)

(iii) Be cemented and placed with a concrete collar at least 3 feet deep to hold it firmly in position.

(iv) Be numbered for identification with a label capable of withstanding field conditions and painted in a clearly visible color.

(v) Protrude above the monitoring well casing.

(vi) Have a lockable cap.

(vii) Be made of steel or another material of equivalent strength.

(5) Analyses of data collected shall be submitted to the Department within 60 calendar days of sampling or 15 calendar days after completion of analyses, whichever is sooner, unless the Department approves another time period.

(6) Water samples must be collected from monitoring wells on a minimum frequency of once per calendar quarter and at a minimum, analyzed for the following parameters:

(i) Total dissolved solids,

(ii) Total Chloride,

(iii) Total Sulfates,

(iv) pH,

(v) Specific conductance,

(vi) Total Iron, and

(vi) Other parameters specified by the Department.

(j) Plans, specifications and reports for site characterization and groundwater testing systems required by this section shall be prepared and sealed by a registered professional geologist.

(k) The design engineer shall provide oversight for all aspects of impoundment construction to ensure that construction is completed in accordance with the design and quality assurance and quality control plan.

Range comment:

Requiring oversight by the design engineer unnecessarily restricts the flexibility of operators to manage the construction of centralized impoundments.

Suggested language:

(k) The design engineer or appropriately trained professional shall provide oversight for all aspects of impoundment construction to ensure that construction is completed in accordance with the design and quality assurance and quality control plan.

(n) Centralized impoundments shall be restored according to the following requirements:

(1) Within 9 months of completion of drilling the last well serviced by the impoundment, or the expiration of the last well permit that the impoundment was intended to service. The impoundment shall be restored by removing any impermeable membrane, concrete and earthen liner so that water movement to subsoils is achieved. A 2 year restoration extension may be requested pursuant to section 3216 (g) of the act.

(2) The site shall be restored to approximate original conditions including preconstruction contours.

Range comment:

There is no obligation under Act 13 or elsewhere to return impoundments to approximate original conditions or to preconstruction contours. Such sites should be restored in accordance with approved site restoration plans.

Suggested language:

Delete subsection (2)

(3) The site shall support the land uses that existed prior to oil and gas activities to the extent practicable.

Range comment:

This proposed Subsection 78.59c(n)(3) addresses only the restoration of centralized impoundments. To avoid any confusion, we propose that the Department avoid use of the Chapter 102 defined term "oil and gas activities" in this subsection.

Suggested language:

(3) The site shall support the land uses that existed prior to construction of the impoundment to the extent practicable.

(4) Excavated impoundments shall be backfilled above finished grade to allow for settlement and so the impoundment will no longer impound water.

Range comment:

Clarification is required for the phrase “above finished grade.” The interpretation that could be made is that restoration fill must be placed to an elevation higher than the predevelopment contour. Replacement of fill may result in a soil density higher than the density the soil was at prior to site development. Consequently, the soil could be packed into a smaller volume and never reach “finished grade.”

Suggested language:

(4) During impoundment reclamation, backfill shall be placed to promote positive post-settlement drainage.

(o) The owner or operator may request approval from the Department to deviate from the requirements in this section in the permit application. The request shall demonstrate that the alternate practice provides equivalent or superior protection to the requirements of this section.

* * *

§ 78.61. Disposal of drill cuttings.

(a) *Drill cuttings from above the casing seat—pits.* The owner or operator may dispose of drill cuttings from above the casing seat determined in accordance with § 78.83[(b)](c) (relating to surface and coal protective casing and cementing procedures) in a pit at the well site if the owner or operator satisfies the following requirements:

- (1) The drill cuttings are generated from the well at the well site.
- (2) The drill cuttings are not contaminated with **[pollutional material] a regulated substance**, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

Range comment:

The use of the term “regulated substance” in this subsection provides unclear direction to the oil and gas industry and is unnecessarily broad in this context. Regulated substances, as defined in Act 2, could include the drill cuttings themselves and the use of the term here would entirely prohibit the

disposal of drill cuttings at the well site, which is contrary to the intent of the section. The provision should be revised to reflect the intent that drill cuttings not be contaminated with the substances listed in this section, all of which are reasonably related to operations of the oil and gas industry.

Suggested language:

(2) The drill cuttings are not contaminated with brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

(3) The disposal area is not within 100 feet of a **[stream] watercourse[,]** or body of water **[or a wetland]** unless approved as part of a waiver granted by the Department under section **[205(b)] 3215(b)** of the act **[(58 P. S. § 601.205(b))] (58 Pa.C.S. § 3215(b))**.

Range comment:

The definition of watercourse is very broad, “a channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.” Every channel and diversion ditch around a farmer’s field, along every farm road can be considered a watercourse. This broad definition places substantial limitations on disposal areas.

(b) Drill cuttings from above the casing seat—land application. The owner or operator may dispose of drill cuttings from above the casing seat determined in accordance with § 78.83**[(b)](c)** by land application at the well site if the owner or operator satisfies the following requirements:

(1) The drill cuttings are generated from the well at the well site.

(2) The drill cuttings are not contaminated with **[pollutional material] a regulated substance**, including brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

Range comment:

The use of the term “regulated substance” in this subsection provides unclear direction to the oil and gas industry and is unnecessarily broad in this context. Regulated substances, as defined in Act 2, could include the drill cuttings themselves and the use of the term here would entirely prohibit the disposal of drill cuttings at the well site, which is contrary to the intent of the section. The provision should be revised to reflect the intent that drill cuttings not be contaminated with the substance listed in this section, all of which are reasonably related to operations of the oil and gas industry.

Suggested language:

(2) The drill cuttings are not contaminated with brines, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids or drilling fluids other than tophole water, fresh water or gases.

(f) The owner or operator shall notify the Department at least 3 business days before

disposing of drill cuttings pursuant to this section. This notice shall be submitted electronically to the Department through its website and include the date the cuttings will be disposed. If the date of disposal is extended, the operator shall re-notify the Department of the date of disposal which need not be 3 business days in advance.

Range comment:

Range recommends that the Department clarify or explain any additional obligations placed on the operator as a result of this new Section. For example, can an operator proceed without any acknowledgement from the Department?

* * *

§ 78.64a Containment systems and practices at unconventional well sites.

(a) This section shall only apply to unconventional well sites.

(b) Well sites shall be designed and constructed using containment systems and practices that prevent spills of regulated substances to the ground surface and to prevent spills from leaving the well site.

(c) All regulated substances, including solid wastes and other regulated substances in equipment or vehicles, shall be managed within a containment system. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site.

Range comment:

This requirement with respect to “all regulated substances” conflicts with Sections 3218.2(a) – (c) of Act 13. Section 3218.2(c) specifies a list of six materials that must be in containment systems when stored on unconventional well sites.

Suggested language:

(b) Well sites shall be designed and constructed using containment systems and practices that prevent spills to the ground surface and to prevent spills from leaving the well site during drilling and hydraulic fracturing operations.

(c) Containment systems shall be used when drilling mud, hydraulic oil, diesel fuel, drilling mud additives, hydraulic fracturing additives, or hydraulic fracturing flowback are stored on an unconventional well site. This subsection does not apply to fuel stored in equipment or vehicle fuel tanks unless the equipment or vehicle is being refueled at the well site.

(d) Pits and centralized impoundments that comply with this Chapter are deemed to meet the requirements of this section.

(e) Containment systems must meet all of the following:

Range comment:

The requirements of subsection 78.64a(e) are too prescriptive, and would not allow the Department to approve alternate methods where appropriate.

Suggested language:

(e) Unless otherwise approved by the Department, containment systems must meet all of the following:

(1) Be used on the well site when any equipment that will be used for any phase of drilling, casing, cementing, hydraulic fracturing or flowback operations is brought onto a well site and when regulated substances including drilling mud, drilling mud additives, hydraulic oil, diesel fuel, hydraulic fracturing additives or flowback are brought onto or generated at the well site.

Range comment:

This proposed subsection is overly broad (e.g. it would apply to cement in cement trucks) and conflicts with Act 13 Section 3218.2, which provides a specified list of materials that require storage in containment systems. The subsection is unnecessary because it is redundant with revised subsection (b) and (c) above.

Suggested language:

Delete subsection (e)(1).

(2) Have a coefficient of permeability no greater than 1×10^{-10} cm/sec.

(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with regulated substances being stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747 Compatibility Test for Wastes and Membrane Liners or other standards as approved by the Department.

Range comment:

ASTM D5747 is a test for landfill liners and pits where the liner is submerged in diluted chemicals for extended periods of time. It is extremely expensive (\$5000) to run on each chemical type found at a site. We propose ASTM D543 as an alternate test for surface liners. It contains a wet patch method that simulates a concentrated surface spill, which ASTM D5747 does not. We recommend testing for 72 hours at 140 F to account for response time and summer surface temperatures.

Suggested language:

(3) The physical and chemical characteristics of all liners, coatings or other materials used as part of the containment system, that could potentially come into direct contact with regulated substance being

stored, must be compatible with the regulated substance and be resistant to physical, chemical and other failure during handling, installation and use. Liner compatibility shall satisfy ASTM Method D5747, ASTM D543, or other standards as approved by the Department.

(f) *Secondary containment:* An operator shall utilize secondary containment when storing additives, chemicals, oils or fuels. The secondary containment must have sufficient containment capacity to hold the volume of the largest container within the secondary containment area plus 10% to allow for precipitation, unless the container is equipped with individual secondary containment such as a double walled tank. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks. A well site liner that is not used in conjunction with other containment systems does not constitute secondary containment for the purpose of this subsection.

Range comment:

Per 3218(d) of Act 13, there is no mandatory secondary containment requirement when storing additives, chemicals, oils or fuels. We recommend striking the first sentence because it is unnecessary and redundant with revised subsection (c) above.

The final sentence of this subsection is vague and potentially contrary to Act 13 which has no such prohibition. Range believes the intent was to require an impervious berm to be used with the liner to provide sump capacity. Range suggests stating this directly.

Suggested language:

(f) Areas where additives, chemicals, oils or fuels are to be stored must have sufficient containment capacity to hold the volume of the largest container stored in the area plus 10% to allow for precipitation, unless the container is equipped with individual secondary containment such as a double walled tank. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks. A well site liner that is not used in conjunction with an impervious berm does not constitute secondary containment for the purpose of this subsection.

(g) Subsurface secondary containment systems may be employed at the well site.

Subsurface secondary containment shall meet the following requirements:

Range comment:

This language is too prescriptive and does not provide flexibility to the Department to approve alternate methods.

Suggested language:

(g) Subsurface secondary containment systems may be employed at the well site. Unless otherwise approved by the Department, subsurface secondary containment shall meet the following requirements:

(1) Subsurface secondary containment systems shall have a coefficient of permeability of no greater than 1×10^{-10} cm/sec with sufficient strength and thickness to maintain the integrity of the containment system. The thickness of a subsurface containment system shall be at least 30 mils. Adjoining sections of the subsurface containment system shall be sealed together, in accordance with the manufacturer's directions, to prevent leakage. All seams of the adjoining sections shall have their integrity tested prior to being covered.

(2) Be designed to allow for the management or removal of stormwater.

(3) Be designed and installed in a manner that prevents damage to the system by the subbase or the movement of equipment or other activities on the surface.

(4) Not be used to store regulated substances.

Range comment:

The use of the term "regulated substance" and the reference to "storage" make this subsection unclear and unnecessary. Subsurface secondary containment is not used for storage.

Suggested language:

Delete subsection (g)(4).

(5) A written Standard of Operational Procedure for the inspection, maintenance and repair of the subsurface secondary containment system shall be included in the preparedness, prevention and contingency plan.

(h) All surface containment systems shall be inspected weekly to ensure integrity. If the containment system is damaged or compromised, the well operator shall repair the containment system as soon as practicable. The well operator shall maintain records of any repairs until the well site is restored. Stormwater shall be removed as soon as possible and prior to the capacity of secondary containment being reduced by 10% or more.

Range comment:

To avoid unnecessary compliance stringency, the requirement for removing stormwater should be changed from "as soon as possible" to "as soon as practicable," which in combination with the additional requirement to ensure it is removed prior to the secondary containment capacity being reduced by 10%, will meet the intended goal.

Suggested language change for the last sentence of (h):

(h) Stormwater shall be removed as soon as practicable and prior to the capacity of secondary containment being reduced by 10% or more.

(i) Regulated substances that escape from primary containment or are otherwise spilled onto a containment system shall be removed as soon as possible. After removal of the regulated substances the operator shall inspect the containment system. A Department

approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells shall not constitute a leak detection system for the purpose of this subsection. If the containment system did not completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with § 78.66.

Range comment:

The reference to “regulated substance” is unnecessary and unclear in this subsection. Operators will clean up spills to containment. If spills escape containment, the provisions of Sections 91.33 and 78.66 will apply.

Suggested language:

(i) Substances that escape from primary containment or are otherwise spilled onto a containment system shall be removed as soon as possible. After removal of the substances, the operator shall inspect the containment system. A Department approved leak detection system capable of rapidly detecting a leak shall satisfy the requirement to inspect the integrity of a subsurface containment system. Groundwater monitoring wells shall not constitute a leak detection system for the purpose of this subsection. If more than five gallons of a substance escapes the containment system, the operator shall notify the Department in accordance with Section 78.66 as applicable.

(j) Stormwater that comes into contact with regulated substances stored within the secondary containment area shall be managed as residual waste.

Range comment:

Stormwater that has not been discharged or discarded is not residual waste. This section is unnecessary.

Suggested language:

Delete subsection (j).

(k) Inspection reports and maintenance records shall be available at the well site for review by the Department.

Range comment:

Range recommends that the Department allow operators to maintain reports and maintenance records either at the well site or other location suitable for the operator.

Suggested language:

(k) Inspections reports and maintenance records shall be available for review by the Department.

(l) Documentation of chemical compatibility of containment systems with material stored within the system shall be provided to the Department upon request.

§ 78.65. Site restoration.

Range comment:

The Department failed to include any estimate for the costs associated with the new pad restoration requirements (Section 78.65). Rather, the Department claims the industry will realize a cost savings because an operator may be able to obtain a 2 year extension to postpone the restoration. However, a postponement of a cost is not an avoidance of the cost. The Department's estimated savings of \$21.7 million (estimated by the Department as \$50,000 per site multiplied by 434 sites per year) is actually a cost that will ultimately be incurred, not a savings. Moreover, Range estimates that the cost of pad restoration, as proposed in the regulations will be in the area of \$200,000 to \$300,000 per pad; not \$50,000 as the Department estimates. Therefore rather than a \$21.7 million savings, the restoration requirements for industry, as proposed are a cost of \$130 million.

(a) [In addition to complying with section 206 of the act (58 P. S. § 601.206), an owner or operator shall meet the following requirements:] The owner or operator shall restore the land surface within the area disturbed pursuant to section 3216 of the act (58 Pa.C.S. § 3216) and 25 Pa. Code Chapter 102.

[(1)](b) A drill hole or bore hole used to facilitate the drilling of a well shall be filled with cement, soil, **uncontaminated drill cuttings or other earthen material before moving the drilling equipment from the well site.**

[(2)] (c) If a well site is constructed and the well is not drilled, the well site shall be restored within 30 **calendar days after the expiration of the well permit unless the Department approves an extension for reasons of adverse weather or lack of essential fuel, equipment or labor.**

(d) *Restoration after drilling* — Within 9 months after completion of drilling a well, the owner or operator shall restore the well site, remove or fill all pits used to contain produced fluids or residual wastes and remove all drilling supplies, equipment and containment systems not needed for production. When multiple wells are drilled on a single well site, post drilling restoration is required within 9 months after completion of drilling all permitted wells on the well site or 30 calendar days after the expiration of all existing well permits on the well site, whichever occurs later in time. Drilling supplies and equipment not needed for production may only be stored on the well site if express written consent of the surface landowner is obtained and the supplies or equipment are maintained in accordance with § 78.64a.

(e) *Restoration after plugging*—Within 9 months after plugging a well, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site to approximate original conditions, including preconstruction contours, and can support the land uses that existed prior to oil and gas activities to the extent practicable.

Range comment:

Section 3216 (a) of Act 13, requires restoration of the land surface within the area disturbed in siting, drilling, completing and producing the well. Range believes complete restoration is not required until production ceases. Section 3216 (c) imposes partial restoration requirements within nine months after completion of drilling a well and Section 3216 (d) requires removal of all facilities, supplies and equipment and restoration of the well site within nine months after plugging a well.

25 Pa. Code Section 102.8 (n) states an oil and gas restoration plan that identifies PCSM BMPs to manage stormwater from oil and gas activities meets the requirements of Section 102.8 if the restoration plan meets 102.8 (b) (c) (e) (f) (h) (i) (l) and (m).

Range recommends that the well pad reclamation section be clarified to emphasize a site restoration plan as the governing document that addresses PCSM and the partial restoration requirements provided in Sections 3216 (c) and (d) of Act 13.

In addition, there is no requirement in Act 13 Sections 3215(c) or 3315(d), or in Chapter 102, that imposes an obligation to restore well sites to approximate original contours or conditions. Act 13 mentions approximate original contours (not conditions) in Section 3215(g) related to extension of restoration requests. It would defeat legislative intent to impose this obligation generally when the General Assembly clearly chose not to alter the obligations under Sections 3215(c) or (d). Such an obligation would also create unreasonable requirements in many locations across the Commonwealth where there is significant topographical variation. When a restoration plan proposes restoration to approximate original contours, it would be a part of expected restoration obligations. The restoration plan is the governing document that addresses restoration obligations. In addition, the Department has no authority or justification to dictate operation or safety requirements of operators, further making Section (d)(1)(iii) unnecessary.

The regulation should be structured to allow for one or more two year extensions of the restoration deadline provided the site restoration plan and associated PCSM measures are fully implemented. This extension process is critical to avoid unnecessary earthmoving activities for reconstruction of the well pad should an operator plan to drill and produce additional wells on the same pad location at some later time in the future. The risk of accelerated erosion and resulting sedimentation is much greater during earth moving activities that would take place when pads would be made smaller or expanded, possibly multiple times in the future.

Suggested language:

§ 78.65 Well Site Restoration

a. Site Restoration Plan

- (1) Site restoration plan – meets the requirements of 102.8 (b), (c), (e), (f), (h), (i), (l), and (m), if applicable and Section 3216 of Act 13. The plan addresses interim site restoration required after completion of drilling, and final restoration of the well site after all wells have been plugged.

The plan shall provide for:

- i. The timely removal or fill of all pits used to contain produced fluids or residual wastes;
- ii. The removal of all drilling supplies and equipment not needed for production, including containment systems;
- iii. The stabilization of the well site that shall include interim post construction stormwater management best management practices in compliance with 25 PA Code §102.8 including 25 PA Code §§102.8(a)-(m); or
- iv. Site appropriate BMP's including a BMP which permanently minimizes accelerated erosion and sedimentation, and other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law.

b. General

- (1) The owner or operator shall restore the land surface within the area disturbed during siting, drilling, completing and producing a well.
- (2) A drill hole or bore hole used to facilitate the drilling of a well shall be filled with cement, soil, uncontaminated drill cuttings or other earthen material before moving the drilling equipment from the well site.
- (3) If a well site is constructed and the well is not drilled, the well site shall be restored within 30 **calendar** days after the expiration of the well permit unless the Department approves an extension for reasons of adverse weather or lack of essential fuel, equipment or labor.

c. Site Restoration Implementation

- (1) An area is restored under this subsection if the following are met:
 - i. All permanent post construction stormwater BMP's identified in the site restoration plan are installed and properly maintained.
 - ii. Remaining impervious areas are minimized, including areas where soil amendments have been added to harden the soil or are underlain with an impermeable liner.
 - iii. Earth disturbance associated with oil and gas activities that are not included in an approved site restoration plan, and other remaining impervious surfaces, shall comply with applicable post construction stormwater management requirements in 25 Pa. Code Chapter 102.

- iv. The site is permanently stabilized according to 25 Pa. Code §102.22(a).

d. Interim restoration after drilling.

(1) Within nine (9) months after completion of drilling a well, the owner or operator shall restore the well site, remove or fill all pits used to contain produced fluids or residual wastes and remove all drilling supplies, equipment and containment systems not needed for production. When multiple wells are drilled on a single well site, post drilling restoration is required within nine months after completion of drilling all permitted wells on the well site or 30 days after the expiration of all existing well permits on the well site, whichever occurs later in time. Drilling supplies and equipment not needed for production may only be stored on the well site if express written consent of the surface landowner is obtained and the supplies or equipment are maintained in accordance with §78.64a, where applicable.

e. Extension of site restoration period after drilling

(1) The restoration period may be extended by the Department for additional periods of time, not to exceed two years, upon demonstration by the well owner or operator that:

- i. The extension will result in less earth disturbance, increased water reuse and more efficient development of the resources; or
- ii. Site restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor

(2) The demonstration under 78.65(e)(1) shall:

- i. Be submitted within six (6) months after the completion of drilling for approval by the Department.
- ii. Include a site restoration plan that provides for:
 - (A) the timely removal or fill of all pits used to contain produced fluids or industrial wastes;
 - (B) the removal of all drilling supplies and equipment not needed for production;
 - (C) the stabilization of the well site that shall include interim postconstruction storm water management best management practices; or
 - (D) other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law.
- iii. Provide for returning the portions of the site not occupied by production facilities or equipment to approximate original contours and making them capable of supporting the uses that existed prior to drilling the well upon restoration.

- (3) Requests for extension that include the information described in (e)(2) above will be approved, denied, or deemed to be approved within 90 days of submission to the Department.

f. Restoration after plugging all wells on the well site

1. Within nine (9) months after plugging a well, the owner or operator shall remove all production or storage facilities, supplies and equipment and restore the well site according to the approved site restoration plan.
2. Within sixty (60) days after restoration of the well site, the operator shall submit a well site restoration report to the Department. The report shall be made on forms provided by the Department and shall identify the following:
 - i. The date of land application of any topsoil water, the results of pH and specific conductance tests and an estimated volume of discharge.
 - ii. A description of the method used for disposal or reuse of the free liquid fraction of the waste, and the name of the hauler and disposal facility, if any.
 - iii. The location, including GPS coordinates, of the pit in relation to the well, the depth of the pit, the type and thickness of the material used for the pit subbase, the type and thickness of the pit liner, the type and nature of the waste, the type of any approved solidifier, a description of the pit closure procedures used and the pit dimensions.
 - iv. The location of the area used for land application of the waste, and the results of a chemical analysis of the waste soil mixture if requested by the Department.
 - v. The types and volumes of waste produced and the name and address of the waste disposal facility and waste hauler used to dispose of the waste.
 - vi. The name, qualifications and basis for determination that the bottom of a pit used for encapsulation is at least 20 inches above the seasonal high groundwater table.
 - vii. The test results required by §§ 78.62 and 78.63 for all unconventional wells or any conventional wells with a horizontal well bore.
3. The well operator shall forward a copy of the well site restoration report to the surface landowner if the well operator disposes of drill cuttings or residual waste at the well site.

§ 78.66. Reporting and remediating releases.

Range comment:

Range recommends editing the title of this section to be consistent with the Department's references within this section.

Range also agrees with TAB's position in Section I of its July 18, 2013 Report and Recommendation Letter to the EQB that the Department's proposed Section 78.66 substantially increases the time and costs for addressing small spills of less than 42 gallons of a regulated substance, and that in most circumstances the costs to comply with the proposed regulation would far exceed the environmental benefit to be realized.

Suggested language:

§78.66. Reporting and remediating spills or releases

(a) Scope - This section applies to reporting and remediating spills or releases of regulated substances on or adjacent to well sites and access roads.

[(a) A](b) Reporting releases -

(1) An operator or responsible party shall report the following spills and releases of regulated substances to the Department in accordance with paragraph (2):

(i) A spill or release of a regulated substance causing or threatening pollution of the waters of this Commonwealth, [shall comply with the following reporting and corrective action requirements: of § 91.33 (relating to incidents causing or threatening pollution).]

(ii) A spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system.

Range comment:

Sections 78.66(b)(1) above and (2) below create a two-tiered release reporting system for the oil and gas industry that is unique to this industry. The oil and gas industry is already subject to the requirements for reporting releases pursuant to 25 Pa. Code § 91.33 that apply to all other regulated entities in Pennsylvania, as well as the numerous federal reporting requirements under CERCLA (40 C.F.R. 302), CWA (40 C.F.R. 112), and EPCRA (40 C.F.R. 355) that provide specified reportable quantity thresholds.

In addition to the requirements of Section 91.33, Section 78.66(b)(1) as currently proposed would impose an obligation to report any spill or release of 5 gallons or more of a regulated substance over a 24-hour period that is not completely contained by a containment system. This reporting obligation applies regardless of whether there is any actual or threatened impact to waters of the Commonwealth or any other impacts to the environment or to public health or safety. Assuming that EQB has proposed this section to replace the current "reportable release of brine" provision, Range

recommends that this additional requirement be clarified and limited to reporting releases of 5 gallons or more of brine outside of containment.

Suggested language:

(b) Reporting releases -

(1) An operator or responsible party shall report the following spills and releases to the Department in accordance with paragraph (2):

(i) A spill or release of a substance resulting or causing a danger of pollution of the waters of this Commonwealth as required by § 91.33 (relating to incidents causing or threatening pollution); or

(ii) A spill or release of 5 gallons or more of brine over a 24-hour period that is not completely contained by a containment system.

(2) In addition to the notification requirements of 25 Pa. Code § 91.33, the operator or responsible party shall contact the appropriate regional Department office by telephone or call the Department's statewide toll free number 1-800-541-2050 as soon as practicable, but no later than 2 hours after discovering the spill or release. To the extent known, the following information shall be provided:

(i) The name of the person reporting the incident and telephone number where that person can be reached.

(iii) The name, address and telephone number of the responsible party.

(iii) The date and time of the incident or when it was discovered.

(iv) The location of the incident, including directions to the site, GPS coordinates or the 911 address, if available.

(v) A brief description of the nature of the incident and its cause, what potential impacts to public health and safety or the environment may exist, including any available information concerning the contamination of surface water, groundwater or soil.

(vi) The estimated weight or volume of each regulated substance spilled or released.

(vii) The nature of any injuries.

(viii) Remedial actions planned, initiated or completed.

Suggested language:

(b) Reporting releases -

(1) In addition to the notification requirements of 25 Pa. Code § 91.33, an operator or responsible party shall report a spill or release of a regulated substance causing or threatening pollution of the waters of this Commonwealth. The operator or responsible party shall report

the spill or release using the procedures in paragraph (2).

(2) The operator or responsible party shall contact the appropriate regional Department office by telephone or call the Department's statewide toll free number 1-800-541-2050 as soon as practicable, but no later than 2 hours after discovering the spill or release. To the extent known, the following information shall be provided:

(i) The name of the person reporting the incident and telephone number where that person can be reached.

(ii) The name, address and telephone number of the responsible party.

(iii) The date and time of the incident or when it was discovered.

(iv) The location of the incident, including directions to the site, GPS coordinates or the 911 address, if available.

(v) A brief description of the nature of the incident and its cause, what potential impacts to public health and safety or the environment may exist, including any available information concerning impacts to surface water, groundwater or soil.

(vi) The estimated weight or volume of each regulated substance spilled or released.

(vii) The nature of any injuries.

(viii) Remedial actions planned, initiated or completed.

(3) Upon the occurrence of any spill or release, the operator or responsible party shall take necessary corrective actions to:

(i) Prevent the regulated substance from reaching the waters of the Commonwealth.

(ii) Prevent damage to property.

(iv) Prevent impacts to downstream users of waters of the Commonwealth.

Range comment:

This section describes actions that are to be taken following a spill or release. The provisions of this section are phrased as broad objectives to be achieved through response actions, and would potentially create liability where factors beyond the control of the operator prevent the attainment of the listed goals.

Suggested language:

(3) Upon the occurrence of any spill or release, the operator or responsible party shall take necessary corrective actions designed to achieve the following objectives:

- (i) Prevent the substance from reaching the waters of the Commonwealth.
- (ii) Prevent damage to property.
- (iii) Prevent impacts to downstream users of waters of the Commonwealth.

(4) The Department may immediately approve temporary emergency storage or transportation methods necessary to prevent or mitigate harm to the public health, safety or the environment. Storage may be at the site of the incident or at a site approved by the Department.

Range comment:

This section appears to be designed to facilitate emergency response measures by vesting the Department with certain discretionary powers to approve temporary emergency storage or transportation methods. It is unclear why treatment is not included in this list given that emergency treatment activities may be part of a response action. While Range supports the need for regulatory flexibility to facilitate emergency response actions, we believe that the provision does not go far enough. Specifically, the regulations should be clear that permits and other forms of formal authorization are not to be required where to do so would delay timely implementation of response actions. In that regard, Pennsylvania's regulations contain similar provisions to facilitate emergency response actions under other regulatory programs. (See, e.g., 25 Pa. Code 287.101(d)).

Suggested language:

(4) The Department shall not require a permit or other formal authorization for temporary emergency treatment, storage or transportation methods necessary to prevent or mitigate harm to the public health, safety or the environment. Treatment and storage may be at the site of the incident or at an appropriate alternative site. The operator or responsible party shall promptly notify the Department if treatment or storage will take place at a location that is not the site of the incident.

(5) After responding to a spill or release, the operator shall decontaminate equipment used to handle the regulated substance, including storage containers, processing equipment, trucks and loaders, before returning the equipment to service. Contaminated wash water, waste solutions and residues generated from washing or decontaminating equipment shall be managed as residual waste.

Range comment:

This section is designed to address steps to decontaminate equipment used in responding to a spill or release. This section requires that all equipment, including storage containers, processing equipment, trucks and loaders, be decontaminated in all instances following a response to a spill or release. Decontamination of equipment may be necessary if the equipment is going to be used for other purposes where cross-contamination could be an issue. However, a bright line mandate cuts too far. For example, if spilled diesel fuel is recovered and placed in a tank that is dedicated to holding diesel fuel, there would be little reason to empty and decontaminate the tank before putting more diesel fuel

in the tank. To address this issue, Range recommends revising Section 78.66(b)(5) as set forth below. In addition, the second sentence of Section 78.66(b)(5) describing how contaminated wash water, waste solutions and residues are to be managed is unnecessary. The classification of such materials will occur regardless of the provisions of the oil and gas regulations.

Suggested language:

(5) After responding to a spill or release, the operator shall decontaminate equipment used to handle the regulated substance, including storage containers, processing equipment, trucks and loaders, as necessary, before returning the equipment to service.

(c) Remediating releases - Remediation of an area affected by a spill or release is required. The operator or responsible party must remediate a release in accordance with one of the following:

(1) Spills or releases to the ground of less than 42 gallons at a well site that do not impact or threaten to pollute waters of the Commonwealth may be remediated by removing the soil visibly impacted by the release and properly managing the impacted soil in accordance with the Department's waste management regulations. The operator or responsible party shall notify the Department of its intent to remediate a spill or release in accordance with this paragraph at the time the report of the spill or release is made. Completion of the cleanup should be documented through the process outlined in 25 Pa.Code § 250.707(b)(1)(iii)(B) (relating to statistical tests).

Range comment:

With respect to the requirements for remediating small releases, Section 78.66(c) (1) provides that the operator or responsible party must notify the Department of its intent to invoke the provisions of Section 78.66(c) (1) at the time the spill or release is reported. It is unclear whether an operator or responsible party may make such a determination later after it has gathered additional information or the decision about a remediation approach must be made at the time of the initial notice (which is to be within two hours of discovering the release). Range requests that Section 78.66(c) (1) be clarified to allow an operator or responsible party to select the approach under that provision at a time after the initial notice is made, provided that the predicates for using the approach are met (e.g., the spill or release is less than 42 gallons). In addition, it is unclear what is intended by the last sentence of Section 78.66(c) (1) which cross references sampling protocols for petroleum release sites that are attaining the statewide health standard under Act 2 and a full site characterization has not been performed. The thrust of Section 78.66(c) (1) is to allow physical removal of soils impacted by small releases at a well site that do not impact or threaten to pollute waters of the Commonwealth. The last sentence of Section 78.66(c) (1) appears to engraft upon those requirements the entire attainment process for the statewide health standard under Act 2. Range requests that that sentence be removed.

Suggested language:

(1) Spills or releases to the ground of less than 42 gallons at a well site that do not impact or threaten to pollute waters of the Commonwealth may be remediated by removing the soil visibly impacted by the release and properly managing the impacted soil in accordance with the Department's waste management regulations. The operator or responsible party shall notify the Department of its intent to

remediate a spill or release in accordance with this paragraph at the time a report of the spill or release is made or thereafter when such a determination is made.

- (2) For spills or releases to the ground of more than 42 gallons or that impact or threaten pollution of waters of the Commonwealth, the operator or responsible person may satisfy the requirements of this subsection by demonstrating attainment of one or more of the standards established by Act 2 and 25 Pa.Code Chapter 250 (relating to administration of land recycling program).**

Range comment:

Neither Act 2 nor 25 Pa. Code Chapter 250 includes a statewide health standard for chlorides in soil. While brine releases or spills from oil and gas industry activities occur infrequently, when they do occur there are significant unnecessary complications and costs related to the remediation of these releases or spills that result from the lack of a chloride standard.

- (3) For releases of more than 42 gallons or that impact or threaten pollution waters of the Commonwealth, as an alternative to (2), the responsible party may remediate a spill or release using the Act 2 background or Statewide health standard in the following manner:**

(i) Within 15 business days of the spill or release, the operator or responsible party shall provide an initial written report that includes, to the extent that the information is available, the following:

- (A) The regulated substance involved,**
- (B) The location where the spill or release occurred,**
- (C) The environmental media affected,**
- (D) Impacts to water supplies, buildings or utilities, and**
- (E) Interim remedial actions planned, initiated or completed.**

(ii) The initial report shall also include a summary of the actions the operator or responsible party intends to take at the site to address the spill or release such as a schedule for site characterization, to the extent known, and the anticipated timeframes within which it expects to take those actions. After the initial report, any new impacts identified or discovered during interim remedial actions or site characterization shall also be reported in writing to the Department within 15 calendar days of their discovery.

(iii) Within 180 calendar days of the spill or release, the operator or responsible party must perform a site characterization to determine the extent and magnitude of the contamination and submit a site characterization report to the appropriate Department Regional Office describing the findings. The report shall include a description of any

interim remedial actions taken. For a background standard remediation, the site characterization shall contain information required by 25 Pa.Code § 250.204(b)-(e) (relating to final report). For a Statewide health standard remediation, the site characterization shall contain information required by 25 Pa.Code § 250.312(a) (relating to final report).

(iv) This report may be a final remedial action report if the interim remedial actions meets all of the requirements of an Act 2 background or Statewide health standard remediation or combination thereof. Remediation conducted under this section shall not be required to meet the notice and review provisions of these standards except as described in this section.

(v) If the site characterization indicates that the interim remedial actions taken did not adequately remediate the release the operator or responsible party must develop and submit a remedial action plan to the appropriate Regional Office of the Department for approval. The plan is due within 45 calendar days of submission of the site characterization to the Department. Remedial action plans should contain the elements outlined in 25 Pa.Code § 245.311(a) (relating to remedial action plan).

(vi) Once the remedial action plan is implemented, the responsible party must submit a final report to the appropriate Department Regional Office for approval. The Department will review the final report to ensure that the remediation has met all the requirements of the background or Statewide health standard or combination thereof, except the notice and review provisions. Relief from liability will not be available to the responsible party, property owner or person participating in the cleanup.

(vii) An operator or responsible party remediating a release pursuant to this paragraph may elect to utilize Act 2 at any time.

Range comment:

The Alternate Remediation process first proposed by the Department was intended to establish a simplified, expedited procedure for properly responding to a spill where Act 2 liability protection was not desired. Instead the Department has created a more complicated process that is more onerous than the full Act 2 process because of the restrictive timetables that apply.

Section 78.66(c) (3) reflects an alternative approach for remediating spills and releases using either the background or statewide health standard under Act 2 but not the site-specific approach under Act 2. Because all three cleanup standards under Act 2 are designed to be protective of public health and the environment, Range requests that the site-specific standard be included as an option under this provision. In addition, Section 78.66(c) (3) contains provisions that do not fully take into account the manner in which characterization and remediation activities may be conducted.

Suggested language:

(3) For releases of more than 42 gallons or that impact or threaten pollution of waters of the Commonwealth, as an alternative to the requirements in subsection (2), above, the operator or responsible party may remediate a spill or release using the background, Statewide health or site-specific standard under Act 2 in the following manner:

(i) Within 15 business days after the spill or release is reported, the operator or responsible party shall provide an initial written report to the Department that includes, to the extent that the information is available, the following:

- (A) The substance involved,
- (B) The location where the spill or release occurred,
- (C) The environmental media affected,
- (D) Impacts to water supplies, if any, and
- (E) Interim remedial actions planned, initiated or completed.

(ii) The initial report shall also include a summary of the actions the operator or responsible party intends to take at the site to address the spill or release such as a plan for site characterization, to the extent known, and the anticipated timeframes within which it expects to take those actions.

(iii) After submission of the initial report, impacted environmental media (such as groundwater) not previously reported that are identified or discovered during ongoing interim remedial actions or site characterization shall be reported in writing to the Department within 15 calendar days after their discovery.

(iv) Within 180 calendar days after the spill or release is initially reported or such later date as may be approved by the Department, the operator or responsible party shall perform a site characterization to determine the extent and magnitude of the contamination and shall submit a site characterization report to the appropriate Department Regional Office describing the findings. The site characterization report shall include a description of any interim remedial actions taken. For a background standard remediation, the site characterization report shall contain information described in 25 Pa. Code § 250.204(b)-(e) (relating to final report). For a Statewide health standard remediation, the site characterization report shall contain information described in 25 Pa. Code § 250.312(a) (relating to final report). For a site-specific standard remediation, the site characterization report shall contain information described in 25 Pa. Code § 250.408 (relating to remedial investigation report).

(v) The site characterization report required under subsection (iv), above, may serve as a final remedial action report if the remedial actions conducted prior to submission of the site characterization report meet the requirements to attain the background or Statewide health standard or combination thereof under Act 2 except the notice and review provisions.

(vi) If the site characterization report required under subsection (iv), above, indicates that the interim remedial actions taken did not remediate the release so as to attain the background or Statewide health standard or combination thereof under Act 2, the operator or responsible party must develop and submit a remedial action plan to the appropriate Regional Office of the

Department for approval. The plan is due within 45 calendar days after submission of the site characterization report and any supplements thereto to the Department. The remedial action plans should contain the elements described in 25 Pa.Code § 245.311(a) (relating to remedial action plan). The Department shall review and approve or disapprove the remedial action plan within 60 days after its receipt.

(vii) Once the remedial action plan is implemented, the responsible party shall submit a final report to the appropriate Department Regional Office for approval. The Department shall review the final report to ensure that the remediation has met all the requirements of the background, Statewide health standard, or site-specific standard or combination thereof under Act 2, except the notice and review provisions.

(viii) Relief from liability pursuant to Act 2 will not be available to the responsible party, property owner or person participating in the cleanup.

(ix) Remediation conducted under this section shall not be required to meet the notice and review provisions under Act 2 except as described in this section.

(x) An operator or responsible party remediating a release pursuant to this paragraph may elect to utilize Act 2 at any time.

§ 78.67. Borrow pits.

(a) An operator who owns or controls a borrow pit that does not require a permit pursuant to the Noncoal Surface Mining Conservation and Reclamation Act pursuant to the exemption in 3273.1(b) of the act (58 Pa. C.S. § 3273.1(b)) relating to noncoal borrow areas for oil and gas well development, shall operate, maintain and reclaim the borrow pit in accordance with the performance standards established in 25 Pa. Code Chapter 77 Subchapter I, 25 Pa. Code Chapter 102 and other applicable laws.

(b) Operators shall register the location of their existing borrow pits within 60 calendar days of the effective date of this section by providing the Department, in writing, with the GPS coordinates, township and county where the borrow pit is located. The operator shall register the location of a new borrow pit prior to construction.

(c) Borrow pits used for the development of oil and gas well sites and access roads that no longer meet the conditions under section 3273.1 of the act (58 Pa.C.S. § 3273.1) shall meet one of the following:

(1) be restored within nine months after completion of drilling all permitted wells on the well site or 30 calendar days after the expiration of all existing well permits on the well site, whichever occurs later in time.

(2) obtain a noncoal surface mining permit for its continued use, unless relevant

exemptions apply pursuant to the Noncoal Surface Mining Conservation and Reclamation Act and regulations promulgated thereunder. A two-year extension of the restoration requirement may be approved pursuant to section 78.65(d).

Range comment:

Range recommends that 78.67(b) be deleted. Sections 78.67(c)(1) and (2) provide adequate authority for the Department to ensure restoration of the borrow pit. In addition, Section 78.67(a) requires an operator who owns a borrow pit to operate, maintain and reclaim the borrow pit in accordance with the performance standards contained in Chapter 102 and Chapter 77.

Suggested language:

Delete Subsection 78.67(b)

§ 78.68. Oil and gas gathering lines.

(a) All earth disturbance activities associated with oil and gas gathering line installations and supporting facilities shall be limited to the construction right-of-way, work space areas, pipe storage yards, borrow and disposal areas, access roads and other necessary areas identified on the erosion and sediment control plan.

Range comment:

The Department's proposed language would not be necessary in light of Range's proposed change to Section 78.53 above. Gathering line construction is an "oil and gas operation," as defined in Act 13, and erosion and sediment control requirements for oil and gas operations are addressed in Section 78.53.

Suggested language:

Delete Subsection 78.68(a).

(b) Highly visible flagging, markers or signs shall be used to identify the shared boundaries of the limit of disturbance, wetlands and locations of threatened or endangered species habitat, prior to land clearing. The flagging, markers or signs shall be maintained throughout earth disturbance activities, and restoration or PCSM activities.

(c) The operator shall maintain topsoil and subsoil during excavation pursuant to the following, unless otherwise authorized by the Department:

(1) Topsoil and subsoil must remain segregated until restoration.

(2) Topsoil and subsoil must be prevented from entering watercourses and bodies of water.

(3) Topsoil cannot be used as bedding for pipelines.

(4) Native topsoil or imported topsoil must be of equal or greater quality to ensure the land is capable of supporting the uses that existed prior to earth disturbance.

(d) Backfilling of the gathering line trench shall be conducted in a manner that minimizes soil compaction to ensure that water infiltration rates of the soil have not been decreased.

Range comment:

Soil compaction above original conditions along the trench line may occur in areas of steep terrain to prohibit water penetration, as water penetration can create the potential for saturated soil and large scale sediment transport. The presumed goal of this section is to ensure vegetative growth post construction. Range requests that the measureable requirement of this section be removed as it could unnecessarily require extensive, costly pre/post construction soil compaction analysis.

Suggested language:

(e) Backfilling of the gathering line trench shall be conducted in a manner that minimizes soil compaction to ensure that vegetative growth can be established during restoration.

(e) Equipment shall not be refueled within the jurisdictional floodway of any watercourse or within 50 feet of any body of water.

(f) Materials staging areas shall be outside of a jurisdictional floodway of any watercourse or greater than 50 feet from any body of water.

Range comment:

Requiring that all materials be staged outside the floodway or greater than 50 feet from a water body can sometimes be very difficult to achieve (such as during open trenching across a creek, where the creekbed materials must be temporarily staged prior to replacement), or may result in additional environmental impacts due to increased hauling distances. Range requests that language be added to allow for an alternate approach to be considered and approved, depending on site-specific circumstances.

Suggested language:

(f) Materials staging areas shall be outside of a jurisdictional floodway of any watercourse or greater than 50 feet from any body of water, unless an alternative plan is approved by the Department.

(g) The gathering line operator shall maintain the pipeline right-of-way, service roads and points of access to minimize the potential for accelerated erosion and sedimentation and to manage post construction stormwater and minimize impacts to existing riparian buffers in accordance with 25 Pa. Code Chapter 102.

Range comment:

The Department's proposed language would not be necessary in light of Range's proposed change to Section 78.53 above. Gathering line construction is an "oil and gas operation," as defined in Act 13, and erosion and sediment control requirements for oil and gas operations are addressed in Section 78.53.

Suggested language:

Delete Subsection 78.68(g).

(h) All buried metallic gathering lines shall be installed and placed in operation in accordance with 49 CFR Pt. 192 or 195 (relating to transportation of natural and other gas pipeline: minimum Federal safety standards; and transportation of hazardous liquids by pipeline.)

Range comment:

Requiring that all buried metallic gathering lines comply with the entirety of the requirements in 40 CFR 192 and 195, as proposed, goes well beyond the Act 13, Section 3218.4(a) requirement that only references compliance with 49 CFR 192, Subpart I (relating to corrosion control). This paragraph should be revised to only reference the relevant corrosion control aspects of the Federal regulations, consistent with Act 13.

Suggested language:

(h) All buried metallic gathering lines shall be installed and placed in operation in accordance with 49 CFR 192, Subpart I, or 49 CFR 195, Subpart H (relating to corrosion control).

§ 78.68a. Horizontal directional drilling for oil and gas pipelines.

(a) Any horizontal directional drilling associated with pipeline construction related to oil and gas operations, including gathering and transmission pipelines, that occurs beneath any body of water or watercourse must be authorized by the Department in accordance with 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).

Range comment:

Inclusion of the phrase "pipeline construction related to oil and gas operations" is confusing. Pipeline construction is included in the definition of "oil and gas operation." Range recommends that the introductory clause be clarified to read as follows: "Any horizontal directional drilling that is associated with construction of an oil and gas pipelines, including gathering and transmission pipelines, that occurs beneath any body ..." Additionally the reference to Chapter 102 would not be necessary in light of Range's proposed change to Section 78.53 above. Pipeline construction is an "oil

and gas operation,” as defined in Act 13, and erosion and sediment control requirements for oil and gas operations are addressed in Section 78.53.

Suggested language:

(a) Any horizontal directional drilling that is associated with construction of oil and gas pipelines, including gathering and transmission pipelines, that occurs beneath any body of water or watercourse must be authorized by the Department in accordance with 25 Pa. Code Chapter 105.

(b) Prior to commencement of any horizontal directional drilling activity, the directional drilling operator shall develop a PPC plan pursuant to 25 Pa. Code § 102.5(l) (relating to permit requirements). The PPC plan shall include a site specific contingency plan that describes the measures to be taken to control, contain and collect any discharge of drilling fluids and minimize impacts to waters of the Commonwealth. The PPC plan must be present on site during drilling operations and made available to the Department upon request.

Range comment:

This provision is redundant of the Department’s proposed Section 78.55(a), which would apply to all “oil and gas operations,” as defined. Additionally, the directional drilling operator probably is not the most appropriate individual to develop a PPC plan, since the developer of the gathering line already has this obligation pursuant to Section 78.55(a). Accordingly, Range believes that Subsection 78.86a(b) is not necessary.

Suggested language:

Delete Subsection 78.68a(b).

(c) The Department shall be notified at least 24 hours prior to commencement of any horizontal directional drilling activities, including conventional boring, beneath any body of water or watercourse. Notice shall be made electronically to the Department through its website and include the name of the municipality where the activities will occur, GPS coordinates of the entry point of the drilling operation and the date when drilling will commence.

(d) All required permits and Material Safety Data Sheets shall be on site during horizontal directional drilling operations and be made available to the Department upon request.

(e) Materials staging areas shall be outside of a floodway, as that term is defined in 25 Pa. Code Chapter 105, of any watercourse or greater than 50 feet from any body of water.

Range comment:

Range recommends that the language be clarified to reflect that the referenced materials staging areas are for horizontal directional drilling operations.

Also, requiring that all materials be staged outside the floodway or greater than 50 ft from a water body can sometimes be very difficult to achieve, or may result in additional environmental impacts due to increased hauling distances. Range requests that language be added to allow for an alternate approach to be considered and approved, depending on site-specific circumstances.

Suggested language:

(e) Unless an alternative plan is approved by the Department, materials staging areas for horizontal directional drilling operations shall be outside of a floodway, as that term is defined in 25 Pa. Code Chapter 105, of any watercourse or greater than 50 feet from any body of water.

(f) Drilling fluid additives other than bentonite and water must be approved by the Department prior to use. All approved horizontal directional drilling fluid additives shall be listed on the Department's website.

(g) Horizontal directional drilling operations shall be monitored for pressure and loss of drilling fluid returns. Bodies of water and watercourses over and adjacent to horizontal directional drilling operations shall also be monitored for any signs of drilling fluid discharges. Monitoring shall be in accordance with the PPC Plan.

Range comment:

Monitoring for pressure and loss of fluid returns can vary and require frequent modifications. Loss of fluid and/or pressure does not always yield an inadvertent return, thus monitoring requirements should not be memorialized in a PPC plan. Range suggests clarifying this statement to ensure that monitoring for discharges be established, but not monitoring for pressure and fluid loss.

Suggested language:

(g) Horizontal directional drilling operations shall be monitored for pressure and loss of drilling fluid returns. Bodies of water and watercourses over and adjacent to horizontal directional drilling operations shall also be monitored for any signs of drilling fluid discharges. Monitoring for signs of drilling fluid discharge shall be in accordance with the PPC plan.

(h) Horizontal directional drilling activities shall not result in a discharge of drilling fluids to waters of the Commonwealth. If a discharge occurs during horizontal directional drilling activities, the drilling operator shall immediately implement the contingency plan developed pursuant to subsection (b).

Range comment:

Horizontal directional drilling activities will be performed under Department authorization, per paragraph (a), and in accordance with a site-specific PPC plan. For purposes on paragraph (h), it should be sufficient to specify that the contingency plan portion of the PPC Plan must be implemented.

Suggested language:

If a discharge of drilling fluids to waters of the Commonwealth occurs during horizontal drilling activities, the drilling operator shall immediately implement the contingency plan portion of the site-specific PPC plan.

(i) When a drilling fluid discharge or loss of drilling fluid circulation is discovered, the loss or discharge shall be immediately reported to the Department, and the operator shall request an emergency permit under 105.64 (relating to emergency permits), if necessary.

Range comment:

It may not be practical or reasonable for industry to report all "loss of drilling fluid circulation," particularly when the fluid does not come to the surface.

Suggested language:

(i) When a drilling fluid discharge is discovered, the operator shall request an emergency permit under 105.64 (relating to emergency permits), if necessary.

(j) Any water supply complaints received by the operator shall be reported to the Department within 24 hours through the Department's website.

(k) Horizontal directional drilling fluid returns and drilling fluid discharges shall be contained, stored and recycled or disposed of in accordance with Part I, Subpart D, Article IX (relating to residual waste management).

Range comment:

Range supports the beneficial reuse of drilling fluid, and requests that provisions be included in the proposed subsection.

Suggested language:

(k) Horizontal directional drilling fluid returns and drilling fluid discharges shall be contained, stored and recycled or disposed or beneficially reused in accordance with Part I, Subpart D, Article IX (relating to residual waste management).

§ 78.68b. Temporary pipelines for oil and gas operations.

Range comment:

This title is confusing. Temporary pipelines constitute an "oil and gas operation" as defined by Act 13, (see change to definition of temporary pipelines above), so the inclusion of "for oil and gas operation" is redundant. Range suggests revising the heading to simply state: "Temporary pipelines."

(a) Temporary pipelines must meet applicable requirements in Chapters 102 and 105 (relating to erosion and sediment control; dam safety and waterway management).

Range comment:

The language relating to Chapter 102 would not be necessary in light of Range's proposed change to Section 78.53 above. Temporary pipeline construction is an "oil and gas operation" (see change to definition of "temporary pipelines" above), as defined in Act 13, and erosion and sediment control requirements for oil and gas operations are addressed in Section 78.53.

Suggested language:

(a) Temporary pipelines must meet applicable requirements in Chapter 105.

(b) Temporary pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall be installed aboveground except when crossing pathways, roads or railways where the pipeline may be installed below ground surface.

Range comment:

There are instances where it may be more practical and/or less invasive to cross watercourses and/or bodies of water below ground surface. On January 9, 2014 Range provided similar comments to the Department regarding the Department's proposed reissuance of General Permit BWEW-GP-8.

Suggested language:

(b) Temporary pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall be installed aboveground except when crossing pathways, roads, railways, watercourses, or bodies of water where the pipeline may be installed below ground surface.

(c) Temporary pipelines cannot be installed through existing stream culverts, storm drain pipes or under bridges without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification of culverts and bridges).

Range comment:

There may be instances where culverts, casing, or apparatuses which could be construed as culverts were previously installed for the specific purpose of installing temporary piping across impediments.

Also, with respect to bridges, language should be added to clarify that this applies only to bridges over water (i.e. bridges subject to 25 Pa. Code Chapter 105, Subchapter C).

Suggested language:

(c) Temporary pipelines cannot be installed through existing stream culverts, storm drain pipes or under bridges subject to Chapter 105, Subchapter C, without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification of culverts and bridges); except where such structures were previously specifically installed for this purpose.

(d) The section of a temporary pipeline crossing over a watercourse or body of water, except wetlands, shall not have joints or couplings. Temporary pipeline crossings over wetlands shall utilize a single section of pipe to the extent practicable. Shut off valves shall be installed on both sides of the temporary crossing.

Range comment:

There may be instances where the width of a stream exceeds the length of a section of temporary pipe, thus a joint or coupling may be required to install the crossing. Range recommends insertion of the term "minimum number" to allow for this scenario.

Suggested language:

(d) The section of a temporary pipeline crossing over a watercourse or body of water, except wetlands, shall have the minimum number of joints or couplings. Temporary pipeline crossings over wetlands shall utilize a single section of pipe to the extent practicable. Shut off valves shall be installed on both sides of the temporary crossing.

(e) In addition to the requirements of subsection (c), temporary pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall have shut off valves, check valves or other method of segmenting the pipeline placed at designated intervals, to be determined by the pipeline diameter, that prevent the discharge of no more than 1000 barrels of fluid. Elevation changes that would effectively limit flow in the event of a pipeline leak shall be taken into consideration when determining the placement of shut off valves and be considered effective flow barriers.

(f) Highly visible flagging shall be placed at regular intervals, no greater than 75 feet, along the entire length of the temporary pipeline.

Range comment:

An allowance for alternative marking methods is required in this section as cattle and other farm animals may destroy typical flagging.

Suggested language:

(f) Highly visible flagging, or other alternative marking method approved by the Department, shall be placed at regular intervals, no greater than 75 feet, along the entire length of the temporary pipeline.

(g) Temporary pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved or altered. A passing test is holding 125% of the anticipated maximum pressure for two hours. Leaks or other defects discovered during pressure testing shall be repaired prior to use.

Range comment:

Similar to paragraphs (b) and (e), this type of prescriptive pressure testing requirement should be limited to pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, or in the alternative, a 15 minute (rather than 2 hour) pressure test should be adequate for those water sources.

Suggested language:

(g) Temporary pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved or altered. For temporary pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, a passing test is holding 125% of the anticipated maximum pressure for two hours. Leaks or other defects discovered during pressure testing shall be repaired prior to use.

(j) Temporary pipelines not in use for more than 7 calendar days shall be emptied and depressurized.

Range comment:

Range suggests replacing the word “and” with the word “or”, as both will relieve pressure on the pipe, reducing the potential for discharge. There may be instances where an operator intends to utilize the pipeline within a reasonable timeframe after the initial “use”. Dewatering the entire pipeline would be a wasteful and unnecessary action.

Suggested language:

(j) Temporary pipelines not in use for more than 7 calendar days shall be emptied or depressurized.

(m) An operator must keep records regarding the location of all temporary pipelines, the type of fluids transported through those pipelines, and the approximate period of time that the pipeline was installed. Such records must be made available to the Department upon request.

Range comment:

Range requests the Department define the timeframe for which records must be kept.

Suggested language:

(m) An operator must keep records regarding the location of all temporary pipelines, the type of fluids transported through those pipelines, and the approximate period of time that the pipeline was in use. These records should be kept for the duration of the use of the pipeline and for a period of one (1) year after the end of use. Such records must be made available to the Department upon request.

§78.69. Water management plans.

(a) *WMPs for unconventional well operators.* An unconventional well operator shall obtain a Department approved WMP under section 3211 (m) of the act relating to well permits prior to withdrawal or use of water sources for drilling or completing an unconventional well.

Range comment:

Language noting that a water management plan is not needed for water source locations outside of Pennsylvania should be added.

The section title should also be modified to make it clear that the entire Section 78.69 only applies to unconventional well operators.

Suggested language:

§78.69. Water management plans for unconventional well operators.

(a) *WMPs for unconventional well operators.* An unconventional well operator shall obtain a Department approved WMP under 3211(m) of the act (relating to well permits) prior to withdrawal or use of water sources from within this Commonwealth for drilling or completing an unconventional well.

(b) *Implementation.* The requirements imposed by the Susquehanna River Basin Commission pertaining to:

- (1) posting of signs at water withdrawal locations,**
- (2) monitoring of water withdrawals or purchases,**
- (3) reporting of withdrawal volumes, in-stream flow measurements and water source purchases and,**
- (4) record keeping shall be implemented in the Ohio River Basin. Reports required in all river basins of the Commonwealth shall be submitted electronically to the Department.**

Range comment:

The SRBC "requirements" that the Department would impose under this section are ambiguous as written. Do the requirements stem from the Compact, Federal regulations promulgated under the Compact, SRBC policy documents, or individual dockets? Some SRBC requirements are part of individual water withdrawal docket conditions and could not be implemented outside of the SRBC. In addition, the Department would impose conditions on water withdrawals or purchases solely by this industry in the Ohio River basin without imposing such conditions on other industries withdrawing or purchasing water. This proposal to adopt SRBC requirements lack specificity and cannot be implemented as written.

Suggested language:

Delete section 78.69(b).

(c) *Reuse plan.* An unconventional well operator submitting a WMP application shall develop a reuse plan for fluids that will be used to hydraulically fracture wells. A wastewater source reduction strategy in compliance with 25 Pa. Code Chapter 95.10(b) will satisfy the reuse plan requirement. An unconventional well operator shall make the reuse plan available for review by the Department upon request.

(d) When applicable, the requirements of this section are presumed to be achieved for those portions of a WMP for which there is an approval from the Susquehanna River Basin Commission, the Delaware River Basin Commission or the Great Lakes Commission. Nothing in this subparagraph shall effect the requirement in (a) for a WMP approved by the Department.

Range comment:

A process for amending WMPs should be added to this section.

Suggested language:

(e) *Amendments.* Amendments to an approved water source in a WMP may be submitted during the 5 year term for withdrawal or use of the approved water source, on forms provided by the Department. Such amendments will be considered valid if no response from the Department is received within 30 days of receipt of submission of the form requesting the amendment.

(e) *Expiration.* Individual water sources within a WMP are valid for 5 years.

(f) *Renewal.* A WMP renewal application shall be submitted at least 6 months prior to the expiration of the 5 year term for withdrawal or use of a water source under a WMP.

Range comment:

Proposed Subsections 78.69(e) and (f) should be revised to allow for the administrative extension of individual water sources within a WMP where the operator has submitted a timely renewal

application, in the event that the Department does not act in a manner to renew the individual water source before the 5 year expiration date.

Additionally, a phase-in period of 6 months from the effective date of the final regulation should be added to the proposed renewal subsection (f) for water sources approved under a WMP.

Suggested language:

(e) *Expiration.* Individual water sources within a WMP are valid for 5 years, unless the approval to use the individual water source is administratively extended or renewed.

(f) *Renewal and Extension.* A renewal application for individual water sources within a WMP shall be submitted at least 6 months prior to the expiration of the 5 year term for withdrawal or use of the individual water source. If the Department does not act upon a timely submittal of a renewal application by the WMP holder within the 5 year term, the approval of the individual water source is deemed to be administratively extended until such time as the Department acts on the unconventional well operator's renewal application for that individual water source. This subsection shall go into effect 6 months after the effective date of the final regulation.

(i) *Denial.* **The Department may deny approval of a WMP for any of the following reasons:**

- (1) The WMP application is administratively incomplete.**
- 2) The WMP will adversely affect the quantity or quality of water available to other users of the same water sources.**
- (3) The WMP will not protect and maintain the designated and existing uses of the water sources.**
- (4) The WMP will cause an adverse impact to water quality in the watershed as a whole.**

Range comment:

This section with respect to "denial" has reversed the language Section 3211(m)(2) of Act 13 that requires approval when water management plans meet the listed criteria. The language should accurately track that of Act 13 so that the burden is not shifted inappropriately. Additionally, the Department shall notify the operator if it denies an operator's application to withdraw or use a water source.

Suggested language:

(i) The Department shall review and approve water management plans based upon a determination that the proposed withdrawal, when operated in accordance with the proposed withdrawal operating conditions set forth in the plan, including conditions relating to quantity, withdrawal rate and timing and any passby flow conditions, will:

- (1) Not adversely affect the quantity or quality of water available to other users of the same water sources;
- (2) Protect and maintain the designated and existing uses of water sources;
- (3) Not cause adverse impact to water quality in the watershed considered as a whole; and
- (4) Include a reuse plan for fluids that will be used to hydraulically fracture wells.

The Department shall notify an operator in writing if it has denied an operator's application for the withdrawal or use of a water source for inclusion in the operator's WMP.

§ 78.73. General provision for well construction and operation.

(a) The operator shall construct and operate the well in accordance with this chapter and ensure that the integrity of the well is maintained and health, safety, environment and property are protected.

(b) The operator shall prevent gas, oil, brine, completion and servicing fluids, and any other fluids or materials from below the casing seat from entering fresh groundwater, and shall otherwise prevent pollution or diminution of fresh groundwater.

(c) Orphaned or abandoned wells identified pursuant to section 78.52a that likely penetrate a formation intended to be stimulated shall be visually monitored during stimulation activities. The operator shall immediately notify the Department of any change to the orphaned or abandoned well being monitored and take action to prevent pollution of waters of the Commonwealth or discharges to the surface.

(d) An operator that alters an orphaned or abandoned well by hydraulic fracturing shall plug the orphaned or abandoned well.

Range comment:

The location coordinates for a large number of wells that may exist in the Department's database are likely derived from sources other than field GPS coordinates. Some coordinates may have been derived from old maps. For a variety of reasons, a well with a lat/long coordinate in the Department's database may not be visible on the ground, because the coordinates are inaccurate, or possibly because the well does not exist. The obligation to visually monitor wells is subjective. It is not practical to continuously monitor wells over long periods of time. The use of electronic monitoring may be possible in some cases.

Suggested language:

(c) Orphaned or abandoned wells in the vicinity of a well which is hydraulically fractured that are identified pursuant to section 78.52a(c) and that can be located on the ground using reasonable efforts shall be monitored during periods of actual fluid pumping operations, provided that surface access to

such wells can be obtained. Such monitoring shall include a visual inspection of the well at least every four hours, or following each stage of hydraulic fracturing, whichever is shorter, or other monitoring arrangement approved by the Department. The operator shall immediately notify the Department of any change to the well being monitored and take action to prevent pollution of waters of the Commonwealth or discharges to the surface.

..*

§ 78.122. Well record and completion report.

(a) For each well that is drilled or altered, the operator shall keep a detailed drillers log at the well site available for inspection until drilling is completed. Within 30 calendar days of cessation of drilling or altering a well, the well operator shall submit a well record to the Department on a form provided by the Department that includes the following information:

* * *

Range comment:

It is recommended that the Department recognize and accept the submission of a computer based drillers log.

* * *

(6) Stimulation record which includes the following:

(i) A descriptive list of the chemical additives in the stimulation fluid, including any acid, biocide, breaker, brine, corrosion inhibitor, crosslinker, demulsifier, friction reducer, gel, iron control, oxygen scavenger, pH adjusting agent, proppant, scale inhibitor and surfactant.

(ii) The percent by **[volume] mass** of each chemical additive in the stimulation fluid.

(iii) **[A list of the chemicals in the Material Safety Data Sheets, by name and chemical abstract service number, corresponding to the appropriate chemical additive.] The trade name, vendor and a brief descriptor of the intended use or function of each chemical additive in the stimulation fluid.**

(iv) **[The percent by volume of each chemical listed in the Material Safety Data Sheets.] A list of the chemicals intentionally added to the stimulation fluid, by name and chemical abstract service number.**

(v) **The maximum concentration, in percent by mass, of each chemical intentionally added to the stimulation fluid.**

[(v)] (vi) The total volume of the base fluid.

[(vi)] (vii) A list of water sources used under an approved water management plan and the volume of water used from each source.

[(vii)] (viii) The total volume of recycled water used.

[(viii)] (ix) The pump rate and pressure used in the well.

(7) Actual open flow production and shut in surface pressure.

(8) Open flow production and shut in surface pressure, measured 24 hours after completion.

(9) The freshwater and centralized impoundment, if any, used in the development of the well.

Range comment:

Range recommends changing impoundment to “impoundments” recognizing and allowing operator flexibility to efficiently acquire and utilize freshwater and flowback and minimize truck traffic and reduce transportation costs.

(c) When the well operator submits a stimulation record, it may designate specific portions of the stimulation record as containing a trade secret or confidential proprietary information. The Department will prevent disclosure of the designated confidential information to the extent permitted under the Right-to-Know Law (65 P. S. §§ 67.101—67.3103) or other applicable state law.

[(d) In addition to submitting a stimulation record to the Department under subsection (b), and subject to the protections afforded for trade secrets and confidential proprietary information under the Right-to-Know Law, the operator shall arrange to provide a list of the chemical constituents of the chemical additives used to hydraulically fracture a well, by chemical name and abstract service number, unless the additive does not have an abstract service number, to the Department upon written request by the Department.]

Range comment:

Section 78.122 sets forth requirements relating to well records and completion reports. With respect to the proposed revisions to Section 78.122(b) related to well completion reports, the revisions recognize the fact that vendors and service providers hired by well operators do not disclose to the operators certain information about the chemicals added to the stimulation fluid because that information is considered by the vendor or service provider to be a trade secret or confidential proprietary information. This dynamic is reflected in the current oil and gas regulations at 25 Pa. Code §78.122(d), which recognizes the relationship among operators, vendors and service providers by allowing operators to arrange to have their vendors and service providers provide certain information directly to the Department when necessary. Range appreciates that the Department has retained this concept in its proposed revisions to Chapter 78 and supports those proposed changes to Section 78.122(b).

In a scenario, where a vendor or service provider is providing information directly to the Department in accordance with Section 78.122(b), as proposed it is the vendor or service provider that considers

the information to be a trade secret or confidential proprietary information. Consistent with that framework, Range believes that Section 78.122(c), as proposed, should be revised slightly to recognize that the vendor or service provider (as opposed to the operator) may be the entity designating the information submitted directly to the Department as a trade secret or confidential proprietary information. These minor changes will harmonize the requirements in Section 78.122(c), as proposed, with the structure reflected in both Section 78.122(b), as proposed, and as currently exists in the oil and gas regulations.

Suggested language:

(c) When a stimulation record is submitted, specific portions of the stimulation record may be designated as containing a trade secret or confidential proprietary information. The Department will prevent disclosure of the designated confidential information to the extent permitted under the Right-to-Know Law (65 P.S. §§67.101-67.3103) or other applicable state law.

§ 78.123. Logs and additional data.

(a) If requested by the Department within 90 calendar days after the completion **[of drilling]** or recompletion **of drilling [of a well]**, the well operator shall submit to the Department a copy of the electrical, radioactive or other standard industry logs run on the well.

(b) In addition, if requested by the Department within 1 year of the completion **[of drilling]** or recompletion **of drilling [a well]**, the well operator shall file with the Department a copy of the drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis and lithologic log or sample description or other similar data as compiled. No information will be required unless the operator has had the information described in this subsection compiled in the ordinary course of business. No interpretation of the data is to be filed.

[(b)] (c) Upon notification by the Department prior to drilling, the well operator shall collect additional data specified by the Department, such as representative drill cuttings and samples from cores taken, and other geological information that the operator can reasonably compile. **Interpretation of the data is not required to be filed.**

[(c)] (d) [The information requested by the Department] Data required under subsections [(a)] (b) and [(b)] (c) shall be retained by the well operator and filed with [provided to] the Department [by the operator, within] no more than 3 years after completion of the well. [unless the Department has granted an extension or unless the Department has requested information as described in subsection (d). If the Department has granted an extension, the information shall be submitted in accordance with the extension, but in no case may the extension exceed 5 years from the date of completion of the well.] Upon request, the Department shall extend the deadline up to five years from the date of completion of the well.

[(d)] (e) [In accordance with the request of the Department, the operator shall submit the information described in this section for use in investigation or enforcement proceedings,

or in aggregate form for statistical purposes.] The department shall be entitled to utilize information collected under this subsection in the enforcement proceedings, in making designations or determinations under section 1927-A of The Administrative Code of 1929 and in aggregate form for statistical purposes.

Range comment:

The existing regulations provide that operators have 3 years following "completion of drilling or recompletion of a well" to submit logs and other data requested by the Department, effectively providing a 3 year period of confidentiality. The draft revision seems to require that logs be submitted within 90 days of "completion or recompletion of drilling." It seems reasonable that such data should be kept confidential for a period of time, particularly if requested by the operator. It also seems reasonable that the Department should have access to such information, upon request for use in environmental investigations or violations or to otherwise protect public health and safety.

Suggested language:

(a) If requested by the Department within 90 calendar days after the completion of drilling or recompletion of drilling of a well, the well operator shall submit to the Department a copy of the electrical, radioactive or other standard industry logs run on the well. Any data submitted pursuant to paragraphs (a), (b) and (c) shall be held confidential by the Department for a period of three years following completion of drilling or deepening.

* * *