

# Regulatory Analysis Form

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INDEPENDENT REGULATORY  
REVIEW COMMISSION

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(1) Agency

Department of Environmental Protection

(2) Agency Number:

Identification Number: #7-484

IRRC Number: 3042 .

(3) PA Code Cite: 25 Pa. Code Chapter 78 Subchapter C

(4) Short Title:

Environmental Protection Performance Standards at Oil & Gas Sites

(5) Agency Contacts (List Telephone Number and Email Address):

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(6) Type of Rulemaking (check applicable box):

Proposed Regulation

Final Regulation

Final Omitted Regulation

Emergency Certification Regulation;

Certification by the Governor

Certification by the Attorney General

(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)

This regulation relates to surface activities at oil and gas well sites. The goal of this regulation is to set performance standards for surface activities at oil and gas well sites and to prevent and minimize spills and releases to the environment.

These proposed regulations seek to update existing requirements related to surface activities associated with the development of oil and gas wells, including containment of regulated substances; waste disposal, site restoration; and reporting releases.

These proposed regulations also establish new provisions for borrow pits; oil and gas gathering pipelines; identification of abandoned wells and the road-spreading of brine. Additionally, these proposed regulations add new requirements associated with the identification of the impacts to public resources from the construction of oil and gas well sites; standards for freshwater and wastewater impoundments; wastewater processing and water management plans.

(8) State the statutory authority for the regulation. Include specific statutory citation.

This proposed rulemaking is being made under the authority of Sections 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c), and 3274 of the 2012 Oil and Act (58 Pa.C.S. §§ 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c), 3274), Section 5 of the Clean Streams Law (35 P. S. § 691.5), Section 105 of the Solid Waste

Management Act (35 P. S. § 6018.105), Section 5 of the Dam Safety and Encroachments Act (32 P.S. § 693.5), Section 104 of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (35 P.S. § 6062.104); and Sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-17, 510-20)

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

A number of the proposed provisions in the rulemaking are mandated by the 2012 Oil and Gas Act (58 Pa.C.S. §§ 3201—3274) including the following:

- Establish a streamlined process for addressing potential impacts to public resources (§3215 (c) & §3215 (e)).
- Require the landowner to be notified of the implications of refusing to let operators take a pre-drill water supply sample (§3211 (b.1)).
- Require well site tanks to meet the applicable corrosion control requirements of the Department's storage tank regulations (§3218.4 (b)).
- Require all buried metallic gathering lines to be installed and placed in operation in accordance with 49 CFR Pt. 192 or 195 (relating to the requirements for corrosion control) (§3218.4 (a)).
- Establish secondary containment requirements for regulated substances at unconventional well sites (§3218.2).
- Codify water management plan requirements (§3211 (m)).
- Require well construction reports to include the country of origin of the well casing (§3222 (b.1)(2)(ii)).

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

The proposed regulations will amend the current oil and gas well regulations and add additional controls to the surface activities on a well site. Over the last several years, there has been a dramatic increase in the total number of unconventional wells drilled throughout the Commonwealth. To release the gas imbedded in an unconventional shale formation, operators use heavy machinery and millions of gallons of water. This process is commonly referred to as "hydraulic fracturing" or "fracking". As a result, the area of earth disturbance at an unconventional well site during the drilling and hydraulic fracturing stages is at least 10 times the size of earth impacted at a conventional well site. Additionally, industrial waste is produced while drilling and hydraulically fracturing an unconventional well. These proposed regulations were also developed to address the surface impacts related to earth disturbance and the management of regulated substances including chemicals and residual waste.

When 25 Pa. Code Chapter 78 Subchapter C was last updated in 2001, the technology and potential impacts to the environment from extracting natural gas from unconventional shale formations were not contemplated. Historically Pennsylvania has been a very large oil and natural gas producer, but not since

the turn of the 20<sup>th</sup> century has the current magnitude of well development occurred. On February 14, 2012, Governor Corbett signed Act 13 of 2012 into law. The 2012 Oil and Gas Act contains new environmental protections and directs the Environmental Quality Board to promulgate specific regulations. As part of this effort, DEP evaluated all surface activity regulations and based on its analysis decided to initiate this comprehensive rulemaking.

Since oil and gas well drilling occurs in over 60% of the Commonwealth and oil and gas pipeline activities occur throughout the entire Commonwealth, all of its citizens will benefit from more robust and comprehensive regulations. The regulated community will benefit from this rulemaking since it streamlines authorization approval processes and establishes performance based requirements that will avoid or minimize environmental impacts that are costly to remediate. Many of the environmental performance standards contained in this proposed rulemaking are either a codification of current statutory or permit requirements or are already standard industry practices. As a whole, these proposed regulations will strengthen measures aimed at reducing the potential impacts that oil and gas activities may have on the environment.

These proposed measures protect the environment, in the interest of the public and the regulated community through the various updated provisions, including the following:

#### **Addressing Potential Impacts to Public Resources**

Under Section 78.15 the Department proposes the establishment of a streamlined process for addressing potential impacts to public resources during the well permitting process, as required by Act 13 of 2012. If a well site is within a specified distance to a public resource (such as a park, scenic river, national natural landmark, a historical site, water supply used by a water purveyor, or special concern species) the operator will be required to notify the appropriate Federal or State resource agency. The operator's notification should address the functions and uses of the resource and the measures the operator proposes to avoid or minimize probable harmful impacts to the resource. The resource agency which will have 15 days to provide written comments to DEP. DEP will then make a determination on the permit and include conditions (if any) it deems necessary to prevent the probable harmful impact. It is these public resources that are a major economic contributor to Pennsylvania through tourism, outdoor fish and game sports and recreation. The bounty of public resources Pennsylvania possesses improves the quality of life for its residents and all those who visit. This provision will ensure the continued uses and benefits of those public resources throughout the Commonwealth.

#### **Notifications**

##### *Landowner notification*

To ensure that landowners make the best decisions for their property and understand the implications of refusing a pre-drill water supply survey, operators will be required to notify landowners that if their water supply becomes impacted and they have refused to allow the operator to perform a pre-drilling survey of their water supply, the presumption of liability provided by Act 13 will not apply. The presumption of liability (from Act 13 §3218 (c)) states that an operator is responsible for pollution of a water supply within 1,000 feet and within 6 months of drilling or completion of a conventional well or 2,500 feet and within 12 months of drilling, completion, stimulation, or alteration of an unconventional well. One of the defenses to this presumption is if the landowner refused a pre-drill survey of their water supply.

### *Department notifications*

In order to enhance DEP's field staff inspection efficiency, this proposed regulation would require operators to notify DEP prior to oil and gas construction activities, such as building a well pad or installing a pit liner. This will allow the Department to effectively manage its resources and ensure timely inspections.

In the event that a water supply has been impacted from site construction or horizontal directional drilling for pipelines, this proposed regulation will require operators to notify the Department within 24 hours of an incident to ensure that rapid environmental response and mitigation occurs.

### **Identification of Abandoned or Orphaned Wells**

DEP estimates that there are approximately 300,000 orphaned and abandoned wells across Pennsylvania. Abandoned and orphan wells could pose a serious issue to the commonwealth if an operator inadvertently alters one during the drilling or hydraulic fracturing process. Altering an abandoned well can lead to a number of issues including methane migration and water supply impacts. Section 78.52a will require operators to identify any abandoned and orphaned wells within 1,000 feet of the vertical and horizontal wellbore prior to hydraulic fracturing. This identification process will require operators to review DEP's orphaned and abandoned well database, review farm line maps, and submit a questionnaire to landowners whose property lies within 1,000 feet of the wellbore. The operator will then be required to monitor the orphaned or abandoned well throughout the extraction process if left unplugged.

### **Containment**

Every well site in Pennsylvania has temporary and permanent containment structures, such as pits, tanks, and impoundments, to store wastes that are generated on the site. One of the biggest risks of contamination to soil or water sources is the result of inadequate containment structures. Because of this, Act 13 of 2012 requires unconventional well sites to be designed and constructed to prevent spills to the ground or off the well site. The department is proposing standards for temporary containment at well sites, including security measures that will prevent the tampering of containment structures from acts of vandalism. These standards include secondary containment of all waste storage structures, permitting and construction standards for centralized wastewater impoundments, and construction standards and registration of freshwater impoundments. For more permanent types of containment, such as for storing brine and other production fluids, the Department is proposing through these regulations to include secondary containment, corrosion control measures, and security requirements to ensure the long term integrity of the storage structure. Similarly, these proposed regulations would prohibit the use of underground storage tanks because these storage structures are more susceptible to corrosion and are not able to be inspected by the department or the operator properly.

### **Spill Response**

Spills or releases from containment of regulated substances at oil and gas well sites pose a substantial risk to the environment and public health, including impacts to water resources. These proposed regulations would require that operators report releases to the department within 2 hours of discovery and take corrective actions to ensure that no additional harm to the environment or to potential downstream water users occurs. The spill or release area must then be remediated appropriately, either through Act 2 (of 1995) standards and processes or through the proposed alternative process that meets the Act 2 remediation standards.

### **Borrow Pits**

This proposed regulation will ensure that borrow pits used for the construction of oil and gas access roads and well site construction meet the same environmental standards as permitted non-coal surface mines, but will not be subject to the permitting requirements. Section 3273(c) of Act 13 of 2012 provided a permitting exemption for borrow pits used by the oil and gas industry. These borrow pits share the same environmental risks as other borrow pits that are not used by the oil and gas industry.

### **Water Management Plans**

Water Management Plans are a requirement of Act 13 of 2012. This proposed regulation codifies existing requirements to protect freshwater resources from adverse impacts from excessive withdrawals of water. This proposed regulations mirrors the requirements of the Susquehanna River Basin Commission and the Delaware River Basin Commission to ensure that requirements are consistent statewide, regardless of which river basin an operator withdrawals freshwater from. This statewide consistency also eliminates uncertainty and inconsistency for the regulated community.

### **Road Spreading of Brine**

In Pennsylvania geology, brine (saltwater) is present in most oil and gas producing formations. When oil or gas is produced from a well, brine is also brought to the surface and is typically separated into a holding tank. Throughout the history of conventional oil and gas development, brine has been beneficially used in dust suppression and road stabilization activities on dirt roads and also for de-icing in the winter months. For about the last 12 years, the Waste Management Program within DEP has issued a general permit (WMGR 065) for de-icing activities, which allows brine from conventional wells to be spread as a means for winter weather road treatment. In 1998, DEP's Oil and Gas Management Program issued a Technical Guidance Document *Approval of Brine Roadspreading Plans* (Doc. No.550-2100-007) to describe to operators and other users how DEP will review all plans for the beneficial use of brine for dust control and road stabilization to ensure compliance with applicable statutes and regulations and protecting water resources.

The proposed regulations will incorporate all relevant DEP requirements into Chapter 78 and under the Oil and Gas Program's oversight for the road-spreading of brine from conventional wells for dust suppression, road stabilization, anti-icing and de-icing for beneficial use on roadways to ensure these activities do not impact waters of the commonwealth. The road-spreading of brine from unconventional wells is not approved as a beneficial use in the Commonwealth.

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

These regulations do not impose any requirements that are more stringent than federal standards, because there are none. Pennsylvania has a compelling public interest in regulating the unconventional gas industry due to the unique risks posed to the environment.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

With this regulation, Pennsylvania will join a growing list of states to comprehensively address the regulation of surface activities and industry practices at oil and gas well sites. Therefore, this proposed

regulation should not affect Pennsylvania's ability to compete with other states. Because of Pennsylvania's proximity to high natural gas consumptive markets in the Northeast, the Marcellus and other dry gas formations remain more attractive than other dry gas in the south and west such as the Barnett, Fayetteville and Haynesville Shales. The Department evaluated the regulatory requirements of all states with oil and gas drilling activity, but focused the majority of this comparison on the regulatory requirements of Ohio and West Virginia. Because New York maintains a moratorium on high volume hydraulic fracturing and no unconventional well drilling is occurring, Pennsylvania enjoys a clear competitive advantage and the proposed rules of this state will not be evaluated.

Several sections of this proposed regulation will codify existing requirements of oil and gas operations and therefore should not alone affect Pennsylvania's ability to compete with other states. Provisions related to centralized impoundments are unchanged from existing permit standards for those facilities. By codifying these requirements, Pennsylvania's ability to compete with other states will not be affected. Similarly, Water Management Plans (WMPs) have been a permit requirement for oil and gas operators since April 2009 and the proposed regulations are consistent with the requirements of the Susquehanna River Basin Commission. By making WMP requirements consistent statewide, operators will have more certainty regarding the requirements versus other states with river basin commissions that do not have the same level of consistency. Beneficial use of brine for road spreading and de-icing activities is another section that this regulation proposes to codify existing permitting and planning requirements and therefore will not affect Pennsylvania's ability to compete.

#### **Identification and Monitoring of Abandoned or Orphaned Wells**

This rulemaking will require operators to identify any abandoned and orphaned wells within 1,000 feet of the vertical and horizontal wellbore prior to hydraulic fracturing. Additionally, this rulemaking would require operators to monitor such wells during hydraulic fracturing activities and plug any wells altered by such activities.

In December 2012, Alaska proposed a regulation related to hydraulic fracturing, that required applicants for hydraulic fracturing to identify any well penetrations (all well types) within one-quarter mile of the proposed wellbore trajectory and fracturing interval and the sources of information used in identifying such wells. Additionally, Alaska's proposed rule requires operators to submit the location, orientation and geological data of known or suspected faults and fractures that may transect the confining zone and information sufficient to support a determination that any such faults and fractures will not interfere with containment of the hydraulic fracturing fluid.

While Pennsylvania's proposed rulemaking is limited to orphaned and abandoned wells, the regulatory proposal specifies how operators must identify orphaned and abandoned wells, including consulting with the Department's database, farm line maps, and submitting a questionnaire to surface landowners. Additionally, this rulemaking would clarify that operators that alter such wells during hydraulic fracturing activities must plug those wells. While other states, including Ohio and West Virginia, do not have similar requirements, the Department has determined that these requirements are critical to ensure protection of waters of the Commonwealth.

#### **Containment**

##### *Tanks*

The Pennsylvania proposed regulation would require one time approval of modular storage structures, require secondary containment around new, refurbished or replaced produced water tanks,

require tanks to be protected against vandalism and require brine tanks to be protected against corrosion.

Ohio requires that tanks be protected from vandalism through the use of such devices as bull plugs, locks or retractable ladders. (Ohio regulation at 1501:9-9-05). However the Ohio rule allows the division chief to waive the requirement.

Ohio rules ban the use of buried tanks and are therefore more stringent than the proposed rule which allows buried tanks to be used if they are approved by DEP.

#### *Pits and Impoundments*

The proposed regulation eliminates the use of pits to store produced fluids (brine), eliminates the storage of condensate in pits (or other open top structures), requires notification prior to the installation of a pit liner at unconventional well sites, strengthens the permeability and testing requirements of the liner, imposes pit inspection requirements, and requires pits used at unconventional well sites to be guarded or fenced in.

The proposed rule also establishes embankment construction standards for centralized freshwater and wastewater impoundments as well as comprehensive permitting standards for centralized impoundments.

In comparison, Ohio does not allow centralized wastewater impoundments to be utilized. The Ohio regulations at 1501:9-9-05 do not contain any prescriptive standards for pit construction or utilization – only that oil and gas wastes may not cause pollution. In communication with Ohio Department of Natural Resources staff, DEP staff was informed that Ohio has prohibited the use of pits. The proposed rule is less strict in this regard. However, the use of centralized impoundments in Pennsylvania promotes recycling, reduces the need for freshwater, and reduces disposal requirements. This is a significant advantage to Pennsylvania both competitively and environmentally.

West Virginia code § 22-6A established authorization and construction standards for centralized wastewater pits and freshwater impoundments that store more than 220,000 gallons of fluids. The West Virginia centralized wastewater impoundment standards are not more stringent than the proposed rule and were actually copied from the DEP's current permit requirements. The permitting of freshwater impoundments is a process that the Pennsylvania rule does not employ. The proposed rule's construction standards are similar to provisions in West Virginia; therefore the proposed rule is less burdensome and equally as protective.

West Virginia's rules at §35-4-16 as they relate to temporary pits employed at well sites, provide similar protective provisions as those contained in the Commonwealth's proposal, but do not contain any of the prescriptive measures of Pennsylvania's regulation.

#### *Restoration for freshwater impoundments, centralized impoundments and borrow pits*

The proposed rule would require these support facilities to be restored within 9 months of completion of drilling the last well serviced by the facility. These facilities can service multiple well sites. An operator may apply for a two-year extension to comply with the restoration requirements proposed in the rulemaking. In the case of freshwater impoundments, the surface landowner can

waive the restoration requirement so long as the liner is removed.

West Virginia and Ohio regulations both require the restoration of impoundments. Similar to the proposed rule, both states calculate the restoration period as commencing upon the completion of drilling the last well serviced by the impoundment. Neither state has regulations governing borrow pit reclamation, which in comparison to Pennsylvania's proposal, places the Commonwealth in a position that is more attuned to landowner concerns.

## **Pipelines**

This rulemaking contains three new sections addressing pipelines associated with oil and gas activities. The first section pertains to gathering pipelines that transport oil, liquid hydrocarbons or natural gas to intrastate or interstate transmission pipelines. The second section concerns temporary pipelines that transport materials or waste associated with the drilling or hydraulic fracturing of a well. The last section addresses horizontal directional drilling activities associated with the construction of oil and gas pipelines.

Both Ohio and West Virginia have regulations that address the construction of oil and gas pipelines. These regulations, however, are limited. In addition, Ohio's regulations require operators to (1) identify the route of pipelines used in the production of oil or natural gas wells and maintain records showing the location, identification, type and size of pipelines at the pipeline owner or operator's office; and (2) design pipelines for at least the greatest anticipated pressure in accordance with the current recognized design practices of the industry; and (3) bury any buried pipelines at least 24 inches below the ground surface.

West Virginia's regulations prescribe minimum requirements related to the installation of oil and gas gathering and production pipelines, including when a line must be buried, how deep lines must be buried and marking requirements where pipelines cross pre-existing public or private roadways.

Texas' requirements do not specifically address installation, operation and inspection standards for oil and gas pipelines. Instead, Texas' requirements generally pertain solely to safety and rate regulations.

In contrast, Pennsylvania's pipeline requirements are more stringent than requirements in Ohio, West Virginia and Texas, as well as the requirements for other pipelines in the Commonwealth. The proposed requirements are tailored specifically for the unique nature of oil and gas pipeline construction in Pennsylvania. For example, Pennsylvania has more water resources than other states and oil and gas pipelines have the potential to impact these waters. For that reason, the pipeline requirements include construction and installation requirements for gathering pipelines; planning, notification, construction and monitoring requirements for horizontal directional drilling; and installation, flagging, pressure testing, inspection and removal requirements for temporary pipelines.

Most of these proposed regulations are performance based in lieu of prescriptive standards to allow operators the flexibility of choosing the best option to meet compliance. It is through this approach to the newly proposed regulations that Pennsylvania will remain competitive with other oil and gas producing states while updating measures minimizing the potential for impacts to the environment from oil and gas well operations.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

The proposed regulations will not affect any other Department regulations or those of other state agencies. Many of these proposed regulations either use similar language or cross reference existing regulations of other Department programs to be consistent with them. The language was either derived from or cross referenced to the following applicable Department regulations:

- *25 Pa. Code Chapter 77 (Noncoal Mining)* - cross referenced in Section 78.67 Borrow pits;
- *25 Pa. Code Chapter 91 (General Provisions)* – cross referenced in 78.55 Control and disposal planning; emergency response for unconventional wells;
- *25 Pa. Code Chapter 102 (Erosion and Sediment Control)* – cross referenced in 78.15 Application requirements, 78.53 Erosion and sediment control, 78.55 Control and disposal planning, 78.59a (9)(i) relating to impoundment embankments, 78.60 Discharge requirements, 78.63 Disposal of residual waste – land application; 78.65 Site restoration, 78.67 Borrow pits, 78.68 Oil and gas gathering lines, 78.68a Horizontal directional drilling for oil and gas pipelines, and 78.68b Temporary pipelines for oil and gas operations;
- *25 Pa. Code Chapter 105 (Dam Safety and Waterway Management)* – cross referenced in Definitions, 78.59c Centralized Impoundments, 78.60 Discharge requirements, 78.68a Horizontal directional drilling for oil and gas pipelines, and 78.68b Temporary pipelines for oil and gas activities;
- *25 Pa. Code Chapter 109 (Safe Drinking Water)* - cross referenced in 78.62 (16)(b)(2) Disposal of residual waste – pits;
- *25 Pa. Code Chapter 245 (Storage Tanks)* – cross referenced in 78.57 Control, storage, and disposal of production fluids and 78.66 Reporting and remediating releases;
- *25 Pa. Code Chapter 287 (Residual Waste)* – cross referenced in 78.58 Onsite processing, and
- *25 Pa. Code Chapter 299 (Storage and Transportation of Residual Waste)* – cross referenced in 78.70 Road-spreading of brine for dust control and road stabilization.
- *25 Pa. Code Chapter 250 (Administration of Land Recycling Program)* – cross referenced in 78.66 Reporting and remediating releases.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. (“Small business” is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

Representatives from the Department met with the following groups to specifically discuss the proposed regulations and solicit feedback:

- Oil and Gas Technical Advisory Board (TAB) – the Department discussed the regulatory concepts as well as the actual proposed regulatory language at the April 12, 2011, October 21, 2011, August 15, 2012, February 20, 2013 and April 23, 2013 TAB meetings. At the latter two meetings, public input was received from several groups including the Pennsylvania League of

Women Voters, the Department of Conservation and Natural Resources, and others representing containment specialists and the general public. On April 23, 2013 the Board voted unanimously, with one member absent, for the Department to present the proposed rulemaking to the Environmental Quality Board.

- Small Business Compliance Assistance Advisory Committee – The Department provided an overview of the proposed regulations to the committee on October 24, 2012. This advisory committee is represented by small business owners who provide assistance and advice to DEP about how to assist small businesses with regulatory compliance and to ensure that small businesses are considered when new regulations are developed.
- DEP met with other industry representative groups including: the Marcellus Shale Coalition (MSC), which is mostly comprised of businesses representing unconventional drillers; the Pennsylvania Independent Oil and Gas Association (PIOGA), which represents conventional drillers; and the American Petroleum Institute (API).
- Local government organizations were also involved in discussions of the proposed regulation, including Lycoming County Commissioner, Jeff C. Wheeland, the Pennsylvania State Association of Township Supervisors (PSATS), and the Pennsylvania State Association of Boroughs (PSAB).
- DEP also involved several environmental organizations in the development of these proposed regulations including the Chesapeake Bay Foundation (CBF), the Western Pennsylvania Conservancy (WPC), The Nature Conservancy, and the Pennsylvania Environmental Council (PEC).

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

### **Regulated Community**

#### *Unconventional Operators*

According to the U.S. Small Business Administration, oil and gas well operators with less than 500 employees qualify as small businesses. There are currently 73 operators of unconventional well sites in Pennsylvania. The Marcellus Shale Coalition has estimated that less than half of these operators affected may be classified as a small business. Unconventional operators with applicable business operations will be required to comply with the provisions of this proposed regulation. For example, not all operators utilize pits or impoundments, therefore those sections would not apply to those specific operators. However, all unconventional operators are required to obtain a well permit; therefore, they would be required to comply with sections of the proposal relating to orphaned and abandoned well identification and impacts to public resources.

#### *Conventional Operators*

There are currently 7,280 operators of conventional oil and gas well sites in Pennsylvania and most of them classify as a small business based on the US Small Business Administration's employee threshold. The sections of the proposed regulations that conventional operators will be required to comply with are: Identification of Public Resources (§78.15), Identification and Monitoring of Abandoned and Orphan Wells (§78.52a and §78.73c), Tank Valves and Access Lids Equipped to prevent unauthorized access by third parties (§78.56a6), Secondary Containment for all aboveground structures holding brine or other

fluids (§78.57c), and Removal of Underground Storage Tanks (§78.57(e)).

Although the provisions of §78.56 (as they related to modular storage structures), §78.58 (onsite processing) and §78.59a-c (freshwater and centralized impoundments) would apply to conventional operators, these operators do not employ the practices regulated by the proposed provisions.

#### *Pipeline Companies*

Companies that build and install pipelines will be affected by proposed §78.68 relating to oil and gas gathering lines, §78.68a relating to horizontal directional drilling, and §78.68b relating to temporary pipelines for oil and gas operations. Each of these sections incorporates the requirements of Chapter 102 (relating to erosion and sediment control) and 105 (relating to dam safety and waterway management) into Chapter 78. This cross-reference does not add any new regulatory requirements, as pipeline companies are already required to comply with these existing regulations. There are approximately 42 pipeline or midstream companies operating within the Commonwealth. The U.S. Small Business Administration defines a small business with NAICS code 237120 - Oil and Gas Pipeline and Related Structures Construction as having gross annual receipts of less than \$33.5 million and NAICS code 486210 - Pipeline Transportation of Natural Gas as having gross annual receipts of less than \$25.5 million. Because the small business determination is based on gross annual receipts, the Department is unable to determine the number of pipeline companies that would qualify as small businesses.

#### **Other Affected Entities**

##### *Land owners*

Through this regulation, landowners will be notified and given an explanation of the consequences if they refuse an operator's request to access their land to conduct a pre drill survey. Under Act 13 of 2012, if a water supply is impacted from oil and gas extraction activities, and the landowner refused a pre-drill water survey, the presumption of liability of the operator is void. The proposed rulemaking codifies these statutory provisions in order to clarify landowners rights and responsibilities.

##### *Municipalities*

A few municipalities would be affected by this proposal if they utilize brine for dust suppression or de-icing activities. Overall, the affect would be minimal as this rulemaking simply codifies existing requirements of the Department for plan approval of these activities.

##### *General Public*

The general public, including those who appreciate and benefit from Pennsylvania's natural resources, will be affected through the additional considerations included in this rulemaking to mitigate the impacts of the oil and gas industry. Local small businesses that depend on visitors to state parks and forests will also benefit. An analysis done by Penn State shows visitors to Pennsylvania's state parks generate more than \$1 billion in economic activity in nearby communities and support almost 13,000 related jobs. Out-of-state users of Pennsylvania's natural resources account for \$274 million of that total economic activity.

Additionally, all Pennsylvanians will benefit from the additional protective measures included in this rulemaking to prevent impacts of the oil and gas industry on the Commonwealth's water resources.

(16) List the persons, groups or entities, including small businesses, that will be required to comply with the regulation. Approximate the number that will be required to comply.

#### *Unconventional Operators*

According to the U.S. Small Business Administration, oil and gas well operators with less than 500 employees qualify as small businesses. There are currently 73 operators of unconventional well sites in Pennsylvania which will be required to follow all of these proposed regulations. The Marcellus Shale Coalition, an industry trade group in Pennsylvania, has estimated that less than half of the operators affected may be classified as a small business.

#### *Conventional Operators*

Most conventional well operators can be classified as a small business using the U.S. Small Business Administration's employee threshold of 500 employees or less. There are currently 7,280 operators of conventional well sites in Pennsylvania.

#### *Pipeline Companies*

There are approximately 42 pipeline or midstream companies operating within the Commonwealth. Because the small business determination for pipeline companies is based on gross annual receipts of less than \$33.5 million for oil and gas pipeline and related structures construction companies and less than \$25.5 million for pipeline transportation of natural gas companies, the Department is unable to determine the number of pipeline companies operating in Pennsylvania that would qualify as small businesses.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

#### **Impacts**

The department anticipates that the provisions of the proposed regulation will increase costs on oil and gas operators in the Commonwealth. The majority of the proposed regulations have been designed as performance based standards, allowing each individual operator to determine which practices they will employ for their extraction activities.

Many large unconventional operators employ contractors to perform various activities related to well pad siting, site construction, containment, and waste disposal. These contractors and those involved in the supply chain will receive a positive economic impact of these regulations through increased requirements for their specialized services.

#### **Benefits**

The provisions requiring operators to identify and consider the impacts of their operations on the Commonwealth's public resources will ensure that any probable harmful impacts to public resources will be avoided or mitigated while providing for the optimal development of oil and gas resources. The proposed provisions that require operators to identify orphaned and abandoned wells and monitor such wells during hydraulic fracturing activities will minimize potential impacts to waters of the Commonwealth. The proposed containment systems and practice requirements for unconventional well sites will minimize spills and releases of regulated substances at well sites and ensure that any spills or

releases are properly contained. The proposed amendments to the reporting releases requirements ensure statewide consistency for reporting and remediating spills and releases. Most of these practices are already being utilized by industry through best management practices.

The proposed amendments contain several new notification requirements which will enable Department staff to effectively and efficiently coordinate inspections at critical stages of pit construction, modular above ground storage facility installation, drill cutting and residual waste disposal on well sites, horizontal directional drilling, and road-spreading activities. The notifications will allow Department inspectors to better utilize their time by visiting sites where there are active operations to inspect. Additionally, proposed electronic submission requirements for well permits, notifications and predrill surveys will enhance efficiency for both the industry and the Department.

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

While there are additional costs associated with some of the proposed provisions in the rulemaking, the overall benefits to the environment are numerous. The costs of reasonable environmental protective measures are relatively small compared to the costs associated with cleaning up a release of a polluttional substance into the environment and restoring the impacted area.

These proposed regulations require operators to identify public resources and critical habitats of threatened and endangered species that may be adversely impacted by well operations. Costs associated with the data base query and field site visit are minimal compared to the permanent loss of a public resource or critical habitats of threatened and endangered species.

The majority of these proposed regulations focus on the proper handling, storage and disposal of materials needed for oil and gas operations and the wastes generated by those processes. The goal of these regulations is to prevent the release of these polluttional substances into the environment, including water resources, through reasonable means that are already standard industry practices.

In general, 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. Therefore, a company's long term operational costs associated with employing pollution prevention measures costs far less than the long term operational costs of periodically having to cleanup and remediate pollution cause by the release.

(19) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

### **Unconventional Operators Costs**

#### **Assumptions**

It is estimated that there will be approximately 2,600 unconventional wells permitted each year for the next 3 years.

Based on DEP data, approximately 1 out of every 2 permitted wells gets drilled, or approximately 1,300 wells per year.

DEP assumes there is an average of 3 unconventional wells per well site. In the future, it is estimated that less well sites will be built as there could be as many as 12 unconventional wells per well pad.

The cost analysis for this regulation must be factored on a well site basis, not on a per well basis. Many of the processes proposed for regulation in this rulemaking include activities integral to the operation of several wells and even several well pads.

2,600 wells permitted x 50% of wells drilled = **1,300 wells drilled each year**

1,300 wells drilled each year ÷ 3 wells per well site = **434 well sites built each year**

### **Cost Estimates**

The Department reached out to oil and gas operators, subcontractors, and industry groups to derive the cost estimates of this proposed rulemaking.

#### **Identification of Public Resources (§78.15)**

Site specific, DEP estimates this will affect 30% of well sites.

Required in section 3215 of Act 13

- Identification \$2,000
- Consultation - \$0
- Mitigation - \$ unable to determine/depends on situation

$\$2,000 \times (434 \times 30\%) = \$260,400$

*The total cost of this provision is \$260,400 (not including mitigation).*

#### **Identification and Monitoring of Abandoned and Orphan Wells (§78.52a and §78.73c)**

This provision will affect each well drilled and fracked.

\$2,000

$\$2,000 \times 1,300 \text{ wells} = \$2,600,000$

*The total cost of this provision is \$2,600,000.*

#### **Unconventional well PPC plan for hydraulic fracturing fluid containment systems (§78.56a2)**

Unconventional well drillers must prepare a site specific Preparedness, Prevention and Contingency Plan.

\$200-\$300

$\$200 \times 434 \text{ well sites} = \$86,800$

$\$300 \times 434 \text{ well sites} = \$130,200$

*The total cost of this provision is between \$86,800 and \$130,200.*

**Providing copies of the PPC plan when requested (§78.55d)**

This calculation assumes that every landowner will request a copy of the PPC plan.

\$25

$$\$25 \times 434 = \$10,850$$

*The total cost of this provision is \$10,850.*

**Fencing Around Unconventional Well Site Pits (§78.56a5)**

Not every unconventional well operator uses pits, many use tanks in their operations. DEP estimates that less than 50% of operators use pits in unconventional drilling activities.

An operator will not be required to install fencing around their pits if they have a 24-hour security presence at their site. Operators are not required to have 24-hour security if their pit is fenced.

\$7,000 - \$50,000

$$\$7,000 \times (434 \times 50\%) = \$1,519,000$$

$$\$50,000 \times (434 \times 50\%) = \$10,850,000$$

*The total cost of this provision is between \$1,519,000 and \$10,850,000.*

**Determination of Seasonal High Groundwater Table for Pits & labor to inspect and test the integrity of the liner**

Not every unconventional well operator uses pits, many use tanks in their operations. DEP estimates that less than 50% of operators use pits in unconventional drilling activities.

\$3,500

$$\$3,500 \times (434 \times 50\%) = \$759,500$$

*The total cost of this provision is \$759,500.*

**Fencing Around Freshwater Impoundments**

Not every operator uses freshwater impoundments for storing freshwater. It is difficult for DEP to determine the number of freshwater impoundments across the state. The cost of the fencing is dependent upon how large the impoundment is. DEP, based on professional experience, estimates there are roughly 100 freshwater impoundments throughout the Commonwealth. The size of the freshwater impoundment and the type of fencing used determines the price of the fencing.

$$\$7,000 \times 100 = \$700,000$$

$$\$50,000 \times 100 = \$5,000,000$$

*The total cost of this provision is between \$700,000 and \$5,000,000.*

**Tank Valves and Access Lids Equipped to prevent unauthorized access by third parties (78.56a6)**

If the well site has 24 hour security presence, the operator satisfies the requirements of this section. This calculation assumes that all well sites will not have 24 hour security. This should be a one-time expense

as the protective measures will be affixed to the tanks.

\$7,000

$\$7,000 \times 434 = \$3,038,000$

*The total cost of this provision is \$3,038,000.*

**Vapor Controls for Condensate Tanks (§78.56(a)(17))**

Vapors must be controlled at all condensate tanks. Based on DEP inspection experience, this calculation assumes that only 40% of well sites will have condensate tanks.

\$12,500

$\$12,500 \times (434 \times 40\%) = \$2,170,000$

*The total cost of this provision is \$2,170,000.*

**Signage for pits and tanks (§78.56(a)(7))**

Unconventional operators will be required to display a sign on the storage structure identifying the contents and if any warnings exist, such as corrosive or flammable.

The cost of this regulatory requirement depends on the number of tanks/storage structures and the types of signage they use.

\$250 - \$2,000

$\$250 \times 434 = \$108,500$

$\$2,000 \times 434 = \$868,000$

*The total cost of this provision is between \$108,500 and \$868,000.*

**Secondary Containment (§78.64a)**

The proposed rulemaking codifies the statutory requirement of Act 13 of 2012 for secondary containment.

This cost estimate is conservative and assumes that an operator will use brand new secondary containment at every well site. According to industry secondary containment specialists, many of the secondary containment liners will be reused at multiple well sites.

\$140,000

$\$140,000 \times 434 = \$60,760,000$

*The total cost of this provision is \$60,760,000.*

**Secondary Containment for all aboveground structures holding brine or other fluids (§78.57c)**

The cost of this regulatory proposal depends on the number of aboveground structures on each well site.

\$5,000 - \$10,000

$\$5,000 \times 434 = \$2,170,000$

$\$10,000 \times 434 = \$4,340,000$

*The total cost of this provision is between \$2,170,000 and \$4,340,000.*

*The estimated annual cost of this regulation on unconventional operators is between \$74,183,050 and \$90,786,950.*

### **Conventional Operators Costs**

The Department reached out to oil and gas operators, subcontractors, and industry groups to derive the cost estimates of this proposed rulemaking.

#### **Assumptions**

DEP estimates based on past trends that there will be approximately 2,000 conventional wells permitted each year for the next 3 years.

On average, about 2 out of every 3 permitted conventional wells are drilled.

There is typically only 1 conventional well per well site.

2,000 permitted wells x .667 drilled rate = 1,334 wells drilled per year

#### **Cost Estimates**

##### **Identification of Public Resources (§78.15)**

This section of the rulemaking codifies the statutory requirement of section 3215 of Act 13 of 2012. Conventional operators' completion of the PNDI process as required by statute will likely satisfy this requirement and therefore there will not be any additional cost from this proposed rulemaking.

- Identification - \$2,000
- Consultation - \$0
- Mitigation - \$ unable to determine/depends on situation

##### **Identification of Abandoned and Orphan Wells (§78.52a)**

Although conventional operators are required to comply with this section, it is anticipated that costs will be negligible.

Conventional - \$0

##### **Tank Valves and Access Lids Equipped to prevent unauthorized access by third parties (§78.56a6)**

Most conventional sites do not have 24 hour security, and therefore would be required to equip their tanks to avoid third party tampering.

The cost of this provision ranges based on buying deadlocks to changing lids.

\$40 - \$5,000

\$40 x 1,334 = \$53,360

$\$5,000 \times 1,334 = \$6,670,000$

*The total cost of this provision is between \$53,360 and \$6,670,000.*

**Secondary Containment for all aboveground structures holding brine or other fluids (§78.57c)**

Brine tanks will be required to have secondary containment from this proposed rulemaking.

\$3,000

$\$3,000 \times 1,334 = \$4,002,000$

*The total cost of this provision is estimated to be \$4,002,000.*

**Removal of Underground Storage Tanks (§78.57(e))**

This proposed rulemaking will prohibit the use of underground or partially buried storage tanks for storing brine. Operators will have 3 years to remove all existing underground or partially buried tanks. The cost of this section of the proposed rulemaking depends on the number of buried tanks across the Commonwealth. The Department is unable to estimate the number of buried tanks, but the proposed provision will require operators to provide a list of all affected tanks to the Department within 6 months of the rulemaking becoming final.

\$20,000

**Labor to inspect and test the integrity of on-site waste storage pits**

\$1,000

$\$1,000 \times 1,334 = \$1,334,000$

*The total cost of this provision is estimated to be \$1,334,000*

*The estimated annual cost of this regulation on conventional operators is between \$5,389,360 and \$12,006,000.*

**The total cost on the entire regulated community is estimated between \$79,572,410 and \$102,792,950.**

## **Unconventional Operators Savings**

### **Assumptions**

It is estimated that there will be approximately 2,600 unconventional wells permitted each year for the next 3 years.

Based on DEP data, approximately 1 out of every 2 permitted wells gets drilled, or approximately 1,300 wells per year.

DEP assumes there is an average of 3 unconventional wells per well site. In the future, it is estimated that less well sites will be built as there could be as many as 12 unconventional wells per well pad.

The cost analysis for this regulation must be factored on a well site basis, not on a per well basis. Many of the processes proposed for regulation in this rulemaking include activities integral to the operation of several wells and even several well pads.

2,600 wells permitted x 50% of wells drilled = **1,300 wells drilled each year**

1,300 wells drilled each year ÷ 3 wells per well site = **434 well sites built each year**

### **Savings Estimates**

#### **Electronic Submission of well permits (§78.15(a))**

The proposed rulemaking will require applicants to submit well permit applications through the Department's website electronically. This will achieve greater efficiency and time management on the Department's end and will also save operators in postage.

2,600 permits x \$5 postage savings = \$13,000

*The total savings of this provision is estimated to be \$13,000.*

#### **Electronic Submission of water surveys as one package (§78.52(d))**

An operator may submit a copy of all sample results taken as part of a survey to the Department by electronic means. Currently, operators submit each individual's sample by mail as it is completely. This proposed provision will save the operator postage cost and will help the department gain efficiencies by having all samples for one well site area submitted as a whole. The Department estimates that on average, each unconventional well site will fall within the 2,500 foot range (as specified by Act 13 of 2012) of approximately 10 properties.

434 well sites x 10 properties (avg) x \$5 postage savings = \$21,700

*The total savings of this provision is estimated to be \$21,700.*

#### **Well site restoration extension (§78.65(d)(2))**

The Department allows an operator to file for an extension of the restoration period for up to 2 years. This will prevent the operator from having to restore a site and then disturb it again when more wells are added to a well pad.

\$50,000 to restore an unconventional site

\$50,000 x 434 = \$21,700,000

*The total savings of this provision is estimated to be \$21,700,000.*

*The estimated savings of this regulation on unconventional operators is approximately \$21,734,700.*

## **Conventional Operators Savings**

### **Assumptions**

DEP estimates based on past trends that there will be around 2,000 conventional wells permitted each year for the next 3 years.

On average, about 2 out of every 3 permitted conventional wells are drilled.

There is typically only 1 conventional well per well site.

2,000 permitted wells x .667 drilled rate = 1,334

### Savings Estimates

#### **Electronic Submission of well permits (§78.15(a))**

The proposed rulemaking will require applicants to submit well permit applications through the Department's website electronically. This will achieve greater efficiency and time management on the Department's end and will also save operators in postage.

2,000 permits x \$5 savings = \$10,000

#### **Electronic Submission of water surveys as one package**

An operator may submit a copy of all sample results taken as part of a survey to the Department by electronic means. Currently, operators submit each individual's sample by mail as it is completely. This proposed provision will save the operator postage cost and will help the department gain efficiencies by having all samples for one well site area submitted as a whole. The Department estimates that on average, each unconventional well site will fall within the 1,000 foot range (as specified by Act 13 of 2012) of approximately 4 properties.

1,334 well sites x 4 properties (avg) x \$5 postage savings = \$26,680

*The estimated savings of this regulation on conventional operators is approximately \$36,680 annually.*

## Pipeline/Midstream Companies Savings

### Assumptions

There are approximately 100 Horizontal Directional Drilling (HDD) operations annually. These operations use approximately 25,000 gallons of drilling fluids to conduct HDD operations.

100 x 25,000 = 2,500,000 gallons per year for disposal

Disposal costs = \$.12 per gallon

#### **Recycling and on-site application of gathering line HDD fluid discharges and returns (§78.68a(k))**

2,500,000 gallons x .12 = \$300,000

*The estimated savings of this regulation on pipeline operators and midstream companies is \$300,000 annually.*

**The total savings for the entire regulated community is estimated to be \$22,071,380.**

(20) Provide a specific estimate of the costs and/or savings to the **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The Department does not anticipate that there will be any costs or saving to local governments.

(21) Provide a specific estimate of the costs and/or savings to the **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

There are costs to the Department that will be incurred as a result of the implementation of these proposed regulations. Increased field inspections and formal reviews are anticipated. Importantly however, there are provisions in the proposed regulation package that will streamline DEP's operations that are anticipated to balance out any increased workload requirements. The following are proposed measures included in the rulemaking with the goal of increasing Department efficiency:

- Electronic permitting will ensure that permits are submitted in a consistent format that prompts correct and complete permit applications prior to their submittal. Electronic permitting will eliminate incomplete application submittals, eliminate paper communications and increase DEP complement efficiency. It will also allow for improved transparency in DEP's permitting operations.
- Upon request, require operators to directly provide the Pennsylvania Fish and Boat Commission and landowners a copy of the site specific preparedness, prevention and contingency plan, instead of having them go through a Right to Know Law request, will save the Department staff time of obtaining them on their behalf.
- Electronic notification prior to the commencement of pipeline horizontal directional drilling and liner installation so the Department's staff can schedule inspections accordingly.
- Allow for the approval for aboveground modular storage systems, which once approved, will be posted on the Department's website for all users. This will eliminate duplication of work.
- Allow for the one time approval for pipeline horizontal directional drilling additives, which once approved, they will be posted on Department's website as preapproved. This will eliminate duplication of work.
- Allow for the one time approval of onsite waste processing facilities. This will eliminate duplication of work.

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

These proposed regulations include new planning, reporting and record keeping requirements. However operators have many different options for their surface operations, therefore not all of the requirements

will be applicable all of the time. To minimize these requirements, DEP has requested electronic submission when possible of all planning, reporting, and record keeping requirements.

Many operators choose to utilize consultants for portions of their operations. New consultant work may be required to aid in the identification of public resources that may be impacted by oil and gas well sites during the permitting process. Similarly, DEP expects that many operators will utilize consultants to help in the identification of abandoned and orphaned wells within 1,000 feet from a gas well bore or 500 feet from an oil well prior to hydraulic fracturing the well.

The regulated community will need to meet new reporting requirements in these proposed regulations. The additional reporting requirements are as follows:

- Submission to the Department of proof of written notification by an unconventional well operator to a homeowner explaining that some of their rights may be waived if they refuse to allow the operator to conduct a predrill survey on their water supply.
- If an operator chooses to use an on-site pit, they will be required to submit documentation of the seasonal high groundwater level and the name and qualifications of the individual who performed the evaluation. The operator will also be required to notify the department 3 days prior to installation of the liner.
- If an operator uses underground or partially buried storage tanks, they will be required to submit a list with a schedule for their removal or seek approval from DEP to operate the tank. The proposed regulation allows for 6 months for the submission of the list and 3 years for the removal of these tanks to provide a sufficient amount of time to comply.
- If an operator uses centralized wastewater impoundments, they will be required to submit quarterly water samples from monitoring wells around centralized wastewater impoundments.
- If an unconventional operator chooses to dispose of drill cuttings either by encapsulation or land application on the well site, they will be required to notify the Department 3 days prior and submit test results for the cuttings on the site restoration report.
- If an operator is using a borrow pit that doesn't fall under the permitting requirements of the Noncoal Surface Mining Conservation and Reclamation Act, they will be required to register the location of the borrow pit with the Department.
- If a pipeline company will be performing horizontal directional drilling under a stream, they will be required to provide electronic notification to DEP 24 hours prior.

State and local governments are not expected to incur any additional legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	<b>Current FY Year</b>	<b>FY +1 Year</b>	<b>FY +2 Year</b>	<b>FY +3 Year</b>	<b>FY +4 Year</b>	<b>FY +5 Year</b>
<b>SAVINGS:</b>	\$	\$	\$	\$	\$	\$
<b>Regulated Community</b>	\$22,071,380	\$22,071,380	\$22,071,380	\$22,071,380	\$22,071,380	\$22,071,380

<b>Local Government</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>State Government</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Savings</b>	\$22,071,380	\$22,071,380	\$22,071,380	\$22,071,380	\$22,071,380	\$22,071,380
<b>COSTS:</b>						
<b>Regulated Community</b>	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950
<b>Local Government</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>State Government</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Costs</b>	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950	\$79,572,410 — 102,792,950
<b>REVENUE LOSSES:</b>						
<b>Regulated Community</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Local Government</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>State Government</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total Revenue Losses</b>	\$0	\$0	\$0	\$0	\$0	\$0

(23a) Provide the past three year expenditure history for programs affected by the regulation.

<b>Program</b>	<b>FY -3 2010-2011</b>	<b>FY -2 2011-2012</b>	<b>FY -1 2012-2013</b>	<b>Current FY 2013-2014</b>
Environmental Program Management (#161-10382)	\$28,881,000	\$27,755,000	\$23,663,000	\$26,297,000
Environmental Protection Operations (#160-10381)	\$78,021,000	\$77,359,000	\$74,547,000	\$76,221,000
Well Plugging Account (#693-60083)	\$16,222,000	\$16,332,000	\$16,371,000	\$18,571,000

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

a) *An identification and estimate of the number of small businesses subject to the regulation.*

According to the U.S. Small Business Administration, For NAICS codes 211111 (Crude Petroleum and Natural Gas Extraction) and 213111 (Drilling Oil and Gas Wells), businesses with less than 500 employees are considered by the U.S. Small Business Administration to be small businesses. According to the Department's permitting records, there are currently 75 operators of unconventional well sites in Pennsylvania, and that number is not expected to change significantly in the near term. The Marcellus Shale Coalition, an industry association that represents exploration, production, midstream, and supply chain partners of unconventional natural gas drilling, has estimated that less than half of the operators affected may be classified as a small business.

The Department estimates that almost all of the 7,280 conventional operators that operate within Pennsylvania are small businesses.

Because the small business determination for pipeline companies is based on gross annual receipts of less than \$33.5 million for oil and gas pipeline and related structures construction companies and less than \$25.5 million for pipeline transportation of natural gas companies, the Department is unable to determine the number of pipeline companies operating in Pennsylvania that would qualify as small businesses.

The estimated total is 7,317 small businesses that would be subject to this proposed regulation.

- b) *The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.*

The following are provisions of the proposed regulation that may or may not apply to an operator based on their chosen business practices and operations. Please also see the response to number 22.

### Reporting

- On the permit application, an applicant must provide proof of consultation with the Pennsylvania Natural Heritage Program regarding the presence of a state or federal threatened or endangered species where the proposed well and access road are located.
- If pits are used in extraction activities, the operator must provide documentation of the determination of seasonal high groundwater for the placement of the waste pit, including the name and qualifications of the individual who performed the evaluation. Typically, a Professional Geologist or Professional Engineer can make the determination. However, DEP will provide free training to operators so that they will be able to make this determination themselves.
- Conventional operators that utilize underground or partially buried storage tanks will be required to submit a list of the locations of the tanks with a schedule for their removal or seek approval from DEP to continue their use within 6 months of the effective date of the rulemaking.
- If an operator chooses to use centralized wastewater impoundments, they will be required to submit quarterly water samples from monitoring wells.

- Entities (operators, municipalities, private contractors, PennDOT, etc) that choose to land apply brine for dust suppression, road stabilization, anti-icing, or deicing will be required to submit monthly brine spreading reports to DEP.

#### Recordkeeping

- An operator is required to keep records of the locations of temporary pipelines, the types of fluids transported through those pipelines, and the period of time in which the pipeline was installed.

#### Other administrative costs

- Submission of proof of written notification by an unconventional well operator to a homeowner explaining that some of their rights may be waived if they refuse to allow the operator to conduct a predrill survey on their water supply.
- Identification of abandoned and orphaned wells within 1,000 feet from a gas well bore or 500 feet from an oil well prior to hydraulic fracturing the well.
- If an operator is using an onsite pit at an unconventional well site, they must provide an electronic notification 3 days prior to installation of the liner to provide an inspector adequate time to plan for a site visit.
- If an operator will dispose of drill cuttings through pit encapsulation or by land application, they must electronically notify DEP 3 days prior to provide an inspector adequate time to plan for a site visit. Unconventional operators must also submit the test results to DEP of the cuttings that were disposed of on the well site.
- If operators are utilizing a borrow pit for site construction, they will be required to register its location with DEP.

#### *c) A statement of probable effect on impacted small businesses.*

Some additional costs to unconventional and conventional operators classified as small businesses will occur as a result of these proposed regulations; however DEP has minimized the costs of this proposed rulemaking to small businesses (primarily conventional well operators), as described in number 25 below.

In comparison, as concluded by a 2011 Penn State study, many small businesses in Pennsylvania benefit from the \$1.145 billion dollars in annual economic activity and 12,630 jobs provided by tourism to Pennsylvania's state parks. This regulation will ensure that those businesses will continue to benefit as these facilities will be protected through additional avoidance and mitigation measures taken by well operators.

#### *d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.*

The department designed this regulation around performance based standards, allowing each individual operator to choose which practices are best for their operations. There are many options for management

of waste streams, but those practices which have a higher likelihood of impacting the environment and public safety and health will be required to have additional controls to ensure the highest level of protection to the Commonwealth.

Conventional well operations are much smaller in scope and they generate far less waste than unconventional drilling, therefore the potential impact to the environment is significantly less. This has been taken into consideration while these proposed regulations were being developed, which resulted in the exclusion of conventional operations from several sections of this proposed regulation. A list of the regulatory requirements applicable to conventional operations is provided in response to question 15 above.

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

The Department took into consideration some special provisions for land owners, specifically farmers, with regard to potential emergencies and land uses. If a property owner would like to receive a copy of the Preparedness, Prevention, and Contingency Plan, the operator must provide it to them. If a landowner prefers to retain a freshwater impoundment or well pad on their property, the operator may obtain signed landowner consent and will not be required to restore the area. Mostly developed for the need of farmers, a well site must be restored to the approximate original conditions, including the preconstruction contours and be able to support the original land uses within 9 months after plugging a well. Operators will also be required to provide a copy of the site restoration report to the landowner if drill cuttings or residual waste are disposed on the well site. This will ensure that the landowner does not lose property or future crop growing area through oil and gas activities.

As described in response to questions 15 above, DEP also considered and minimized the regulatory burden on conventional well drillers to include only those provisions deemed necessary to protect public health and the environment.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

Alternative regulatory provisions that were considered by DEP include the elimination of pits and underground storage tanks for the management of wastes. DEP also considered requiring landowner consent prior to the disposal of cuttings or residual waste at the well site. Given the longstanding and successful use of these practices by conventional well operators, DEP determined that such restrictions were not practical.

DEP also considered requiring operators to identify orphaned and abandoned wells prior to well permitting. Because over 40% of all wells permitted are never drilled, DEP determined that such identification prior to hydraulic fracturing was a more efficient and results oriented process. Finally, DEP considered requiring permits prior to the use of various facilities such as freshwater impoundments, modular storage structures and onsite processing. However this regulation is designed around planning, pre-approvals, notifications of certain activities, and specific construction and operation standards including monitoring, inspection, and reporting requirements. This eliminates a traditional permitting process. For pre-approvals of solidifiers, modular storage, and wastewater processing operations, the Department will post online each of the previously approved chemicals,

methods, and systems to further enhance business efficiencies.

Additionally, if a permit applicant obtains an erosion and sediment control permit under Pa Code Chapter 102, proof of consultation with the Pennsylvania Natural Heritage Program as part of the well permit application will be deemed as being met.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

Generally, please also see the responses to numbers 15 and 25.

*a) The establishment of less stringent compliance or reporting requirements for small businesses;*

All operators regardless of size will have the ability to request alternatives practices to the regulation with regard to pits, waste disposal, and impoundments. An operator may request to vary from the regulation if they can show that the practice is equivalent or superior for environmental protection.

*b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses;*

Many of the required documents and test results demonstrating compliance are proposed to be submitted on a timeframe that will not cause a hindrance to operation timelines. Examples include drill cuttings sample results being submitted with the site restoration report instead of requiring DEP review and approval prior to on-site disposal. Another example is seasonal high groundwater determinations for waste pits certifications being submitted with the site restoration report.

*c) The consolidation or simplification of compliance or reporting requirements for small businesses;*

For consolidation or simplification of compliance for all operators, one of the major intents of this proposed regulation is for Chapter 78 to be the one source for regulatory requirements on this industry. Other programs and regulations have requirements regarding oil and gas operations, which makes it difficult for operators to know which regulations apply to them. Additionally, if a permit applicant obtains an erosion and sediment control permit under Pa Code Chapter 102, proof of consultation with the Pennsylvania Natural Heritage Program as part of the well permit application shall be deemed as being met. Another measure aimed at simplification is DEP's commitment to listing the pre-approved solidifiers, modular containment systems, and wastewater processing facilities online to eliminate redundancy and increase business efficiencies.

Electronic reporting will consolidate or simplify reporting requirements for all operators. DEP has also designed these proposed regulations to include additional reporting requirements on reports that are already provided to the department. For example, pit testing results can be included on the operators site restoration report.

- d) *The establishment of performing standards for small businesses to replace design or operational standards required in the regulation; and*

Most of the proposed regulations are based upon performance standards with protection of the environment as the goal. The Department believes the performance standards in these proposed regulations will promote cost savings to operators and new innovation for small businesses, especially those in the supply chain. An example of performance based standards is the expanded temporary storage regulations to allow for modular storage structures to be utilized. There are many possible designs of these storage structures for companies to offer to industry. The newly proposed onsite processing regulations use performance based standards, which allows for operators to choose from various wastewater treatment techniques to meet their particular needs. The newly proposed containment systems and practices for unconventional well sites regulations also have performance based standards small businesses are already taking advantage of in promoting their products to aid industry with meeting these standards.

- e) *The exemption of small businesses from all or any part of the requirements contained in the regulation.*

Conventional well operations make up the majority of the small businesses impacted by this regulation. By nature of their processes, they are much smaller in scope and they generate far less waste than unconventional drilling, therefore the potential impact to the environment is significantly less. This has been taken into consideration while these proposed regulations were being developed, which resulted in conventional operator exemptions from several sections of this proposed regulation, including: certain PPC requirements, monitoring or fencing requirements for pits, signage requirements for storage facilities, seasonal high groundwater determinations for temporary pits, notification of installation of pit liners, and containment systems and practices. Many activities that have additional requirements only apply to unconventional operations. Conventional well operators were only included in provisions that were deemed necessary to protect the environment regardless of the type or size of the oil and gas operation.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

Data is not the basis for this regulation.

(29) Include a schedule for review of the regulation including:

A. The date by which the agency must receive public comments: 4<sup>th</sup> Quarter 2013

- |   |                              |
|---|------------------------------|
| B. The date or dates on which public meetings or hearings will be held:                     | 4 <sup>th</sup> Quarter 2013 |
| C. The expected date of promulgation of the proposed regulation as a final-form regulation: | 4 <sup>th</sup> Quarter 2014 |
| D. The expected effective date of the final-form regulation:                                | 4 <sup>th</sup> Quarter 2014 |
| E. The date by which compliance with the final-form regulation will be required:            | 4 <sup>th</sup> Quarter 2014 |
| F. The date by which required permits, licenses or other approvals must be obtained:        | 4 <sup>th</sup> Quarter 2014 |

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended. DEP will have continued interaction with the Oil and Gas Technical Advisory Board and industry roundtables. As issues arise, DEP will have continuous evaluation.



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Copy below is hereby approved as to form and legality.  
Attorney General

*Amy M. Elliott*  
By: \_\_\_\_\_  
(Deputy Attorney General)

**NOV 19 2013**

DATE OF APPROVAL

Check if applicable  
Copy not approved. Objections attached.

Copy below is hereby certified to be true and  
correct copy of a document issued, prescribed or  
promulgated by:

DEPARTMENT OF ENVIRONMENTAL  
PROTECTION  
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-484

DATE OF ADOPTION AUGUST 27, 2013

*E. Christopher Abruzzo*  
BY \_\_\_\_\_

TITLE **E. CHRISTOPHER ABRUZZO  
ACTING CHAIRMAN**

EXECUTIVE OFFICER CHAIRMAN OR SECRETARY

Copy below is hereby approved as to form and legality  
Executive of Independent Agencies

BY *Shawn E. Smith*  
\_\_\_\_\_ SHAWN E. SMITH

**SEP 26 2013**

DATE OF APPROVAL

(Deputy General Counsel)  
(~~Chief Counsel - Independent Agency~~)  
(Strike inapplicable title)

Check if applicable. No Attorney General Approval  
or objection within 30 days after submission.

**NOTICE OF PROPOSED RULEMAKING**

**DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ENVIRONMENTAL QUALITY BOARD**

**Environmental Protection Performance Standards at Oil and Gas Well Sites**

**25 Pa. Code, Chapter 78, Subchapter C**



**Notice of Proposed Rulemaking**  
**Department of Environmental Protection**  
**Environmental Quality Board**  
**25 Pa. Code Chapter 78**  
**(Oil and Gas Wells)**

**Preamble**

The Environmental Quality Board (Board) proposes to amend 25 Pa. Code Chapter 78 (relating to Oil and Gas Wells). The proposed rulemaking would amend Chapter 78 to update the requirements related to surface activities associated with the development of oil and gas wells. Additionally, the proposed amendments would address recent statutory changes in Act 13 of 2012 (58 Pa.C.S. §§ 2301-3504). The new and amended sections are §§ 78.1, .2, .13, .15, .17, .18, .19, .21, .25, .28, .33, .51, .52, .52a, .53, .55, .56, .57, .58, .59, .59a, .59b, .59c, .60, .61, .62, .63, .64, .64a, .65, .66, .67, .68, .68a, .68b, .69, .70, .70a, .72, .73, .75, .76, .87, .91, .101, .103, .105, .121, .122, .123, .301, .302, .303, .306, .308, .309, .310, .402, .403, .404, .902.

The proposed regulations would update existing requirements regarding containment of regulated substances, waste disposal, site restoration and reporting releases. The proposed regulations would establish new planning, notice, construction, operation, reporting and monitoring standards for surface activities associated with the development of oil and gas wells. This includes requirements for freshwater impoundments, centralized impoundments, containment systems and practices for unconventional wells, wastewater processing, borrow pits, gathering lines, horizontal directional drilling, temporary pipelines, and road-spreading of brine. The proposed regulations would also add new requirements for addressing impacts to public resources, identifying and monitoring orphaned and abandoned wells during hydraulic fracturing activities, and water management planning. These additional requirements will provide increased protection of public health, safety, and the environment.

This proposed rulemaking was adopted by the Board at its meeting on August 27, 2013.

**A. Effective Date**

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*.

**B. Contact Persons**

For further information contact Kurt Klappkowski, Director, Bureau of Oil and Gas Planning and Program Management, Rachel Carson State Office Building, 15th floor, 400 Market Street, P.O. Box 8765, Harrisburg, PA 17105 8765, 717-772-2199; or Elizabeth Nolan, Assistant Counsel, Bureau of Regulatory Counsel, P.O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal

is available electronically through the Department of Environmental Protection's (Department) website at [www.dep.state.pa.us](http://www.dep.state.pa.us) (select Public Participation).

### **C. Statutory Authority**

This proposed rulemaking is being made under the authority of Sections 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c), and 3274 of the 2012 Oil and Gas Act (58 Pa.C.S. §§ 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c), 3274), Section 5 of the Clean Streams Law (35 P. S. §§ 691.5), Section 105 of the Solid Waste Management Act (35 P. S. §§ 6018.105), Section 5 of the Dam Safety and Encroachments Act (32 P.S. §§ 693.5), Section 104 of the Pennsylvania Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6062.104); and Sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-17, 510-20).

### **D. Background and Purpose**

The proposed regulations will amend the current oil and gas well regulations and add additional controls to the surface activities on a well site. Over the last several years, advances in drilling and completion technologies have attracted interest in producing natural gas from unconventional formations in Pennsylvania, including the Marcellus Shale formation. Compared to conventional oil and gas development in Pennsylvania, these recent advances involve larger well sites, larger centralized freshwater and waste storage facilities, mobile wastewater processing facilities, larger volumes of water for hydraulic fracturing activities, new pipelines systems, and increased amounts of regulated substances generated during drilling and hydraulic fracturing activities. Additionally, on February 14, 2012, Governor Corbett signed Act 13 of 2012 (58 Pa.C.S. §§ 2301-3504) into law. Act 13 repealed the act of December 19, 1984, P.L. 1140, No. 223, as amended, 58 P.S. §§ 601.101 et seq. (1984 Oil and Gas Act), amending and consolidating its provisions into Chapter 32 Title 58 of the Pennsylvania Consolidated Statutes (2012 Oil and Gas Act). The 2012 Oil and Gas Act contains new environmental protections for unconventional wells and directs the Board to promulgate specific regulations. For these reasons, the Department initiated this rulemaking.

These proposed regulations would update 25 Pa. Code Chapter 78 with revised planning, performance, notice, operation, reporting, and monitoring standards to strengthen environmental protections associated with the development of oil and gas wells. The proposed amendments include new requirements for considering impacts to public resources, water supply restoration or replacement, identification of orphaned and abandoned wells, temporary storage of regulated substances, freshwater impoundments, centralized impoundments, waste management, containment systems and practices for unconventional wells, site restoration, borrow pits, gathering lines, horizontal directional drilling, temporary pipelines, water management plans, and road-spreading activities.

On February 16, 2012, the Department presented a conceptual summary of the proposed revisions to 25 Pa. Code Chapter 78 to the Oil and Gas Technical Advisory Board (TAB). After the enactment of Act 13 of 2012, this summary was revised and discussed with TAB on August 15, 2012. A draft of the proposed rulemaking was discussed at TAB meetings on February 20, 2013. In response to TAB's comments, the Department revised the draft proposed rulemaking and presented it to TAB on April 23, 2013 for their consideration. At the April 23 meeting, TAB

voted unanimously to recommend that the Board publish these regulations as a proposed rulemaking.

**Status of the Act 13 of 2012 Litigation (*Robinson Township et al. v. Commonwealth of Pennsylvania, et al.*)**

By way of further background, Section 3215(b)(4) of the 2012 Oil and Gas, 58 Pa.C.S. § 3215(b)(4), provides the Department the authority to issue waivers from certain well location restrictions upon submission of a plan identifying additional measures, facilities or practices to be employed during well site construction, drilling and operations necessary to protect the waters of this Commonwealth. On July 26, 2013, in *Robinson Township, et al. v. Commonwealth of Pennsylvania, et al.*, Pa. Commw. No. 284 MD 2012, the Pennsylvania Commonwealth Court held that Section 3215(b)(4) is unconstitutional, null and void in violation of the non-delegation doctrine. On July 27, 2013, the Commonwealth of Pennsylvania filed an appeal of this decision to the Pennsylvania Supreme Court. On August 15, 2012, the Commonwealth Court ruled to stay the decision preventing the Commonwealth Court's July 26, 2012 Opinion and Order from taking effect until final resolution of the issue by the Pennsylvania Supreme Court. On October 17, 2012, the Pennsylvania Supreme Court heard oral arguments regarding this matter. A decision from the Pennsylvania Supreme Court is still pending.

**E. Summary of Regulatory Requirements**

§ 78.1 Definitions.

The proposed regulation contains new or revised definitions for "Act 2", "anti-icing", "approximate original conditions", "body of water", "borrow pit", "centralized impoundment", "condensate", "containment system", "conventional formation", "conventional well", "de-icing", "department", "freeboard", "freshwater impoundment", "gathering pipeline", "mine influenced water", "oil and gas operations", "PCSM plan", "pit", "pre-wetting", "process or processing", "PPC plan", "regional groundwater table", "regulated substance", "stormwater", "temporary pipelines", "watercourse", and "wetland" were added to reflect the proposed requirements. Pursuant to statutory changes in Act 13, this rulemaking provides new definitions for "Act", "owner", "public water supply", "water management plan", "water purveyor", "water source", and "well operator or operator."

§ 78.15 Application requirements.

The proposed revisions to subsection (a) require well permit applications to be submitted electronically through the Department's website.

Subsection (c) is proposed to be added to address statutory changes in Act 13 that require the Department review a well permit applicant's parent and subsidiary corporations' compliance history for operations in the Commonwealth.

Subsection(d) is proposed to be added to require well permit applicants to consult with the Pennsylvania Natural Heritage Program (PNHP) regarding the presence of State or Federal threatened or endangered species (T&E species) where the proposed well site or access road will

be located and outlines a process to address any adverse impacts. Many well permit applicants address impacts to T&E species when fulfilling their permitting obligations under 25 Pa. Code Chapter 102. For that reason a new subsection (e) is proposed to specify that compliance with Chapter 102.5 and 102.6(a)(2) is deemed to comply with the requirements to address T&E species as part of the well permit application process.

Subsection (f) is proposed to be added to outline a process for the Department to consider the impacts to public resources when making a determination on a well permit in accordance with requirements in the 2012 Oil and Gas Act. Subsection (f) proposes to require well permit applicants to identify when the proposed well site or access road may impact a listed public resource, notify applicable jurisdiction agencies, and provide the Department and the jurisdictional agencies with a description of the functions and uses of the public resources and avoidance or mitigation measures to be taken, if any. This section also provides applicable jurisdictional agencies the opportunity to submit comments to the Department, including any recommendations to avoid or minimize impacts, during a 15-day timeframe.

Act 13 directed the Board to promulgate regulations for the Department to condition a well permit based on its impact to public resources. Subsection (g) is a new section proposed to implement this new statutory requirement providing that the Department may condition a well permit if it determines that the proposed well site or access road poses a probable harmful impact to a public resource. Section 3215(e) of Act 13 requires the Department to consider the impact of the condition on the applicant's ability to exercise its property rights to ensure optimal development of the resources, and provides a mechanism by which the operator may appeal the Department's determination.

#### § 78.18. Disposal and enhanced recovery well permits.

Subsection (d) is a new provision that would specify that storage and waste processing requirements apply to disposal and enhanced recovery well sites.

#### § 78.51. Protection of water supplies.

The proposed amendments clarify that the presumption of liability established in 58 Pa.C.S. § 3218(c) does not apply to pollution resulting from well site construction activities.

Act 13 established a new provision that specifies a restored or replaced water supplies must meet Pennsylvania Safe Drinking Water Act standards or be comparable to the quality of the water supply before it was affected if that water was of a higher quality than those standards. This section has been amended to reflect this statutory language.

#### § 78.52. Predrilling or prealteration survey.

The revisions to subsection (d) propose to establish a new process for submitting predrill sample results to the Department and applicable water users. Under this proposed process, an operator electing to preserve its defenses under sections 3218(d)(1)(i) and 3218(d)(2)(i) shall submit all sample results taken as part of a survey to the Department within 10 business days of receipt of

all the sample results taken as part of that survey. A copy of sample results must be provided to water users within 10 business days of receipt of the sample results.

Subsection (g) is a new provision reflecting new Act 13 requirements that unconventional well operators provide written notice to water supply owners that the presumption established in 58 Pa.C.S. § 3218(c) may be void if the landowner or water purveyor refuses to allow the operator access to conduct a predrilling or prealteration survey and provided that the operator submits proof of such notice to the Department.

§ 78.52a. Abandoned and orphaned well identification.

This new section proposes to require operators to identify orphaned and abandoned wells in proximity to the vertical and horizontal well bore prior to hydraulically fracturing a well. The section outlines how operators must conduct this identification, including consulting with the Department's database, farm line maps, and submitting a questionnaire to surface landowners. The results of this survey must be provided to the Department.

§ 78.53. Erosion and sediment control.

The amendments to this section cross-reference the requirements of 25 Pa. Code Chapter 102 (relating to erosion and sediment control). This section also specifies that best management practices for erosion and sediment control for oil and gas activities are listed in the Erosion and Sediment Pollution Control Program Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008, as amended and updated, and the Oil And Gas Operators Manual, Commonwealth of Pennsylvania, Department of Environmental Protection, Guidance No. 550-0300-001, as amended and updated.

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

The amendments to this section clarify Preparedness, Prevention and Contingency (PPC) plan requirements for oil and gas operations. Persons conducting oil and gas operations shall prepare and implement site-specific PPC plans according to the requirements in Chapter 91.34 (Activities Utilizing Pollutants) and Chapter 102 (Erosion and Sediment Control). Further proposed changes provide that the well operator must prepare and develop a site-specific PPC plan prior to storing, using, generating or transporting regulated substances to, on or from a well site from the drilling, alteration, production, plugging or other activity associated with oil and gas wells.

Proposed changes to this section would further require that the unconventional well operator's PPC plan describe containment practices to be utilized and the area of the well site where containment systems will be employed as required in section 78.64a as well as a description of equipment to be kept onsite during drilling and hydraulic fracturing activities that can be used to prevent spills. The proposed amendments also provide that a PPC plan developed in conformance with the *Guidelines for the Development and Implementation of Environmental Emergency Response Plans*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 400-2200-001, as amended and updated, shall be deemed to meet the requirements of this section.

#### § 78.56. Temporary storage.

The amendments to this section include changing the name of the section from “Pits and tanks for temporary containment” to “Temporary Storage” to clarify the difference between storage requirements and containments requirements in § 78.64a.

Paragraph (a)(2) is proposed to be added to specify that modular aboveground storage structures may be used to temporarily contain regulated substances upon prior Department approval and notice prior to installation. This paragraph also proposes that the Department will maintain a list of approved modular structures on its website.

The amendments to this section also include new monitoring requirements for pits and tanks at unconventional well sites or, in the alternative, fencing requirements for pits and valve and access lid requirements for tanks. Additionally, this section proposes new signage requirements for tanks at unconventional well sites. The amendments also propose new construction standards for pits at unconventional well sites, including liner compatibility testing, liner seam testing, inspection requirements, notification to the Department prior to pit liner installation, and a demonstration that the pit bottom is 20 inches above the seasonal high groundwater table.

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

The amendments to this section propose to prohibit the use of open top structures and pits to store brine and other production fluids generated during the production operations of a well. If new, refurbished or replaced tanks are used to store these fluids, these tanks must be equipped with secondary containment. This section also proposes new performance and technical standards for tanks storing brines and other production fluids generated during production operations. Additionally, this section proposes a process for identifying and removing or obtaining approval to use underground or partially buried storage tanks that are used to store brine and other fluids produced during operation of the well.

#### § 78.58. Onsite Processing.

This section proposes to delete provisions related to the approval of pits that existed prior to July 29, 1989. The amendments to this section also propose new provisions relating to wastewater processing at well sites. Subsection (a) proposes to allow operators to process fluids generated by oil and 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 upon Department approval. Subsection (e) proposes a process for using approved processing facilities at subsequent well sites. Subsection (b) proposes specific activities that do not require Department approval, including mixing fluids with freshwater, aerating fluids, or filtering solids from fluids. New proposed subsection (c) specifies that drill cuttings may only be processed at the well site where those drill cuttings were generated, if approved by the Department.

§ 78.59a. Impoundment embankments.

This newly added section contains design and construction standards for both freshwater and centralized impoundments, including construction and stabilization requirements for embankments.

§ 78.59b. Freshwater impoundments.

This newly added section creates registration, performance and safety and security requirements for freshwater impoundments. This proposed section would require freshwater impoundments to be 20 inches above the seasonal high groundwater table and requires operators to document the depth of the seasonal high groundwater table, the manner that it was ascertained, and the distance between the seasonal high groundwater table and the impoundments. This section also proposes a restoration requirement for freshwater impoundments. Additionally, this section contains a process for storing mine influence water in freshwater impoundments to ensure that it will not result in pollution to waters of the Commonwealth.

§ 78.59c. Centralized impoundments.

This is a newly added section that would establish permitting requirements for centralized impoundments in Chapter 78. This section proposes restrictions to the location of centralized impoundments, setback requirements and design and construction standards, including sub-base, secondary liner, leak detection system, and primary liner requirements. Additionally, this section proposes that persons seeking to construct a centralized impoundment must complete a baseline hydrological investigation to document background conditions. Centralized impoundment operators must also install, operate and maintain a water quality monitoring system. Further, this section proposes new requirements for oversight by professional geologists and licensed engineers. Additionally, this section proposes new restoration requirements for centralized impoundments.

§ 78.60. Discharge requirements.

The proposed amendments to this section specify that operators discharging tophole water by land application must document compliance with the regulatory requirements, including those under the Dam Safety and Encroachments Act, make such records available to the Department upon request, and submit the relevant information in the well site restoration report. In addition, the proposed amendments add fill or dredged material to this section.

§ 78.61. Disposal of drill cuttings.

The proposed amendments to this section would specify the loading and application rate for the land application of drill cuttings. Additionally, this section provides that the Department will maintain a list of approved solidifiers for the disposal of uncontaminated drill cuttings in pits. Further, this section specifies that the operator must notify the Department prior to disposing drill cuttings pursuant to this section.

§ 78.62. Disposal of residual waste—pits.

The proposed amendments to this section clarify that solid waste generated by hydraulic fracturing of unconventional wells or processing wastewater pursuant to section 78.58 (Onsite Processing) may not be disposed of in a pit on the well site. However, residual waste, including contaminated drill cuttings, can be disposed of in a pit on the well site. Additionally, the amendments to this section require the operator to notify the Department prior to disposing residual waste. This section also proposes a requirement that operators determine that the pit bottom is 20 inches above the seasonal high groundwater table prior to using the pit and that the determination be certified by a soil scientist or other similarly trained person using accepted and documented scientific methods. Compliance with this section must be documented and made available to the Department upon request as well as be submitted in the well site restoration report.

§ 78.63. Disposal of residual waste—land application.

The proposed amendments to this section clarify that solid waste generated by hydraulic fracturing of unconventional wells or processing fluids pursuant to section 78.58 may not be disposed of by land application at the well site. However, residual waste, including contaminated drill cuttings, can be disposed of on the well site by land application. The amendments to this section include a new provision that requires the operator to notify the Department 3 business days prior to land application. This notice shall be submitted electronically to the Department through its website and include the date the residual waste will be disposed. Compliance with this section must be documented and made available to the Department upon request as well as submitted in the well site restoration report.

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

This proposed rulemaking would add this section to require that unconventional well sites be designed and constructed using containment systems and practices that prevent spills to the ground surface and off the well site, in accordance with new Act 13 requirements. This section specifies when such systems and practices must be employed. Further, this new section specifies secondary containment requirements. Additionally, this section proposes provisions related to subsurface containment systems.

§ 78.65. Site restoration.

The proposed amendments to this section would clarify the well site restoration requirements, including when restoration is required if there are multiple wells drilled on a single well site and what constitutes a restoration after drilling.

Act 13 created a new provision that allows for a two-year extension of the restoration requirements upon approval of a plan that demonstrates that the extension will result in less earth disturbance, increased water reuse or more efficient development of the resource. This section describes the information that must be submitted in order to obtain a two-year extension under section 3216.

This section also proposes that written consent of the landowner satisfies the restoration requirements so long as the operator complies with the post construction stormwater management requirements in 25 Pa. Code Chapter 102. Additionally, this section proposes amendments to the well site restoration report requirements, including forwarding a copy to the surface landowner.

#### § 78.66. Reporting and remediating releases.

The amendments to this section include amending the title of the section to include remediating releases. Proposed amendments to this section also clarifies the requirements related to spills and releases of regulated substances on or adjacent to well sites and access roads. This proposed section further specifies what spills or releases must be reported to the Department; when and how such a report must be made; what information needs to be reported; and necessary corrective measures.

This proposed section also clarifies that the operator or responsible party must remediate an area affected by a spill or release, in accordance with subsection (c), which outlines three different remediation options.

#### § 78.67. Borrow Pits

This newly added section provides requirements for noncoal borrow areas for oil and gas well development, including performance, registration and restoration requirements.

#### § 78.68. Oil and gas gathering lines

This newly added section contains requirements related to the construction and installation of gathering pipelines, including a limit on the extent of associated earth disturbance, flagging requirements and topsoil/subsoil standards. Pursuant to new Act 13 requirements, this section also contains corrosion control requirements for buried metallic gathering lines.

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

This newly added section contains proposed requirements for horizontal directional drilling associated with gathering and transmission pipelines, including planning, notification, construction, and monitoring requirements. This section contains cross references to other applicable regulatory requirements in 25 Pa. Code Chapters 102 and 105. This section proposes that Department approval is required prior to using drilling fluid other than bentonite and water. Additionally, this section specifies that horizontal directional drilling activities may not result in a discharge of drilling fluids to waters of the Commonwealth. In the event of a discharge, this section outlines the steps that an operator must take to report and address that discharge. This section also proposes that any water supply complaints obtained by the operator be reported to the department within 24 hours.

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

This newly added section contains the requirements for temporary pipelines associated with oil and gas operations, including installation, construction, flagging, pressure testing, inspection operation, recordkeeping, and removal requirements. This section also contains cross references to applicable regulatory requirements in 25 Pa.Code Chapters 102 and 105.

§78.69. Water management plans.

The proposed regulation would add this section to address posting, monitoring, and reporting in the Ohio River Basin; reuse planning requirements; WMP expiration and renewals. This proposed section also outlines the circumstances under which the Department may deny a WMP's application or suspend, revoke, or terminate an approved WMP.

§ 78.70. Road-spreading of brine for dust control and road stabilization.

This newly added section proposes requirements relating to road-spreading of brine from oil and gas wells for dust suppression and road stabilization. This section does not apply to fluids generated from unconventional wells, including Marcellus wells.

This section proposes that use of brine for dust suppression and road stabilization must only be conducted pursuant to an annual plan approved by the Department. This section further proposes planning, notification, operation, performance, reporting, and recordkeeping requirements. This section also specifies that activities conducted pursuant to this section are deemed to have a residual waste permit by rule.

§ 78.70a. Pre-wetting, anti-icing and de-icing.

This newly added section proposes requirements for use of brine from conventional oil and gas wells for pre-wetting, anti-icing and de-icing. This section does not apply to fluids generated from unconventional wells, including Marcellus wells.

This section proposes that use of brine for pre-wetting, anti-icing and de-icing activities must only be conducted pursuant to an annual plan approved by the Department. This section proposes plan requirements, operation standard, constituent concentration limits, and application rates. Additionally, the section proposes sampling procedures of brine sources and recordkeeping requirements for the analytical evaluations as well as monthly reporting requirements. This section further specifies that activities conducted pursuant to this section are deemed to have a residual waste permit by rule.

§ 78.73. General provision for well construction and operation.

Subsections (c) and (d) are new proposed subsections requiring operators to visually inspect orphaned and abandoned wells identified pursuant to section 78.52a during hydraulic fracturing activities. This subsection proposes to require operators to notify the department of any changes to those wells and to take action to prevent pollution or discharges to the surface. The

amendments codify the requirement that an operator that alters an abandoned and orphaned well by hydraulic fracturing must plug that well.

§ 78.122. Well record and completion report.

The proposed amendments to this section address new Act 13 statutory requirements, including new well report and stimulation record requirements.

§ 78.123. Logs and additional data.

The proposed changes address new Act 13 requirements and clarify when industry logs and data collected during drilling activities need to be submitted to the Department.

§ 78.309. Phased deposit of collateral.

This section is proposed to be deleted in response to new bonding requirements in Act 13.

## **F. Benefits, Costs and Compliance**

### **Benefits**

Both the residents of this Commonwealth and the regulated community will benefit from these regulations. The proposed process for identifying and considering the impacts to public resources will ensure that any probable harmful impacts to public resources will be avoided or mitigated while providing for the optimal development of oil and gas resources. The proposed provisions that require operators to identify orphaned and abandoned wells and monitor such wells during hydraulic fracturing activities will minimize potential impacts to waters of the Commonwealth. The proposed containment systems and practices requirements for unconventional well sites will minimize spills and releases of regulated substances at wells site and ensure that any spills or releases are properly contained. The proposed amendments to the reporting requirements for releases will ensure state-wide consistency for reporting and remediating spills and releases.

New planning, notification, construction, operation, testing, and monitoring requirements for pits, tanks, modular aboveground storage structures, freshwater impoundments, centralized impoundments and pipelines will help prevent releases or spills that may otherwise result without these additional precautions. Additionally, the proposed monitoring and fencing requirements for pits and impoundments and tank valve and access lid requirements for tanks ensure protection from unauthorized acts of third parties and damage from wildlife. Further, the proposed requirements related to wastewater processing at well sites will encourage the beneficial use of wastewater for drilling and hydraulic fracturing activities.

The proposed amendments contain several new notification requirements which will enable Department staff to effectively and efficiently coordinate inspections at critical stages of pit construction, modular aboveground storage facility installation, drill cutting or residual waste disposal, horizontal directional drilling, and road-spreading activities. Additionally, proposed electronic submission requirements for well permits, notifications and predrill surveys will enhance efficiency for both the industry and the Department.

As new areas of the Commonwealth are developed for natural gas, these proposed regulations will avoid many potential health, safety and environmental issues as well as provide a consistent and efficient approach to oil and gas development in Pennsylvania.

### **Compliance Costs**

There are compliance costs associated with the additional environmental protection measures in these proposed regulations. These additional costs primarily fall on unconventional well operators due to the passage of the 2012 Oil & Gas Act (Act 13).

The estimated total compliance costs of this regulation on all unconventional operators are between \$75,002,050 and \$96,636,950 annually. The estimated savings of this regulation on unconventional operators is approximately \$21,734,700 annually. Taken together, the estimated net cost of this proposed regulation on unconventional operators is between \$53,267,350 and \$74,902,250 annually.

The estimated compliance costs of this regulation on conventional operators are between \$5,389,360 and \$12,006,000. The estimated savings of this regulation on conventional operators is approximately \$36,680 per year. The estimated net cost of this proposed regulation on conventional operators is between \$5,352,680 and \$11,969,320.

### **Compliance Assistance Plan**

The Department has worked extensively with representatives from the regulated community and leaders from several industry organizations have attended the advisory committee meetings where the proposed regulations have been discussed. Therefore, the requirements proposed in this rulemaking are well known.

The Department plans to schedule training sessions for the regulated community to address the new regulatory requirements when the regulation is finalized. Additionally, DEP field staff are the first points of contact for technical assistance and will be able to provide guidance to the regulated community through technical information and direct field-level assistance.

The Department also plans to provide training when the regulation is finalized on how to identify and document the seasonal high groundwater table as required in Sections 78.56(a)(11) and 78.62(a)(9), of the proposed amendments and 78.63(a)(9) of the existing Chapter 78 regulations.

### **Paperwork Requirements**

The proposed amendments contain several new planning requirements, when applicable, including a site characterization and groundwater testing plans for centralized impoundments; a mine influenced water storage plan; and remedial action plans for spill and releases.

New notification requirements are proposed for the following, when applicable: receipt of water supply complaints, installation of modular storage structures, use of previously approved wastewater processing facilities, centralized impoundment leakage, disposal of drill cuttings, disposal of residual waste, horizontal directional drilling, and road-spreading activities. These

notifications are proposed to be submitted electronically through the Department's website, thereby reducing paperwork.

Additionally, the proposed amendments require the development and submission of forms relating to the following activities, when applicable: consideration of public resources, location of orphaned and abandoned wells, certification by licensed professionals related to pits, removal of underground or partially buried tanks, registration of freshwater impoundments, plans for mine-influenced water storage, extensions for well site restoration, and planning and reporting of road spreading.

The amendments propose that a permit is required prior to the construction of a centralized impoundment. However, this is not a new requirement. Additionally, there is a new proposed requirement that well permits be submitted electronically.

### **G. Pollution Prevention**

The Federal Pollution Prevention Act of 1990 established a national policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. DEP encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials, or the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance.

This proposed rulemaking will continue to assure that the citizens and the environment of this Commonwealth experience the advantages of our oil and gas resources. The proposed regulations will minimize impacts to waters of the Commonwealth.

The proposed amendments include new requirements to identify and monitor orphaned and abandoned wells to minimize the potential impacts to waters of the Commonwealth from such pathways. New material specifications and performance standards for containment systems and practices will ensure that spills and releases are properly contained, thereby preventing regulated substances associated with oil and gas operations from escaping into the environment. Additionally, new planning, notification, construction, operation, inspection, and monitoring requirements for pits, tanks, freshwater impoundments, centralized impoundments, processing activities, disposal methods, and pipelines provide an additional degree of protection for waters of the Commonwealth.

### **H. Sunset Review**

These regulations will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

### **I. Regulatory Review**

In accordance with Section 5(a) of the Regulatory Review Act (71 P.S. §§ 745.5(a)), on December 4, 2013, the Department submitted a copy of the proposed amendments to the Independent

Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under Section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed rulemaking within 30 days after the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Regulatory Review Act specifies detailed procedures for review of these issues by the Department, the General Assembly and the Governor prior to final publication of the regulations.

## **J. Public Comments**

Interested persons are invited to submit written comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality Board. Comments, suggestions, or objections must be received by the Board by February 12, 2014. Comments submitted by facsimile will not be accepted. In addition to the submission of comments, interested persons may also submit a one-page summary of their comments to the Board. The summary of comments must also be received by the Board by February 12, 2014, and will be distributed to the Board and available publicly prior to the meeting when the final rulemaking will be considered by the Board.

Comments including the submission of a one-page summary of comments may be submitted to the Board online, by email, by mail or express mail as follows. Please note, if an acknowledgement of comments submitted online or by email is not received by the sender within two working days, the comments should be retransmitted to the Board to ensure receipt.

**Online:** Comments may be submitted to the Board by accessing the Board's online comment system at <http://www.ahs.dep.pa.gov/RegComments> .

**Email:** Comments may be submitted to the Board by email at [RegComments@pa.gov](mailto:RegComments@pa.gov) .

**Mail:** Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

**Express Mail:** Environmental Quality Board  
Rachel Carson State Office Building  
16<sup>th</sup> Floor  
400 Market Street  
Harrisburg, PA 17101-2301

## **K. Public Hearings**

The Board will hold seven public hearings for the purpose of accepting comments on this proposal. The hearings will be held at 6:00 p.m. on the following dates:

<b>January 7, 2014</b> <b>6:00 p.m.</b>	Tunkhannock High School Auditorium 135 Tiger Drive Tunkhannock PA 18657
<b>January 9, 2014</b> <b>6:00 p.m.</b>	West Chester University of Pennsylvania Sykes Student Union - Theater 110 West Rosedale Avenue West Chester, PA 19383
<b>January 13, 2014</b> <b>6:00 p.m.</b>	Pennsylvania College of Technology Klump Academic Center One College Avenue Williamsport, PA 17701
<b>January 15, 2014</b> <b>6:00 p.m.</b>	Meadville Area Senior High School Auditorium 930 North Street Meadville, PA 16335
<b>January 16, 2014</b> <b>6:00 p.m.</b>	Good Hope Middle School Auditorium 451 Skyport Road Mechanicsburg, PA 17050
<b>January 22, 2014</b> <b>6:00 p.m.</b>	Washington and Jefferson College Rossin Campus Center / Allen Ballroom 60 South Lincoln Street Washington, PA 15301
<b>January 23, 2014</b> <b>6:00 p.m.</b>	Indiana University of Pennsylvania Kovalchick Convention and Athletic Complex 711 Pratt Drive Indiana, PA 15705

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 5 minutes for each witness. Witnesses are requested to submit three written copies of their verbal testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact the Environmental Quality Board at (717) 787-4526 or through the Pennsylvania AT&T Relay Service at (800) 654-5984 (TDD) or (800) 654-5988 (voice users) to discuss how the Board may accommodate their needs.

E. CHRISTOPHER ABRUZZO,  
Acting Chairman

## ANNEX A

### Title 25. Environmental Protection

#### Part. I. Department of Environmental Protection

#### Subpart C. Protection of Natural Resources

#### Article I. Land Resources

### CHAPTER 78. OIL AND GAS WELLS

#### Authority

The provisions of this Chapter 78 issued under [the Oil and Gas Act (58 P. S. §§ 601.101—601.605)] 58 Pa.C.S. §§ 3201—3274 (the 2012 Oil and Gas Act); the Coal and Gas Resource Coordination Act (58 P. S. §§ 501—518); the Oil and Gas Conservation Law (58 P. S. §§ 401—419); Article XIX-A of The Administrative Code of 1929 (71 P. S. §§ 510-1—510-108); The Clean Streams Law (35 P. S. §§ 691.1—691.1001); [and] the Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003); the Dam Safety and Encroachments Act (32 P.S. §§ 693.1—693.27); and the Pennsylvania Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101-6026.208). [amended under section [604] of the Oil and Gas Act; sections 5(b)(1), 304 and 402(a) of The Clean Streams Law (35 P. S. §§ 691.5(b)(1), 691.304(a) and 691.402(a)); section 105(a) of the Solid Waste Management Act (35 P. S. § 6018.105(a)); and sections 1901-A, 1917-A, 1920-A, 30 and 31 of The Administrative Code of 1929 (71 P. S. §§ 510-1, 510-17, 510-20, 510-103 and 510-104), unless otherwise noted.]

\* \* \*

#### § 78.1. Definitions.

[(a) The words and terms defined in section 103 of the act (58 P. S. § 601.103), section 2 of the Coal and Gas Resource Coordination Act (58 P. S. § 502), section 2 of the Oil and Gas Conservation Law (58 P. S. § 402), section 103 of the Solid Waste Management Act (35 P. S. § 6018.103) and section 1 of The Clean Stream Law (35 P. S. § 691.1), have the meanings set forth in those statutes when the terms are used in this chapter.]

[(b)] (a) The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

Act—[The Oil and Gas Act (58 P. S. §§ 601.101—601.605).] 58 Pa.C.S. §§ 3201-3274 (2012 Oil and Gas Act).

Act 2—The Pennsylvania Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101-6026.208).

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

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.

\* \* \*

Body of water—This term shall have the same meaning as defined in 25 Pa. Code § 105.1.

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.

\* \* \*

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.

\* \* \*

Condensate—A low-density, high-API gravity liquid hydrocarbon phase that generally occurs in association with natural gas. For the purposes of this definition, high-API gravity is a specific gravity scale developed by the American Petroleum Institute for measuring the relative density of various petroleum liquids, expressed in degrees.

Containment system—Synthetic liners, coatings, storage structures or other materials used in conjunction with a primary container that prevent spills to the ground surface or off the well site.

Conventional formation—A formation that is not an unconventional formation.

Conventional well—A bore hole drilled or being drilled for the purpose of or to be used for the production of oil or gas from a conventional formation.

De-icing—Brine applied to a paved road after a precipitation event.

Department—The Department of Environmental Protection of the Commonwealth.

\* \* \*

Freeboard—The vertical distance between the surface of an impounded or contained fluid and the lowest point or opening on a lined pit edge or open top storage structure.

Freshwater impoundment—A facility that meets the following:

- (1) is not regulated pursuant to 25 Pa. Code Chapter 105.3,
- (2) a natural topographic depression, manmade excavation or diked area formed primarily of earthen materials although lined with synthetic materials,
- (3) designed to hold fluids, including surface water, groundwater, and other Department-approved sources,
- (4) constructed 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.

\* \* \*

[Marcellus Shale well—A well that when drilled or altered produces gas or is anticipated to produce gas from the Marcellus Shale geologic formation.]

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.

\* \* \*

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.

*Owner*—A person who owns, manages, leases, controls or possesses a well or coal property. [For purposes of sections 203(a)(4) and (5) and 210 of the act (58 P. S. § 601.203(a)(4) and (5) and 601.210), the term does not include those owners or possessors of surface real property on which the abandoned well is located who did not participate or incur costs in the drilling or extraction operation of the abandoned well and had no right of control over the drilling or extraction operation of the abandoned well.] The term does not apply to orphan wells, except where the Department determines a prior owner or operator benefited from the well as provided in section [210(a)] 3220(a) of the act (relating to plugging requirements).

\* \* \*

*PCSM plan*—A post construction stormwater management plan. This term shall have the same meaning as defined in 25 Pa. Code § 102.1 (relating to definitions).

*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.

*Pre-wetting*—Mixing brine with antiskid material prior to roadway application.

*Process or Processing*—The term shall have the same meaning as “processing” as defined in the Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003).

*PPC plan*—A written preparedness, prevention and contingency plan.

\* \* \*

*Public water supply*—[A water system that is subject to the Pennsylvania Safe Drinking Water Act (35 P. S. §§ 721.1—721.17)] A source of water used by a water purveyor.

*Regional groundwater table*—The fluctuating upper water level surface of an unconfined or confined aquifer, where the hydrostatic pressure is equal to the ambient atmospheric pressure. The term does not include the perched water table or the seasonal high water table.

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. § 6026.103).

[Reportable release of brine—Spilling, leaking, emitting, discharging, escaping or disposing of one of the following:

(i) More than 5 gallons of brine within a 24-hour period on or into the ground at the well site where the total dissolved solids concentration of the brine is equal or greater than 10,000 mg/l.

(ii) More than 15 gallons of brine within a 24-hour period on or into the ground at the well site where the total dissolved solids concentration of the brine is less than 10,000 mg/l.]

\* \* \*

Stormwater—Runoff from precipitation, snowmelt, surface runoff and drainage.

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).

Watercourse—This term shall have the same meaning as defined in 25 Pa. Code § 105.1.

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

\* \* \*

Water purveyor—[The owner or operator of a public water supply.]Any of the following:

(1) The owner or operator of a public water system as defined in section 3 of the act of May 1, 1984 (P.L.206, No.43), known as the Pennsylvania Safe Drinking Water Act.

(2) Any person subject to the act of June 24, 1939 (P.L.842, No.365), referred to as the Water Rights Law.

Water source —

(1) Any of the following:

- (i) Water of this Commonwealth.
- (ii) A source of water supply used by a water purveyor.
- (iii) Mine pools and discharges.
- (iv) Any other waters that are used for drilling or completing a well in an unconventional formation.

**(2) The term does not include flowback or production waters or other fluids:**

- (i) Which are used for drilling or completing a well in an unconventional formation;**  
**and**
- (ii) Which do not discharge into waters of this Commonwealth.**

*Water supply*—A supply of water for human consumption or use, or for agricultural, commercial, industrial or other legitimate beneficial uses.

*Well operator or operator*—Any of the following:

**(1)** The person designated as [the well operator or] operator or well operator on the permit application or well registration.

**(2)** If a permit or registration was not issued, [the term means] a person who locates, drills, operates, alters or plugs a well or reconditions a well with the purpose of production [therefrom] from the well.

**(3)** [In cases where] If a well is used in connection with the underground storage of gas, [the term also means] a storage operator.

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

**Wetland**—This term shall have the same meaning as defined in 25 Pa. Code § 105.1.

\* \* \*

## **[§ 78.2. Scope.**

**This chapter specifies procedures and rules for the drilling, alteration, operation and plugging of oil and gas wells, and for the operation of a coal mine in the vicinity of an oil or gas well.]**

\* \* \*

## **§ 78.13. Permit transfers.**

(a) No transfer, assignment or sale of rights granted under a permit or registration may be made without prior written approval of the Department. Permit transfers may be denied for the reasons set forth in section [201(e)(4) and (5)] 3211(e.1) (4) and (5) of the act [(58 P. S. § 601.201(e)(4) and (5))] (58 Pa.C.S. § 3211(e.1)(4), (e.1)(5)).

\* \* \*

#### § 78.15. Application requirements.

(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.

(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.

(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.

(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.

(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).

(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.

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

(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.

(2) The applicant shall notify the public resource agency responsible for managing the public resource identified in paragraph (1), if any. The applicant shall forward by certified mail a copy of the plat identifying the proposed location of the well, well site and access road and information in paragraph (3) to the public resource agency at least 15 days prior to submitting its well permit application to the Department. The applicant shall submit proof of notification with the well permit application. From the date of notification, the public resource agency shall have 15 days to provide written comments to the Department and the applicant on the functions and uses of the public resource and the measures, if any, that the public resource agency recommends the Department consider to avoid or minimize probable harmful impacts to the public resource where the well, well site and access road is located. The applicant may provide a response to the Department to any such comments.

(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;

(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.

(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.

\* \* \*

**§ 78.17. Permit renewal.**

An operator may request a 1-year renewal of a well permit. The request shall be accompanied by a permit fee, the surcharge required in section [601] 3271 of the act [~~(58 P. S. § 601.601)~~], and an affidavit affirming that the information on the original application is still accurate and complete, that the well location restrictions are still met and that the entities required to be notified pursuant to section 3211(b)(2) of the act [surface owners, coal owners and operators, gas storage operators, where the permit renewal is for a proposed well location within an underground gas storage reservoir or the reservoir protective area, and water supply owners within 1,000 feet,] have been notified of this request for renewal. The request shall be received by the Department at least 15 calendar days prior to the expiration of the original permit.

**§ 78.18. Disposal and enhanced recovery well permits.**

\* \* \*

(d) All containment practices and on-site processing associated with disposal and enhanced recovery wells shall comply with the requirements of this chapter.

**§ 78.19. Permit application fee schedule.**

(a) An applicant shall pay a permit application fee according to the following schedule:

<u>Unconventional</u>					
<i>Vertical Wells</i>		<i>Nonvertical Wells</i>		<i>[Marcellus Shale] Wells</i>	
Total Well Bore Length in Feet	Total Fee	Total Well Bore Length in Feet	Total Fee	Total Well Bore Length in Feet	Total Fee
0 to 2,000	\$250	0 to 1,500	\$900	0 to 1,500	\$900
2,001 to 2,500	\$300	1,501 to 2,000	\$1,000	1,501 to 2,000	\$1,000
2,501 to 3,000	\$350	2,001 to 2,500	\$1,100	2,001 to 2,500	\$1,100
3,001 to 3,500	\$400	2,501 to 3,000	\$1,200	2,501 to 3,000	\$1,200
3,501 to 4,000	\$450	3,001 to 3,500	\$1,300	3,001 to 3,500	\$1,300
4,001 to 4,500	\$500	3,501 to 4,000	\$1,400	3,501 to 4,000	\$1,400
4,501 to 5,000	\$550	4,001 to 4,500	\$1,500	4,001 to 4,500	\$1,500

5,001 to 5,500	\$650	4,501 to 5,000	\$1,600	4,501 to 5,000	\$1,600
5,501 to 6,000	\$750	5,001 to 5,500	\$1,700	5,001 to 5,500	\$1,700
6,001 to 6,500	\$850	5,501 to 6,000	\$1,800	5,501 to 6,000	\$1,800
6,501 to 7,000	\$950	6,001 to 6,500	\$1,900	6,001 to 6,500	\$1,900
7,001 to 7,500	\$1,050	6,501 to 7,000	\$2,000	6,501 to 7,000	\$2,000
7,501 to 8,000	\$1,150	7,001 to 7,500	\$2,100	7,001 to 7,500	\$2,100
8,001 to 8,500	\$1,250	7,501 to 8,000	\$2,200	7,501 to 8,000	\$2,200
8,501 to 9,000	\$1,350	8,001 to 8,500	\$2,300	8,001 to 8,500	\$2,300
9,001 to 9,500	\$1,450	8,501 to 9,000	\$2,400	8,501 to 9,000	\$2,400
9,501 to 10,000	\$1,550	9,001 to 9,500	\$2,500	9,001 to 9,500	\$2,500
10,001 to 10,500	\$1,650	9,501 to 10,000	\$2,600	9,501 to 10,000	\$2,600
10,501 to 11,000	\$1,750	10,001 to 10,500	\$2,700	10,001 to 10,500	\$2,700
11,001 to 11,500	\$1,850	10,501 to 11,000	\$2,800	10,501 to 11,000	\$2,800
11,501 to 12,000	\$1,950	11,001 to 11,500	\$2,900	11,001 to 11,500	\$2,900
		11,501 to 12,000	\$3,000	11,501 to 12,000	\$3,000

(b) An applicant for a vertical well exceeding 12,000 feet in total well bore length shall pay a permit application fee of \$1,950 + \$100 for every 500 feet the well bore extends over 12,000 feet. Fees shall be rounded to the nearest 500-foot interval under this subsection.

(c) An applicant for a nonvertical well or **[Marcellus Shale]Unconventional** well exceeding 12,000 feet in total well bore length shall pay a permit application fee of \$3,000 + \$100 for every 500 feet the well bore extends over 12,000 feet. Fees shall be rounded to the nearest 500-foot interval under this subsection.

\* \* \*

#### **§ 78.21. Opportunity for objections and conferences; surface landowners.**

(a) The surface landowner of the tract on which the proposed well is located may object to the well location based on the assertion that the well location violates section **[205] 3215** of the act **[(58 P. S. § 601.205)] (58 Pa.C.S. § 3215)** or on the basis that the information in the application is untrue in a material respect, and request a conference under section **[501] 3251** of the act **[(58 P. S. § 601.501)] (58 Pa.C.S. § 3251)**.

\* \* \*

#### **§ 78.25. Conferences—general.**

\* \* \*

(c) The Department will attempt to schedule the conference as late as possible in the 10-day period if the well is subject to the Coal and Gas Resource Coordination Act (58 P. S. § 501—

518). The Department will not schedule a conference under section [202] 3212 of the act [(58 P. S. § 601.202)] (58 Pa.C.S. § 3212) if it receives written notice that the gas well operator or the coal mine owner or operator has made a written request to convene a panel to resolve objections to the location of a gas well over which a panel has jurisdiction in accordance with § § 78.29—78.33.

\* \* \*

#### **§ 78.28. Final action if objections do not proceed to panel.**

If the panel does not have jurisdiction [of] over the objections, under § 78.30 (relating to jurisdiction of panel), or if the panel has jurisdiction but the parties choose not to proceed to a panel, the Department may proceed to issue or deny the permit, under sections [201] 3211 and [202] 3212 of the act [(58 P. S. § § 601.201 and 601.202)] (58 Pa.C.S. § 3211 and 3212). No permit will be issued for a well at a location that in the opinion of the Department would endanger the safety of persons working in a coal mine.

\* \* \*

#### **§ 78.33. Effect of panel on time for permit issuance.**

The period of time during which the objections are being considered by a full panel [is not] will not be included in the 45-day period for the issuance or denial of a permit under section [201(e)] 3211(e) of the act [(58 P. S. § 601.201(e))] (58 Pa.C.S. § 3211(e)).

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### **Subchapter C. ENVIRONMENTAL PROTECTION PERFORMANCE STANDARDS**

Sec.

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**§ 78.51. Protection of water supplies.**

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(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.**

(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.

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(g) If the well operator and the water user are unable to reach agreement on the means for restoring or replacing the water supply, the Department or either party may request a conference under section **[501] 3251** of the act **[(58 P. S. § 601.501)] (58 Pa.C.S. § 3251)**.

(h) A well operator who receives notice from a landowner, water purveyor or affected person that a water supply has been affected by pollution or diminution, shall report receipt of notice from an affected person to the Department within 24 hours of receiving the notice. **Notice shall be provided electronically through the Department's website.**

**§ 78.52. Predrilling or prealteration survey.**

(a) A well operator who wishes to preserve its 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 pollution of a water supply existed prior to the drilling or alteration of the well shall conduct a predrilling or prealteration survey in accordance with this section.

(b) A person who wishes to document the quality of a water supply to support a future claim that the drilling or alteration of the well affected the water supply by pollution may conduct a predrilling or prealteration survey in accordance with this section.

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

(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)).**

(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)(2)] 3218(d)(1)(ii) and 3218(d)(2)(ii)** of the act **[(58 P. S. § 601.208 (d)(1))] (58 Pa.C.S. §§ 3218(d)(1)(ii) and 3218 (d)(2)(ii))** 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.

**(g) The operator of an unconventional well must provide written notice to the landowner or water purveyor indicating that the presumption established under section 3218(c) of the act (58 Pa.C.S. § 3218(c)) may be void if the landowner or water purveyor refused to allow the operator access to conduct a predrilling or prealteration survey. Proof of written notice to the landowner or water purveyor shall be provided to the Department for the operator to retain the protections under section 3218(d)(2)(ii) of the act (58 Pa.C.S. §**

3218(d)(2)(ii). Proof of written notice shall be presumed if provided in accordance with section 3212(a) of the act (58 Pa.C.S. § 3212(a)).

§ 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).

§ 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.

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§ 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).

(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 topohole 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.

[(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.

(d) Requirements. The well operator's PPC plan must also identify the control and disposal methods and practices utilized by the well operator and be consistent with the act, The Clean Streams Law (35 P. S. §§ 691.1—691.1001), the Solid Waste Management Act (35 P. S. §§ 6018.101—6018.1003) and §§ 78.54, 78.56—78.58 and 78.60—78.63. The PPC plan must also include a pressure barrier policy developed by the operator that identifies barriers to be used during identified operations.

[(c)](d.1) Revisions. The well operator shall revise the PPC plan prior to implementing a change to the practices identified in the PPC plan.

[(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.

(d.3) Guidelines. With the exception of the pressure barrier policy required in subsection (d), a PPC plan developed in conformance with the Guidelines for the Development and Implementation of Environmental Emergency Response Plans, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 400-2200-001, as amended and updated, shall be deemed to meet the requirements of this section.

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**§ 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:

(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.

**[(3)] (4)** Pits, **[and]** tanks **and other approved storage structures** shall be designed, constructed and maintained to be structurally sound and reasonably protected from unauthorized acts of third parties.

**(5) For unconventional well sites, unless an individual is continuously present at the well site, a fence or fences shall completely surround all pits to prevent 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.**

**(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.**

**[(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 top hole water, fresh water and uncontaminated drill cuttings shall be impermeable. [and comply with the following:]**

**[(i) The pits] (9) Pits shall be constructed with a synthetic flexible liner that covers the bottom and sides of the pit. [The] [Liners] used in a pit or other approved storage structures shall comply with the following:**

**(i) Have [with] a coefficient of permeability of no greater than  $1 \times [10^{-7}] 10^{-10}$  cm/sec. [and with sufficient strength and thickness to maintain the integrity of the liner.]**

**(ii) Be at least 30 mils thick unless otherwise approved by the Department. Approval may be granted if the manufacturer demonstrates that the alternative thickness is at least as protective as a 30 mil liner. A list of approved alternative liners shall be maintained on the Department's website.**

**(iii) The liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the [waste] regulated substance stored therein 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 or other compatibility test approved by the Department for the duration the pit or other temporary storage structure is used.**

**(iv) Adjoining sections of liners shall be sealed together to prevent leakage in accordance with the manufacturer's directions. The integrity of all seams of the adjoining sections of liner shall be tested prior to use. Results of the tests shall be available upon request. [If the operator seeks to use a liner material other than a synthetic flexible liner, the operator shall submit a plan identifying the type and thickness of the material and the installation procedures to be used, and shall obtain approval of the plan by the Department before proceeding.]**

**[(ii)] (10) The pit shall be constructed so that the liner subbase is smooth, uniform and free from debris, rock and other material that may puncture, tear, cut or otherwise cause the liner to**

fail. **The pit must be structurally sound and the interior slopes of the pit must have a slope no steeper than 2 horizontal to 1 vertical.** The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without settling that may affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other materials that may cause the liner to fail, a subbase of at least 6 inches of soil, sand or smooth gravel, or sufficient amount of an equivalent material, shall be installed over the area as the subbase for the liner.

[(iii)] **(11) The bottom of the pit shall be at least 20 inches above the seasonal high groundwater table, unless the operator obtains approval under subsection (b) for a pit that exists only during dry times of the year and is located above groundwater. The operator of an unconventional well shall determine that the pit bottom is at least 20 inches above the seasonal high groundwater table prior to using the pit. The determination shall be made by a soil scientist or other similarly trained person using accepted and documented scientific methods. The individual's determination shall contain a statement certifying that the pit bottom is at least 20 inches above the seasonal high groundwater table according to observed field conditions. The name, qualifications and statement of the individual making the determination and the basis of the determination shall be provided to the Department upon request.**

**(12) Stormwater shall be diverted away from the pit.**

**(13) Prior to placing material in the pit, the liner shall be inspected for lack of uniformity, damage and other imperfections that may cause the liner to leak. The well operator shall correct damages or imperfections before placing the material in the pit, and shall maintain the pit until closure of the pit.**

[(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).**

[(v)] **(15) The liner shall be secured around the perimeter of the pit in a manner that does not compromise the integrity of the liner.** If the liner drops below the 2 feet of freeboard, the pit shall be managed to prevent the pit contents from leaking from the pit and the 2 feet of lined freeboard shall be restored.

**(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 need not 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.

(17) Condensate, whether separated or mixed with other fluids, shall not be stored in any open top structure or pit. Tanks used for storing or separating condensate during well completion shall be monitored and shall have controls to prevent vapors from exceeding the lower explosive limits of the condensate outside the tank. Tanks used for storing or separating condensate shall be grounded.

(b) The operator may request to use practices other than those specified in subsection (a) which provide equivalent or superior protection by submitting a request to the Department for approval. The request shall be made on forms provided by the Department.

(c) Disposal of uncontaminated drill cuttings in a pit or by land application shall comply with § 78.61. A pit used for the disposal of residual waste, including contaminated drill cuttings, shall comply with § 78.62. Disposal of residual waste, including contaminated drill cuttings, by land application shall comply with § 78.63.

(d) [Unless a permit under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) or approval under § 78.57 or § 78.58 (relating to control, storage and disposal of production fluids; and existing pits used for the control, storage and disposal of production fluids) has been obtained for the pit,] [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.

#### **§ 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.

(b) Except as provided in § 78.56 (relating to pits and tanks for temporary [containment] storage), the operator may not use a pit for the control, handling or storage of brine and other fluids produced during operation, service or plugging of a well. [unless the pit is authorized by a permit under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) or approval to operate the pit as an impoundment under The Clean Streams Law is obtained from the Department under subsection (c).]

(c) [The operator may apply for approval from the Department to operate a pit as an impoundment under The Clean Streams Law, as indicated by the Department's issuance of

a pit approval number in accordance with this section. No pit will be eligible for approval under this subsection unless the capacity of any one pit or of any two or more interconnected pits is less than 250,000 gallons, or the total capacity contained in pits on one tract or related tracts of land is less than 500,000 gallons. Compliance with this subsection does not relieve the operator from the obligation to comply with section 308 of The Clean Streams Law (35 P. S. § 691.308) and the requirements for obtaining a permit for the erection, construction and operation of treatment works promulgated under that section.] Secondary containment capable of preventing tank contents from entering waters of the Commonwealth is required for all new, refurbished or replaced tanks or other aboveground containment structures approved by the Department, including their associated manifolds, that contain brine and other fluids produced during operation of the well. If one tank in a series of tanks is added, refurbished or replaced, secondary containment is required for the entire series of tanks. The secondary containment area provided by dikes or other methods of secondary containment open to the atmosphere shall have containment capacity sufficient to hold the volume of the largest single tank, plus an additional 10% of volume for precipitation. Compliance with § 78.64 (relating to containment around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary container shall fulfill the requirements in this subsection.

[(1) A request for approval under this subsection shall be made on forms furnished by the Department and, at a minimum, shall include the following:

- (i) A description of the operator's plan that demonstrates compliance with this subsection for the construction or reconstruction of the pit.
- (ii) A description of the operator's program for operation and maintenance of the pit.
- (iii) A description of the method for subsequent disposal or reuse of the brine or other fluids produced during operation of the well.
- (iv) A description of the operator's program for the closure of the pit and restoration of the site.

(2) The operator shall design, construct, operate and maintain the pit in accordance with the approval and the following:

- (i) The pit approval number is posted at the pit in a legible and visible manner.
- (ii) The pit is not located within 100 feet of a stream, wetland or body of water unless a waiver is granted by the Department.
- (iii) The bottom of the pit is a minimum of 20 inches above the seasonal high groundwater table.
- (iv) At least 2 feet of freeboard remain at all times.

(v) The pit is structurally sound and the inside slopes of the pit are not steeper than a ratio of 2 horizontal to 1 vertical.

(vi) The pit is impermeable and is lined with a synthetic flexible liner or alternate material that has a coefficient of permeability of no greater than  $1 \times 10^{-7}$  cm/sec. The liner shall be of sufficient strength and thickness to maintain the integrity of the liner. The thickness of a synthetic liner shall be at least 30 mils. Adjoining sections of liners shall be sealed together in accordance with the manufacturer's directions to prevent leakage.

(vii) The physical and chemical characteristics of the liner shall be compatible with the waste and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy EPA Method 9090, *Compatibility Test for Wastes and Membrane Liners*, or other documented data approved by the Department.

(viii) The pit shall be constructed so that the liner subbase is smooth, uniform and free of debris, rock and other material that may puncture, tear, cut, rip or otherwise cause the liner to fail. The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without settling in an amount that will affect the integrity of the liner. If the pit bottom or sides consist of rock, shale or other material that may cause the liner to leak, a subbase of at least 6 inches of soil, sand or smooth gravel, or a sufficient amount of an equivalent material shall be installed over the area as the subbase for the liner.

(ix) Prior to placing brine or other fluids in the pit, the operator shall inspect the liner and correct all damage or imperfections that may cause the liner to leak.

(x) Surface water which may drain into the pit shall be diverted away from the pit.

(xi) The pit is reasonably protected from unauthorized acts of third parties.

(3) Upon abandonment of the well or revocation of the approval by the Department, the operator shall restore the pit in accordance with the following:

(i) The free liquid fraction of the pit contents shall be removed and disposed under § 78.60(a) and the remaining pit contents and liner shall be removed and disposed under §§ 78.62 and 78.63 (relating to disposal of residual waste—pits; and disposal of residual waste—land application), or the Solid Waste Management Act.

(ii) The pit shall be backfilled to the ground surface and graded to promote runoff with no depression that would accumulate or pond water on the surface. The stability of the backfilled pit shall be compatible with the adjacent land.

(iii) The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sedimentation control). The

revegetation shall establish a diverse, effective, permanent, vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against accelerated erosion.]

(d) Tanks, series of tanks or other above ground storage structures approved by the Department used to store brine or other fluids produced during operation of the well, shall be designed, constructed and maintained to be structurally sound in accordance with sound engineering practices adhering to nationally recognized industry standards and the manufacturer's specifications. Tanks that are manifolded together shall be designed in a manner to prevent the uncontrolled discharge of multiple manifolded tanks.

(e) Underground or partially buried storage tanks may not be used to store brine or other fluids produced during operation of the well 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.

(f) All new, refurbished or replaced tanks that store brine or other fluid produced during operation of the well must comply with the applicable corrosion control requirements in the Department's storage tanks regulations at 25 Pa. Code §§ 245.531-534.

(g) All new, refurbished or replaced tanks storing brine or other fluids produced during operation of the well shall be reasonably protected from unauthorized acts of third parties. Unless the tank is surrounded by a fence, tank valves and access lids shall utilize locks, open end plugs or removable handles and ladders on tanks shall be retractable or other measures that prevent access by third parties.

§ 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.

§ 78.59a. Impoundment embankments.

(a) Embankments constructed for freshwater and centralized impoundments for oil and gas activities shall 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.

(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.

(3) The minimum top width of the embankment shall be 12 feet.

(4) The inside and outside slope shall have a slope no steeper than 3 horizontal to 1 vertical.

(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.

(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.

(7) No particles greater than 6 inches in any dimension shall be used for embankment construction.

(8) Soil used in embankment construction shall be compacted. Soil compaction shall be conducted in accordance with the following:

(i) Compaction shall be conducted with a sheepsfoot or pad roller.

(ii) The maximum loose lift thickness shall be 9 inches.

(iii) Soil shall be compacted until visible non-movement of the embankment material.

(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.

#### § 78.59b. Freshwater impoundments.

(a) In addition to meeting the requirements of 25 Pa. Code § 78.59a, freshwater impoundments shall comply with this section.

(b) A well operator that constructed a freshwater impoundment shall register the location of the freshwater impoundment within 60 calendar days of the effect of this section by providing the Department, in writing, with the GPS coordinates, township and county where the freshwater impoundment is located. A well operator shall register the location of a new freshwater impoundment prior to construction. Registration of the freshwater impoundment may be transferred to another operator. Registration transfers shall utilize forms provided by the Department.

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

(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.

(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.

(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. § 3216(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.

(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 shall 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 and include;

(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.

(2) An operator with an approved mine influenced water storage plan shall maintain records of all mine influenced water testing prior to storage. These records shall be made available to the Department upon request.

(h) The Department may require the operator to test water sources proposed to be stored in a freshwater impoundment prior to storage.

§ 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.

(4) Within 500 feet measured horizontally from an occupied dwelling 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.

(6) Within 500 feet measured horizontally of a private water supply 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.

(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 meets the following:

(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) Be compatible with the impounded fluid.

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

(vi) 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 meets the following:

(A) Is free of coarse rock fragments greater than 0.75" in diameter.

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

(C) Is no more permeable than  $1.0 \times 10^{-6}$  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.

(D) Is compacted to a density of at least 95% standard proctor.

(2) A secondary liner that meets the following:

(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  $1.0 \times 10^{-10}$  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.

(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.

(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  $1.0 \times 10^{-2}$  cm/sec., based on laboratory testing and, when required by the Department, field testing.

(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.

(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%.

(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.

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

(x) A minimum bottom slope of 2%.

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

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

(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  $1.0 \times 10^{-10}$  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.**

**(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**

<b>Fluid Height (ft)</b>	<b>Allowable Leakage Rate (gallons/acre/day)</b>
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$h \leq 10$	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 25 Pa. Code §§ 289.121-123 (relating to phase I application requirements – site analysis) must be followed and the groundwater monitoring period must be extended to four quarterly tests.**

(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:

(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.**

**(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.**

**(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.

(l) Plans, specifications and reports for centralized impoundments required by this section shall reasonably ensure mechanical integrity of the structure and function, shall be prepared by a registered professional engineer and shall be affixed with the engineer's seal and a certification which shall read as follows:

I (name) do hereby state to the best of my knowledge, information and belief that the information contained in the plans specifications and reports have been prepared in accordance with accepted environmental practices and the design and construction standards for centralized impoundment dams and Chapters 105 and 78 of the Rules and Regulations of the Department of Environmental Protection and is true and correct.

**(m) Upon completion of construction of the impoundment, a facility completion and final certification report must be submitted to the Department. The report must be completed and sealed by the licensed Pennsylvania professional engineer who provided oversight for construction and must contain the following items at a minimum:**

**(1) A statement that the engineer provided oversight for all aspects of construction.**

**(2) Soils classification testing results for the embankments.**

**(3) Soil compaction testing results for the sub-base, and for the clay portion of the secondary liner if a natural or remolded clay liner is used.**

**(4) As-built drawings noting any deviation from the original plans approved by the Department.**

**(5) Quarry tickets for drain material.**

**(6) Quality assurance and quality control test results.**

**(7) Color photographs of the following at a minimum:**

**(i) The cleared and grubbed foundation.**

**(ii) Leak detection system installation.**

**(iii) Placement and compaction of fill.**

**(iv) The completed embankments.**

**(v) The completed sub-base.**

**(vi) The completed secondary liner**

**(8) The impoundment shall not be used until the facility completion and final certification report is received and approved by the Department. The Department shall make a determination on the facility completion and final notification report within 30 business days.**

**(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.**

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

**(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.**

#### **§ 78.60. Discharge requirements.**

(a) The owner and operator may not cause or allow a discharge of a substance, **fill or dredged material** to the waters of this Commonwealth unless the discharge complies with this subchapter and Chapters 91—93, 95, **102** and **[102] 105**, The Clean Streams Law (35 P. S. §§ 691.1—691.1001), **The Dam Safety and Encroachments Act (32 P.S. §§ 693.1 – 693.280)**, and the act.

(b) The owner and operator may not discharge top-hole water or water in a pit as a result of precipitation by land application unless the discharge is in accordance with the following requirements:

\* \* \*

(7) The area of land application is not within 200 feet of a water supply or within 100 feet of a **[stream] watercourse[,] or body of water [or 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))**.

(8) If the water does not meet the requirements of paragraph (2) or (4), the Department may approve treatment prior to discharge to the land surface.

**(c) Compliance with subsection (b) shall be documented by the operator and made available to the Department upon request while conducting activities pursuant to subsection (b) and shall be submitted pursuant to § 78.65(f)(1).**

#### **§ 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.

(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))**.

(4) The disposal area is not within 200 feet of a water supply.

(5) The pit is designed, constructed and maintained to be structurally sound.

(6) The free liquid fraction of the waste shall be removed and disposed under § 78.60 (relating to discharge requirements).

(7) The pit shall be backfilled to the ground surface and graded to promote runoff with no depression that would accumulate or pond water on the surface. The stability of the backfilled pit shall be compatible with the adjacent land.

(8) The surface of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sediment[ation] control). The revegetation shall establish a diverse, effective, permanent, vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface of the landowner, the surface shall be stabilized against erosion.

(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.

(3) The disposal area is not within 100 feet of a **[stream,] watercourse or** body of water **[or 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))**.

(4) The disposal area is not within 200 feet of a water supply.

(5) The soils have a minimum depth from surface to bedrock of 20 inches.

(6) The drill cuttings are not spread when saturated, snow covered or frozen ground interferes with incorporation of the drill cuttings into the soil.

(7) The drill cuttings are not applied in quantities which will result in runoff or in surface water or groundwater pollution.

(8) The free liquid fraction is disposed in accordance with § 78.60.

(9) The drill cuttings are spread and incorporated into the soil. **The loading and application rate of drill cuttings shall not exceed a maximum of drill cuttings to soil ratio of 1:1.**

(10) The land application area shall be revegetated to stabilize the soil surface and comply with § 78.53. The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(c) *Drill cuttings from below the casing seat.* After removal of the free liquid fraction and disposal in accordance with § 78.60, drill cuttings from below the casing seat determined in accordance with § 78.83[(b)](c) may be disposed of as follows:

(1) In a pit that meets the requirements of § 78.62(a)(5)—[(18)] (16) and (b) (relating to disposal of residual waste—pits).

(2) By land application in accordance with § 78.63(a)(5)—(20) and (b) (relating to disposal of residual waste—land application).

(d) The owner or operator may request to use solidifiers, dusting, unlined pits, attenuation or other alternative practices for the disposal of uncontaminated drill cuttings by submitting a request to the Department for approval. The request shall be made on forms provided by the Department and shall demonstrate that the practice provides equivalent or superior protection to the requirements of this section. **The Department will maintain a list of approved solidifiers on its website. Use of approved solidifiers will not require the operator to request approval from the Department.**

(e) A pit used for the disposal of residual waste, including contaminated drill cuttings, shall comply with § 78.62. Land application of residual waste, including contaminated drill cuttings, shall comply with § 78.63.

**(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.**

§ 78.62. Disposal of residual waste—pits.

(a) After the removal and disposal of the free liquid fraction of the waste under § 78.60(a) (relating to discharge requirements), the owner or operator may dispose of residual waste, including contaminated drill cuttings, in a pit at the well site if the owner or operator satisfies the following requirements:

(1) The residual waste is generated by the drilling, or stimulation [or production] of an oil or gas well that is located on the well site where the residual waste is disposed. Solid waste generated by hydraulic fracturing of unconventional wells and solid waste generated by processing of fluids pursuant to § 78.58, may not be disposed of on the well site.

(2) The well is permitted under section [201] 3211 of the act [(58 P. S. § 601.201)] (58 Pa.C.S. § 3211) or registered under section [203] 3213 of the act [(58 P. S. § 601.203)] (58 Pa.C.S. § 3213).

(3) The requirements of section [215] 3225 of the act [(58 P. S. § 601.215)] (58 Pa.C.S. § 3225) are satisfied by filing a surety or collateral bond for wells drilled on or after April 18, 1985.

(4) Compliance is maintained with the act and this title.

(5) The owner or operator shall notify the Department at least 3 business days before disposing residual waste according to this section. This notice shall be submitted electronically to the Department through its website and include the date the residual waste will be disposed. If the date of disposal changes, the operator shall re-notify of the new proposed date of disposal.

[(5)] (6) The disposal area is not within 200 feet measured horizontally from an existing building, unless the current owner thereof has provided a written waiver consenting to the disposal closer than 200 feet. The waiver shall be knowingly made and separate from a lease or deed unless the lease or deed contains an explicit waiver from the current owner.

[(6)] (7) The disposal area is not within 100 feet of a [stream,] watercourse or body of water [or wetland].

[(7)] (8) The disposal area is not within 200 feet of a water supply.

[(8)] (9) The bottom of the pit is a minimum of 20 inches above the seasonal high groundwater table. The well operator shall determine that the pit bottom is at least 20 inches above the seasonal high groundwater table prior to using the pit. The determination shall be made by a soil scientist or other similarly trained person using accepted and documented scientific methods. The individual's determination shall contain a statement certifying that the pit bottom is at least 20 inches above the seasonal high groundwater table according to observed field conditions. The name, qualifications and statement of the individual making the determination and the basis of the determination shall be provided to the Department upon request.

[(9)] (10) The pit is designed, constructed and maintained to be structurally sound and impermeable.

[(10)] (11) The pit and liner meet the requirements of 78.56 (a)(8)-(10). [is lined with a synthetic flexible liner that is compatible with the waste and has a coefficient of permeability of no greater than  $1 \times 10^{-7}$  cm/sec. The liner shall be of sufficient strength and thickness to maintain the integrity of the liner. The liner thickness shall be at least 30 mils. Adjoining sections of liners shall be sealed together in accordance with the manufacturer's directions to prevent leakage. The operator may use an alternate liner or natural materials, if the material and the installation procedure to be used are approved by the Department. Notice of the approved liners and installation procedures will be published by the Department in the *Pennsylvania Bulletin*.

(12) The liner shall be designed, constructed and maintained so that the physical and chemical characteristics of the liner are not adversely affected by the waste and the liner is resistant to physical, chemical and other failure during transportation, handling, installation and use. Liner compatibility shall satisfy EPA Method 9090, *Compatibility Test for Wastes and Membrane Liners*, or other documented data approved by the Department.

(13) The pit shall be constructed so that the liner subbase is smooth, uniform and free of debris, rock and other material that may puncture, tear, cut, rip or otherwise cause the liner to fail. The liner subbase and subgrade shall be capable of bearing the weight of the material above the liner without settling. If the pit bottom or sides consist of rock, shale or other material that may cause the liner to fail and leak, a subbase of at least 6 inches of soil, sand or smooth gravel, or sufficient amount of an equivalent material shall be installed over the area as the subbase for the liner.

(14) Prior to placing material in the pit, the liner shall be inspected for lack of uniformity, damage and other imperfections that may cause the liner to leak. The owner or operator shall correct damages or imperfections before placing waste in the pit, and shall maintain the pit until closure of the pit.]

[(14)] (12) Prior to encapsulating the residual waste within the liner, the free liquid fraction of the residual waste shall be removed and disposed under § 78.60(a).

[(15)] (13) The liner shall be folded over, or an additional liner shall be added, to completely cover the residual waste and the residual waste is shaped so that water does not infiltrate the liner and is not confined above the liner.

[(16)] (14) Puncturing or perforating the liner is prohibited.

[(17)] (15) The pit shall be backfilled to at least 18 inches over the top of the liner and graded to promote runoff with no depressions that would accumulate or pond water on the surface. The stability of the backfilled pit shall be compatible with the adjacent land.

~~[(18)]~~ (16) The surface area of the backfilled pit area shall be revegetated to stabilize the soil surface and comply with § 78.53 (relating to erosion and sediment[ation] control). The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(b) A person may not dispose of **residual** waste, including contaminated drill cuttings, at the well site unless the **residual** waste meets the following requirements:

(1) The concentration of contaminants in the leachate from the **residual** waste does not exceed 50% of the maximum concentration in 40 C.F.R. § 261.24 Table I (relating to characteristic of toxicity).

(2) The concentration of contaminants in the leachate from the **residual** waste does not exceed 50 times the primary maximum contaminant level in effect under § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements).

(3) For other health related contaminants, the concentration of contaminants in the leachate from the **residual** waste does not exceed 50 times the safe drinking water level established by the Department.

(4) Leachate characteristics are determined in accordance with methods approved by the Department.

\* \* \*

#### **§ 78.63. Disposal of residual waste—land application.**

(a) The owner or operator may dispose of residual waste, including contaminated drill cuttings, at the well site by land application of the waste if the owner or operator satisfies the following requirements:

(1) The **residual** waste is generated by the drilling[or production] of an oil or gas well that is located on the well [side] site. **Residual waste generated by hydraulic fracturing of unconventional wells and residual waste generated by processing pursuant to § 78.58, may not be disposed of by land application.**

(2) The well is permitted under section ~~[201]~~ 3211 of the act ~~[(58 P. S. § 601.201)]~~ (58 Pa.C.S. § 3211) or registered under section ~~[203]~~ 3213 of the act ~~[(58 P. S. § 601.215)]~~ (58 Pa.C.S. § 3213).

(3) The requirements of section ~~[215]~~3225 of the act ~~[(58 P. S. § 601.215)]~~ (58 Pa.C.S. § 3225) are satisfied by filing a surety or collateral bond for wells drilled on or after April 18, 1985.

(4) Compliance with the act and this title is maintained.

(5) The owner or operator shall notify the Department electronically through its website at least 3 [working] business days before the land application activity is to occur. The notification shall include the date on which the land application is to occur. If the date of land application is extended, the operator shall re-notify the Department of the new proposed date which need not be 3 business days in advance.

\* \* \*

(20) The land application area shall be revegetated to stabilize the soil surface and comply with [§ 78.53] 25 Pa. Code Chapter 102 (relating to erosion and sediment[ation] control). The revegetation shall establish a diverse, effective permanent vegetative cover which is capable of self-regeneration and plant succession. Where vegetation would interfere with the intended use of the surface by the landowner, the surface shall be stabilized against erosion.

(21) If [a chemical] additional analysis conducted pursuant to paragraph 19 fails to show compliance with [paragraph [(18)] this section, the owner or operator shall remediate the land application area until compliance is demonstrated.

(b) A person may not dispose of residual waste, including contaminated drill cuttings, at the well site unless the concentration of contaminants in the leachate from the waste does not exceed the maximum concentration stated in 40 C.F.R. § 261.24 Table I (relating to characteristic of toxicity).

\* \* \*

(d) Compliance with subsection (b) shall be documented by the operator and made available to the Department upon request while conducting activities pursuant to subsection (a) and shall be submitted pursuant to § 78.65(f)(7).

\* \* \*

#### **§ 78.64. Containment around oil and condensate tanks.**

(a) If an owner or operator uses a tank with a capacity of at least 660 gallons or tanks with a combined capacity of at least 1,320 gallons to contain oil or condensate produced from a well, the owner or operator shall construct and maintain a dike or other method of secondary containment which satisfies the requirements under 40 CFR 112 (relating to oil pollution prevention) around the tank or tanks which will prevent the tank contents from entering waters of this Commonwealth.

\* \* \*

#### **§ 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.**

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

**(e) Containment systems shall 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.**

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

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

**(f) Secondary containment: An operator shall utilize secondary containment when storing additives, chemicals, oils or fuels. The secondary containment shall 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.**

**(g) Subsurface secondary containment systems may be employed at the well site. Subsurface secondary containment shall meet the following requirements:**

**(1) Subsurface secondary containment systems shall have a coefficient of permeability of no greater than  $1 \times 10^{-10}$  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 sub-base or the movement of equipment or other activities on the surface.

(4) Not be used to store regulated substances.

(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.

(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.

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

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

(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, for unconventional well sites, the supplies or equipment are maintained in accordance with § 78.64a.**

**(1) An area is restored under this subsection if the following are met:**

**(i) All permanent post construction stormwater control features as identified in the PCSM plan or site restoration plan are in place consistent with the requirements in 25 Pa. Code § 102.8.**

**(ii) Remaining impervious areas are minimized. Impervious areas include areas where the soil has been compacted, areas where the soil has been treated with amendments to firm or harden the soil and areas where soil is underlain with an impermeable liner.**

**(iii) All areas of the site not needed to safely operate the well are restored 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. The areas needed to safely operate the well include to the following:**

**(A) Areas used for service vehicle and rig access.**

**(B) Areas used for storage tanks and secondary containment facilities.**

**(C) Areas used for wellhead(s) and appurtenant processing facilities.**

**(D) Area used for any necessary safety buffer limited to the area surrounding equipment that is physically cordoned off to protect the facilities.**

**(E) Area used to store any supplies or equipment consented to by the surface landowner.**

(F) Area used for operation and maintenance of long-term PCSM best management practices.

(iv) 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 all post construction stormwater management requirements in 25 Pa. Code Chapter 102.

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

(2) The restoration period in this subsection may be extended by the Department for an additional period 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 or more efficient development of the resources; or

(ii) site restoration cannot be achieved due to adverse weather conditions or a lack of essential fuel, equipment or labor.

(3) The demonstration under paragraph (2) shall be submitted on forms provided by the Department six months after the completion of drilling, for approval by the Department. The demonstration must include all of the following:

(i) A site restoration plan that shall provide for:

(A) The timely removal or fill of all pits used to contain produced fluids or residual wastes;

(B) The removal of all drilling supplies and equipment not needed for production, including containment systems;

(C) The stabilization of the well site that shall include interim post construction storm water management best management practices in compliance with 25 Pa. Code §102.8 including 25 Pa. Code §§ 102.8(a)-(m); or

(D) Other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law.

(E) A minimum uniform 70% perennial vegetative cover over the disturbed area, with a density capable of resisting accelerated erosion and sedimentation, or a BMP which permanently minimizes accelerated erosion and sedimentation.

(F) Return the portions of the site not occupied by production facilities or equipment 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.

**(4) Written consent of the landowner on forms provided by the Department satisfies the restoration requirements of this section provided the operator develops and implements a site restoration plan that complies with paragraph 3(i)(A)-(E) and all PCSM requirements in 25 Pa. Code Chapter 102.**

**(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.**

**[(3)] (f)** Within 60 **calendar** days after the 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)] (1)** The date of land application of the topsoil water, the results of pH and specific conductance tests and an estimated volume of discharge.

**[(ii)] (2)** 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)] (3)** 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)] (4)** 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)] (5)** 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.

**(6) 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.**

**(7) The test results required by §§ 78.62 and 78.63 for all unconventional wells or any conventional wells with a horizontal well bore.**

**(g) 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.**

**(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.**

**(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.**

**(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 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.**

**(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.**

**(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.

(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.

(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 of 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).

(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).

(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.

**[(b) If a reportable release of brine on or into the ground occurs at the well site, the owner or operator shall notify the appropriate regional office of the Department as soon as practicable, but no later than 2 hours after detecting or discovering the release.**

**(c) The notice required by subsection (b) shall be by telephone and describe:**

**(1) The name, address and telephone number of the company and person reporting the incident.**

**(2) The date and time of the incident or when it was detected.**

**(3) The location and cause of the incident.**

(4) The quantity of the brine released.

(5) Available information concerning the contamination of surface water, groundwater or soil.

(6) Remedial actions planned, initiated or completed.

(d) If, because of an accident, an amount of brine less than the reportable amount as described in § 78.1 (relating to definitions), spills, leaks or escapes, that incident does not have to be reported.

(e) Upon the occurrence of any release, the owner or operator shall take necessary corrective actions to:

(1) Prevent the substance from reaching the waters of this Commonwealth.

(2) Recover or remove the substance which was released.

(3) Dispose of the substance in accordance with this subchapter or as approved by the Department.]

**§ 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).**

**§ 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.**

**(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.**

**(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.**

**(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.**

**(h) All buried metallic gathering lines shall be installed and placed in operation in accordance with 49 CFR Pt. 192 or 195 (relating to the requirements for 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).**

**(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.

(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.

(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.

(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).

(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 pursuant to 25 Pa. Code § 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 25 Pa. Code Article IX (relating to residual waste management).

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

(a) Temporary pipelines shall meet applicable requirements in 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).

(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.

(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).

(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.

(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.

(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.

(h) Water used for hydrostatic pressure testing shall be discharged in a manner that does not result in a discharge to waters of the Commonwealth unless approved by the Department.

(i) Temporary pipelines shall be inspected prior to and during each use. Inspection dates and any defects and repairs to the temporary pipeline shall be documented and made available to the Department upon request.

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

(k) Flammable materials shall not be transported through a temporary pipeline.

(l) Temporary pipelines must be removed in accordance with the required restoration timeline of the well site it serviced under section § 78.65.

(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.

#### §78.69. Water management plans.

(a) WMPs for unconventional well operators. An unconventional well operator shall obtain a Department approved WMP pursuant to section 3211 (m) of the act (58 Pa. C.S. § 3211(m)) prior to withdrawal or use of water sources 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.**

**(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.**

**(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.**

**(g) Suspension and revocation. The Department may suspend or revoke an approved water source within a WMP for failure to comply with the WMP or for any reasons contained in sections 3252, 3259 and 3211(m) of the act (58 Pa. C.S. §§ 3252, 3259, 3211(m)).**

**(h) Termination. A WMP holder may terminate approval of any water source within an approved WMP by submitting a letter to the Department's Oil and Gas District Office requesting termination of the water source approval.**

**(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.

§ 78.70. Road-spreading of brine for dust control and road stabilization.

(a) Road-spreading of brine from oil and gas wells for dust suppression and road stabilization shall only be conducted pursuant to a plan approved by the Department and shall not result in pollution of the waters of the Commonwealth. Only production brines from conventional wells, not including coalbed methane wells, may be used for dust suppression and road stabilization pursuant to this section. The use of drilling, hydraulic fracture stimulation flowback, plugging fluids, or production brines mixed with well servicing or treatment fluids, except detergents, may not be used for dust suppression and road stabilization.

(b) Road-spreading of brine for dust control and road stabilization shall only be conducted on unpaved roads.

(c) Road-spreading plans shall be submitted annually to the Department for approval and shall include the following:

(1) The name, address and telephone number of the plan applicant and of each person who will conduct the actual road-spreading.

(2) The license plate number of each road-spreading truck.

(3) An original signed and dated statement from the person that owns or maintains the roads where road-spreading will be conducted authorizing the use of brine on roads and that that person will supervise the frequency of road-spreading.

(4) A national wetland inventory map identifying the following:

(i) roads where the road-spreading be conducted,

(ii) any brine storage areas not located on a well site,

(iii) bodies of water and watercourses within 150 feet of the roads identified in (i).

(5) A description of how road-spreading will be conducted, including the equipment to be used and the method for controlling the rate of application of the brine.

**(6) The proposed rate and frequency of application.**

**(7) The name of each well and the associated geologic formation from which the brine is produced.**

**(8) A chemical analysis of the brine using parameters provided by the Department. A representative sample of the brine may be used, provided that the operator demonstrates that the representative sample is equivalent to the brine being used for road-spreading.**

**(d) Plans approved under this section will expire on December 31st of each year.**

**(e) Road-spreading shall be conducted according to the following:**

**(1) The application of production brine to unpaved roads shall be performed in accordance with the Department approved plan.**

**(2) The brine shall only be applied at a rate and frequency necessary to suppress dust and stabilize the road, but in no event at a rate or frequency greater than the rate and frequency contained in the approved plan.**

**(3) The road-spreading shall prevent direct infiltration to groundwater.**

**(4) Brine shall not enter bodies of water or water courses.**

**(f) Application rates: The road shall initially be spread at a rate up to one-half gallon per square yard. The road shall subsequently be spread at a rate of up to one-third gallon per square yard. The application rate for race tracks and mining haul roads should be determined for each site and shall not exceed one gallon per square yard.**

**(g) Requirements for road-spreading. Road-spreading shall meet the following:**

**(1) Free oil shall be separated from the brine before spreading.**

**(2) Brine shall not be applied within 150 feet of bodies of water or watercourses.**

**(3) Brine must be spread by use of a spreader bar with shut off controls in the cab of the truck.**

**(4) Brine shall not be spread on roads or sections of roads which have a grade in excess of ten percent (10%).**

**(5) Brine shall not be spread on wet or frozen roads, during precipitation events, or when precipitation is imminent.**

(h) Trucks utilized to spread brine shall have signs identifying plan applicant's name and business address on both sides of the vehicle. The signs shall have lettering that is at least six inches in height.

(i) A copy of the current Department approved road-spreading plan shall be kept in the road-spreading vehicle any time road-spreading is being conducted and shall be made available to the Department upon request.

(j) Except for storage at the well site, all storage of brine shall be in tanks in a manner that complies with the requirements set forth in 25 Pa. Code Chapter 299.

(k) The Department shall be notified at least 24 hours before road-spreading will begin. This notice shall be submitted electronically to the Department through its website and include the date the road-spreading will occur and where the activity will occur. If the date of road-spreading changes, the operator shall re-notify the Department in accordance with this paragraph.

(l) The person identified on the road-spreading plan shall submit a monthly report to the Department on forms provided by the Department listing the locations, frequency and amounts of brine spread during the previous month. Monthly brine spreading reports must be received by the Department on the 15th day of the month that follows the month the brine was spread. These reports must be submitted to the Department on a monthly basis even if no road-spreading of brine took place during the previous month.

(m) Any changes to the approved road-spreading plan must be submitted to the Department for approval. Approval must be obtained from the Department in writing prior to deviating from the plan or implementing any revisions to the plan.

(n) Failure to comply with this section may result in the Department rescinding the plan approval.

(o) Persons conducting road-spreading of brine for dust control and road stabilization activities shall be deemed to have a residual waste permit by rule if those activities comply with the requirements of this section.

#### § 78.70a Pre-wetting, anti-icing and de-icing.

(a) Use of brine from oil and gas wells for pre-wetting, anti-icing and de-icing shall only be conducted pursuant to a plan approved by the Department and shall not result in pollution of the waters of the Commonwealth. Only production brines from conventional wells, not including coalbed methane wells or wells drilled in hydrogen sulfide areas, may be used for pre-wetting, anti-icing and de-icing pursuant to this section. The use of drilling, hydraulic fracture stimulation flowback, plugging fluids, or production brines mixed with well servicing or treatment fluids, except detergents, may not be used for pre-wetting, anti-icing and de-icing activities.

(b) Use of brine for pre-wetting, anti-icing and de-icing shall only be conducted on paved roads to address winter driving conditions.

(c) Plans required by subsection (a) shall be submitted annually to the Department for approval and shall include the following:

(1) The name, address and telephone number of the plan applicant and of each person who will conduct the actual road-spreading.

(2) The license plate number of each road-spreading trucks.

(3) An original signed and dated statement from the person that owns or maintains the roads where road-spreading will be conducted authorizing the use of brine on roads and that that person will supervise the frequency of road-spreading.

(4) A national wetland inventory map identifying the following:

(i) roads where the road-spreading be conducted,

(ii) any brine storage areas not located on a well site,

(iii) bodies of water and watercourses within 150 feet of the roads identified in (i).

(5) A description of how the brine will be applied including the equipment to be used and the method for controlling the rate of application of the brine.

(6) The proposed rate and frequency of the application.

(7) The name of each well and the associated geologic formation from which the brine is produced.

(8) A chemical analysis of the brine for the parameters required by subsection (e). A representative sample of the brine to be spread may be used, provided that the operator demonstrates that the representative sample is equivalent to the brine being used for pre-wetting, anti-icing and de-icing.

(d) All plans will expire on June 30th of each year.

(e) Brines used for pre-wetting, anti-icing, and de-icing activities shall meet the following:

<u>Allowable Level</u>	<u>Parameter</u>	<u>Allowable Level</u>
<u>Pre-wetting</u>		<u>Anti-icing/De-icing</u>
<u>&gt;170,000 mg/l</u>	<u>TDS</u>	<u>&gt;170,000 mg/l</u>
<u>&gt;80,000 mg/l</u>	<u>Chloride</u>	<u>&gt;80,000 mg/l</u>
<u>&gt;40,000 mg/l</u>	<u>Sodium</u>	<u>&gt;40,000 mg/l</u>

>20,000 mg/l	Calcium	>20,000 mg/l
5 to 9.5	pH	5 to 9.5
<500 mg/l	Iron	<500 mg/l
<100 mg/l	Barium	<30 mg/l
<10 mg/l	Lead	<5 mg/l
<1,000 mg/l	Sulfate	<400 mg/l
<15 mg/l	Oil & Grease	<15 mg/l
<0.5 mg/l	Benzene	<0.5 mg/l
<0.7 mg/l	Ethylbenzene	<0.7 mg/l
<1 mg/l	Toluene	<1 mg/l
<1 mg/l	Xylene	<1 mg/l

(f) The application rates for use of the natural gas well brines shall be limited to 10 gallons per ton for pre-wetting use, less than 50 gallons per lane per mile for anti-icing use, and less than 100 gallons per lane per mile for de-icing.

(g) Brines shall not be mixed with other types of solid wastes except bottom ash from the combustion of coal.

(h) Brine shall only be applied to the antiskid material immediately prior to roadway application. Application of brine to uncontained antiskid storage piles is prohibited.

(i) Anti-icing, de-icing and the spreading of pre-wetted antiskid material shall not be conducted on wooden or grated deck bridges.

(j) Brine shall not enter bodies of water or water courses.

(k) Except for storage at the well site, all storage of brine shall be in tanks in a manner that complies with the requirements set forth in 25 Pa. Code Chapter 299.

(l) Every 3 years each source of brine used for pre-wetting, anti-icing, and de-icing shall be analyzed for the parameters in subsection (e) prior to submittal of the plan required by subsection (a). The analysis shall be for each individual well utilized or it may be a composite of one or more samples of brines from wells, which produce gas from the same formation. The well permit number and producing formations shall be submitted with the analysis. If the brines used are obtained from a permitted brine treatment facility, the analysis of a representative composite sample shall be submitted along with the facility's NPDES permit number.

(m) For each new source of brine, the applicant shall submit an analysis of a representative sample of the brine including all parameters in subsection (e) to the Department. The brine analysis shall be submitted no less than thirty calendar days prior to use. The applicant may utilize the brine in accordance with this section 30 calendar days after submittal of the brine analysis unless otherwise instructed by the Department.

(n) Records of the analytical evaluations conducted on brine pursuant to subsections (e) and (l) shall be maintained by the applicant for a minimum of five years at the applicant's place of business and shall be available to the Department for inspection. At a minimum, these records shall include information on the dates of testing, each parameter tested, the results, the laboratory sampling procedures, analytical methodologies and the chain of custody.

(o) Trucks utilized to spread brine or pre-wetted antiskid material shall have signs identifying the person's name and business address on both sides of the truck. The signs shall have lettering that is at least six inches in height. Controls for spreading brine and pre-wetted anti-skid material shall be located in the cab of the truck.

(p) A copy of the current Department approved plan shall be kept in the spreading truck any time brine or pre-wetted antiskid material spreading is being conducted and shall be made available to the Department upon request.

(q) The Department shall be notified at least 24 hours before brine or pre-wetted antiskid material spreading will begin. This notice shall be submitted electronically to the Department through its website and include the date the activity will occur and the location where the activity will occur. If the date changes, the operator shall re-notify the Department in accordance with this paragraph.

(r) The responsible person identified on the approved plan shall submit a monthly report to the Department on forms provided by the Department listing the locations, frequency and amounts of brine or pre-wetted antiskid material spread during the previous month. Monthly brine spreading reports must be received by the Department on or before the 15th day of the month that follows the month production brine was spread. These reports must be submitted to the Department on a monthly basis even if no activity took place in the previous month.

(s) Any changes to the approved plan must be submitted to the Department for approval. Approval must be obtained from the Department in writing prior to deviating from the plan or implementing any revisions to the plan.

(t) Failure to comply with this section may result in the Department rescinding the plan approval.

(u) Persons using brine for pre-wetting, anti-icing and de-icing activities in accordance with this section shall be deemed to have a residual waste permit by rule.

\* \* \*

§ 78.72. Use of safety devices—blow-out prevention equipment.

\* \* \*

(i) Well drilling and completion operations requiring pressure barriers, as identified by the operator under § 78.55(b) (relating to **[control and disposal plan] planning and emergency response**), shall employ at least two mechanical pressure barriers between the open producing formation and the atmosphere that are capable of being tested. The mechanical pressure barriers shall be tested according to manufacturer specifications prior to operation. If during the course of operations the operator only has one functioning barrier, operations must cease until additional barriers are added and tested or the redundant barrier is repaired and tested. Stripper rubber or a stripper head may not be considered a barrier.

**§ 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.**

~~[(c)]~~ **(e)** After a well has been completed, recompleted, reconditioned or altered the operator shall prevent surface shut-in pressure and surface producing back pressure inside the surface casing or coal protective casing from exceeding the following pressure: 80% multiplied by 0.433 psi per foot multiplied by the casing length (in feet) of the applicable casing.

~~[(d)]~~ **(f)** After a well has been completed, recompleted, reconditioned or altered, if the surface shut-in pressure or surface producing back pressure exceeds the pressure as calculated in subsection ~~[(c)]~~ **(e)**, the operator shall take action to prevent the migration of gas and other fluids from lower formations into fresh groundwater. To meet this standard the operator may cement or install on a packer sufficient intermediate or production casing or take other actions approved by the Department. This section does not apply during testing for mechanical integrity in accordance with State or Federal requirements.

~~[(e)]~~ **(g)** Excess gas encountered during drilling, completion or stimulation shall be flared, captured or diverted away from the drilling rig in a manner that does not create a hazard to the public health or safety.

[(f)] (h) Except for gas storage wells, the well must be equipped with a check valve to prevent backflow from the pipelines into the well.

\* \* \*

**§ 78.75. Alternative methods.**

(a) A well operator may request approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well under section [211] 3221 of the act [(58 P. S. § 601.211)] (58 Pa.C.S. § 3221).

\* \* \*

**§ 78.76. Drilling within a gas storage reservoir area.**

\* \* \*

(b) The storage operator may file an objection with the Department to the drilling, casing and cementing plan or the proposed well location within 15 calendar days of receipt of the notification and request a conference in accordance with section [501] 3251 of the act [(58 P. S. § 601.501)] (58 Pa.C.S. § 3251).

\* \* \*

**§ 78.87. Gas storage reservoir protective casing and cementing procedures.**

\* \* \*

(b) A request by an operator for approval from the Department to use an alternative method or material for the casing, plugging or equipping of a well drilled through a gas storage reservoir under section [211] 3221 of the act [(58 P. S. § 601.211)] (58 Pa.C.S. § 3221) shall be made in accordance with § 78.75 (relating to alternative methods).

\* \* \*

**§ 78.91. General provisions.**

(a) Upon abandoning a well, the owner or operator shall plug the well under §§ 78.92—78.98 or an approved alternate method under section [211] 3221 of the act [(58 P. S. § 601.211)] (58 Pa.C.S. § 3221) to stop the vertical flow of fluids or gas within the well bore unless one of the following applies:

(1) The Department has granted inactive status under §§ 78.101—78.105 (relating to inactive status).

(2) The well is part of a plugging schedule that has been approved by the Department and the operator is complying with that schedule, and the schedule takes into account potential harm that the well poses to the environment or public health and safety.

(3) The Department has approved the identification of the well as an orphan well under section [203] 3213 of the act [(58 P. S. § 601.203)] (58 Pa.C.S. § 3213), and the Department has not determined a prior owner or operator received economic benefit after April 18, 1979, from this well other than economic benefit derived only as a landowner or from a royalty interest.

\* \* \*

#### **§ 78.101. General provisions.**

Upon application, the Department will grant inactive status for 5 years for a permitted or registered well if the application meets the requirements of section [204] 3214 of the act [(58 P. S. § 601.204)] (58 Pa.C.S. § 3214) and §§ 78.102—78.105. The Department may require information to demonstrate that the conditions imposed by § 78.102 (relating to criteria for approval of inactive status) are satisfied.

\* \* \*

#### **§ 78.103. Annual monitoring of inactive wells.**

The owner or operator of a well granted inactive status shall monitor the integrity of the well on an annual basis and shall report the results to the Department. The owner or operator shall give the Department 3 [working] **business** days prior notice of the annual monitoring and mechanical integrity testing. For wells that were drilled in accordance with the casing and cementing standards of §§ 78.81—78.86 (relating to casing and cementing), the operator shall monitor the integrity of the well by using the method described in § 78.102(2)(ii)(A), (B), (D) or (E) (relating to criteria for approval of inactive status), as appropriate. For a well that was not drilled in accordance with the casing and cementing standards, the wells shall be monitored in accordance with § 78.102(1). To qualify for continued inactive status, the owner or operator shall demonstrate, by the data in the monitoring reports, that the condition of the well continues to satisfy the requirements of § 78.102. The owner or operator shall submit the report by March 31 of the following year.

\* \* \*

#### **§ 78.105. Revocation of inactive status.**

The Department may revoke inactive status and may order the immediate plugging of a well if one of the following applies:

(1) The well is in violation of the act or regulations administered by the Department.

(2) The operator of the inactive well has become insolvent, to the extent that the plan provided under § 78.102 (relating to criteria for approval of inactive status) is no longer viable to return the well to active status, or the operator otherwise demonstrates a lack of ability or intention to comply with applicable laws and regulations.

(3) The condition of the well no longer satisfies the requirements of section [204] 3214 of the act [(58 P. S. § 601.204)] (58 Pa.C.S. § 3214) and §§ 78.102—78.104 (relating to criteria for approval of inactive status; annual monitoring of inactive wells; and term of inactive status).

\* \* \*

#### **§ 78.121. Production reporting.**

(a) The well operator shall submit an annual production and status report for each permitted or registered well on an individual basis, on or before February 15 of each year. **[The operator of a well permitted to produce gas from the Marcellus shale formation] Each operator of an unconventional well** shall submit a production and status report for each well on an individual basis, on or before February 15 and August 15 of each year. Production shall be reported for the preceding calendar year or in the case of an [Marcellus shale] unconventional well, for the preceding **[6 months] reporting period**. When the production data is not available to the operator on a well basis, the operator shall report production on the most well-specific basis available. The annual production report must include information on the amount and type of waste produced and the method of waste disposal or reuse. Waste information submitted to the Department in accordance with this subsection is deemed to satisfy the residual waste biennial reporting requirements of § 287.52 (relating to biennial report).

#### **§ 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:

\* \* \*

**(11) Whether methane was encountered in other than a target formation.**

**(12) The country of origin and manufacture of tubular steel products used in the construction of the well.**

**(13) The borrow pit used for well site development, if any.**

[(11)] **(14) Other information required by the Department.**

(b) Within 30 calendar days after completion of the well, **when the well is capable of production, the well operator shall arrange for the [submit] submission of a completion report**

to the Department on a form provided by the Department that includes the following information:

\* \* \*

(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.

(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.]**

**§ 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.**

\* \* \*

## Subchapter G. BONDING REQUIREMENTS

Sec.

- 78.301. Scope.
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### § 78.301. Scope.

In addition to the requirements of section [215] 3225 of the act ~~[(58 P. S. § 601.215)]~~ **(58 Pa.C.S. § 3225) and Section 1606-E of The Fiscal Code (72 P.S. § 1606-E)**, this subchapter specifies certain requirements for surety bonds, collateral bonds, replacement of existing bonds, maintaining adequate bond and bond forfeiture.

### § 78.302. Requirement to file a bond.

For a well that has not been plugged, the owner or operator shall file a bond or otherwise comply with the bonding requirements of section [215] 3225 of the act ~~[(58 P. S. § 601.215)]~~ **(58 Pa.C.S. § 3225), and Section 1606-E of The Fiscal Code (72 P.S. § 1606-E)** and this chapter. A bond or bond substitute is not required for a well drilled before April 18, 1985.

### § 78.303. Form, terms and conditions of the bond.

(a) The following types of security are approvable:

- (1) A surety bond as provided in § 78.304 (relating to terms and conditions for surety bonds).
- (2) A collateral bond as provided in §§ 78.305—78.308. **[For individuals who meet the requirements of section 215(d.1) of the act, a phased deposit of collateral bond as provided in § 78.309(b) (relating to phased deposit of collateral).]**

\* \* \*

(d) The person named in the bond or other security shall be the same as the person named in the permit.

**[(e) The bond amounts required under section [215] 3225 of the act are as follows:**

**(1) Two thousand five hundred dollars for a single well.**

**(2) Twenty-five thousand dollars for a blanket bond.]**

\* \* \*

**§ 78.306. Collateral bonds—letters of credit.**

(a) Letters of credit submitted as collateral for collateral bonds shall be subject to the following conditions:

(2) The letter of credit shall be irrevocable and shall be so designated. However, the Department may accept a letter of credit for which a limited time period is stated if the following conditions are met and are stated in the letter:

\* \* \*

(ii) The Department has the right to draw upon the credit before the end of its time period, if the operator fails to replace the letter of credit with other acceptable means of compliance with section [215] 3225 of the act [(58 P. S. § 601.215)] (58 Pa.C.S. § 3225) within 30 calendar days of the financial institution's notice to terminate the credit.

\* \* \*

(b) If the Department collects any amount under the letter of credit due to failure of the operator to replace the letter of credit after demand by the Department, the Department will hold the proceeds as cash collateral as provided by this subchapter. The operator may obtain the cash collateral after he has submitted and the Department has approved a bond or other means of compliance with section [215] 3225 of the act.

\* \* \*

**§ 78.308. Collateral bonds—negotiable bonds.**

Negotiable bonds submitted and pledged as collateral for collateral bonds under section [215(a)(3)] 3225(a)(3) of the act [(58 P. S. § 601.215(a)(3))] (58 Pa.C.S. § 3225(a)(3)) are subject to the following conditions:

\* \* \*

**[§ 78.309. Phased deposit of collateral.**

**(a) Operators.**

**(1) Eligibility.** An operator who had a phased deposit of collateral in effect as of November 26, 1997, may maintain that bond for wells requiring bonding, for new well permits and for wells acquired by transfer.

**(i) operator may not have more than 200 wells.**

**(ii) Under the following schedule, an operator shall make a deposit with the Department of approved collateral prior to the issuance of a permit for a well or the transfer of a permit for a well, and shall make subsequent annual deposits and additional well payments. For the purpose of calculating the required deposit, all of the operator's wells are included in the number of wells.**

<i>Number of Wells</i>	<i>Annual Deposit</i>	<i>Per Additional Well</i>
1-10 with no intention to operate more than 10	\$50/well	N.A.
11-25 or 1-10 and applies for additional well permits	\$1,150	\$ 150
26-50	\$1,300	\$ 400
51-100	\$1,500	\$ 400
101-200	\$1,600	\$1,000

**(iii) An operator shall make the phased deposits of collateral as required by the bond.**

**(2) Termination of eligibility.** An operator is no longer eligible to make phased deposits of collateral when one or more of the following occur:

**(i) The operator shall fully bond the wells immediately, if an operator has more than 200 wells.**

**(ii) If the operator misses a phased deposit of collateral payment, the operator shall do one of the following:**

**(A) Immediately submit the appropriate bond amount in full.**

**(B) Cease all operations and plug the wells covered by the bond in accordance with the plugging requirements of section 210 of the act (58 P. S. § 601.210).**

**(b) Individuals.**

**(1) Eligibility.**

**(i) An individual who seeks to satisfy the collateral bond requirements of the act by submitting phased deposit of collateral under section 215(d.1) of the act (58 P. S. § 601.215(d.1)), may not drill more than ten new wells per calendar year. A well in which the individual has a financial interest is to be considered one of the wells permitted under this section. A partnership, association or corporation is not eligible for phased deposit of collateral under this subsection.**

**(ii) The individual shall deposit with the Department \$500 per well in approved collateral prior to issuance of a new permit.**

**(iii) The individual shall deposit 10% of the remaining amount of bond in approved collateral in each of the next 10 years. Annual payments shall become due on the anniversary date of the issuance of the permit, unless otherwise established by the Department. Payments shall be accompanied by appropriate bond documents required by the Department.**

**(iv) The individual shall make the phased collateral payments as required by the bond.**

**(2) Termination of eligibility. If the individual misses a phased deposit of collateral payment, the individual will no longer be eligible to make phased deposits of collateral and shall do one of the following:**

**(i) Immediately submit the appropriate bond amount in full.**

**(ii) Cease operations and plug the wells covered by the bond in accordance with the plugging requirements of section 210 of the act.**

**(c) Interest earned. Interest earned by collateral on deposit by operators and individuals under this section shall be accumulated and become part of the bond amount until the operator completes deposit of the requisite bond amount in accordance with the schedule of deposit. Interest earned by the collateral shall be returned to the operator or the individual upon release of the bond. Interest may not be paid for postforfeiture interest accruing during appeals and after resolution of the appeals, when the forfeiture is adjudicated, decided or settled in favor of the Commonwealth.]**

**\* \* \***

**§ 78.310. Replacement of existing bond.**

**(a) An owner or operator may replace an existing surety or collateral bond with another surety or collateral bond that satisfies the requirements of this chapter, if the liability which has accrued against the bond, the owner or operator who filed the first bond and the well operation is transferred to the replacement bond. An owner or operator may not substitute a phased deposit of collateral bond under section [215(d) and (d.1)] 3225(d) and (d.1) of the act [(58 P. S. §**

601.215(d) and (d.1)] (58 Pa.C.S. § 3225(d), (d.1)) for a valid surety bond or collateral that has been filed and approved by the Department.

\* \* \*

**§ 78.402. Inspections by the gas storage operator.**

\* \* \*

(c) Storage operators shall inspect the gas storage reservoir and storage protective area at least annually to discover if material changes have occurred that require an amendment or supplement of the map and data as required in section [301] 3231(a) and (b) of the act [(58 P. S. § 601.301(a) and (b))] 58 Pa. C.S. § 3231(a) and (b). As part of that inspection, gas storage operators shall inspect known abandoned wells and plugged wells within the gas storage reservoir area and the gas storage protective area, subject to the right of entry, at the end of the injection season when the storage pressure is at its highest. The inspection record shall include observed evidence of gas leaking and other conditions that may be hazardous to the public or property.

\* \* \*

**§ 78.403. Gas storage well integrity testing.**

\* \* \*

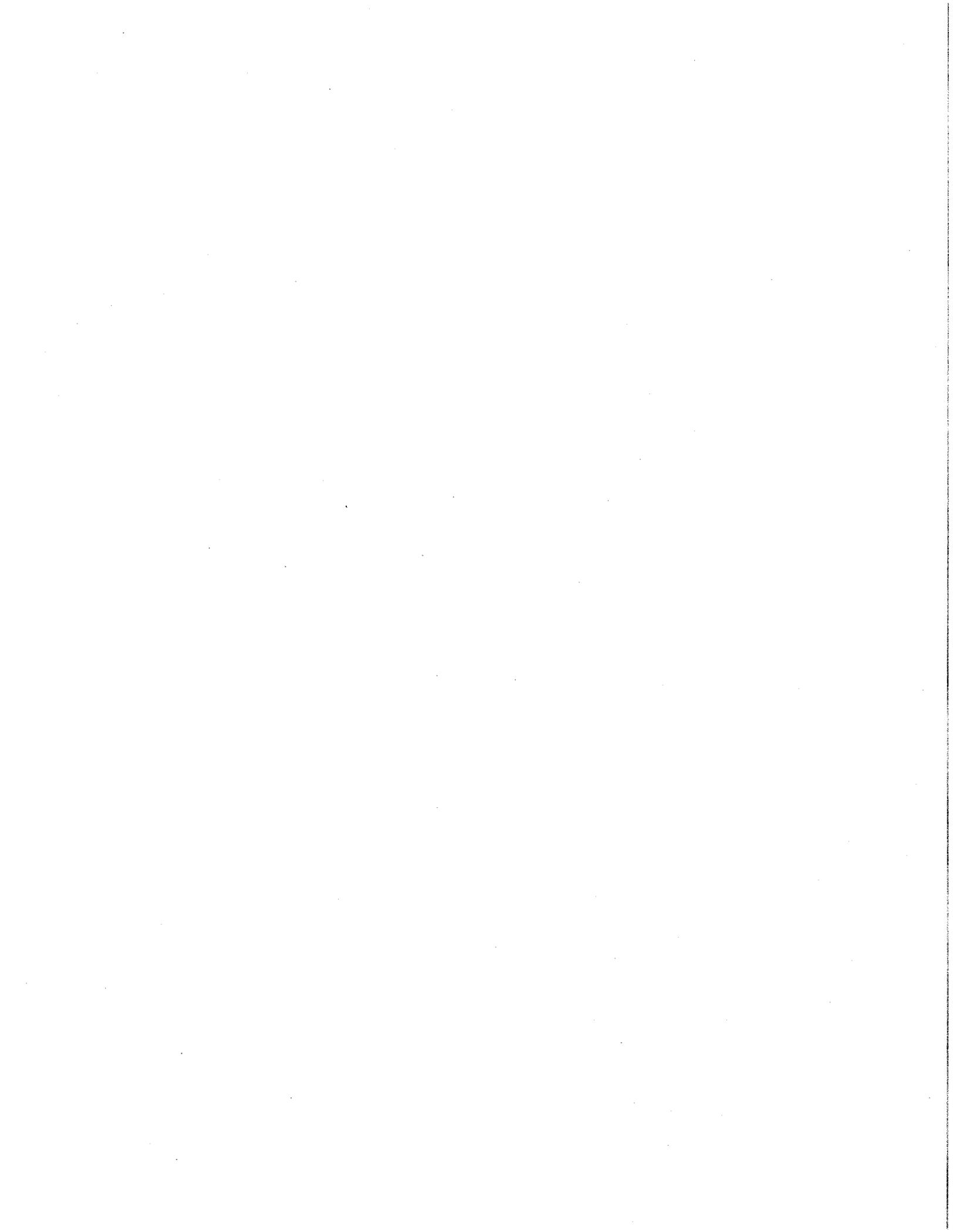
(g) The Department may require the operator to perform additional tests it deems necessary after a conference is held under section [501] 3251 of the act [(58 P. S. § 601.501)] 58 Pa. C.S. § 3251.

**§ 78.404. Maximum storage pressure.**

A gas storage reservoir operator, who has not requested approval of a maximum storage pressure for a gas storage reservoir, shall request, by February 15, 1995, Department approval of a maximum gas storage reservoir pressure in accordance with the following:

(1) The maximum shut-in wellhead pressure (psig) may not exceed the highest shut-in wellhead pressure (psig) found to exist during the production history of the reservoir, unless a higher pressure is established through testing of caprock and pool containment. The methods used for determining the higher pressure shall be determined in conference with the Department in accordance with section [501] 3251 of the act.

\* \* \*





# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

POLICY OFFICE

December 4, 2013

David Sumner  
Executive Director  
Independent Regulatory Review Commission  
333 Market Street, 14th Floor  
Harrisburg, PA 17120

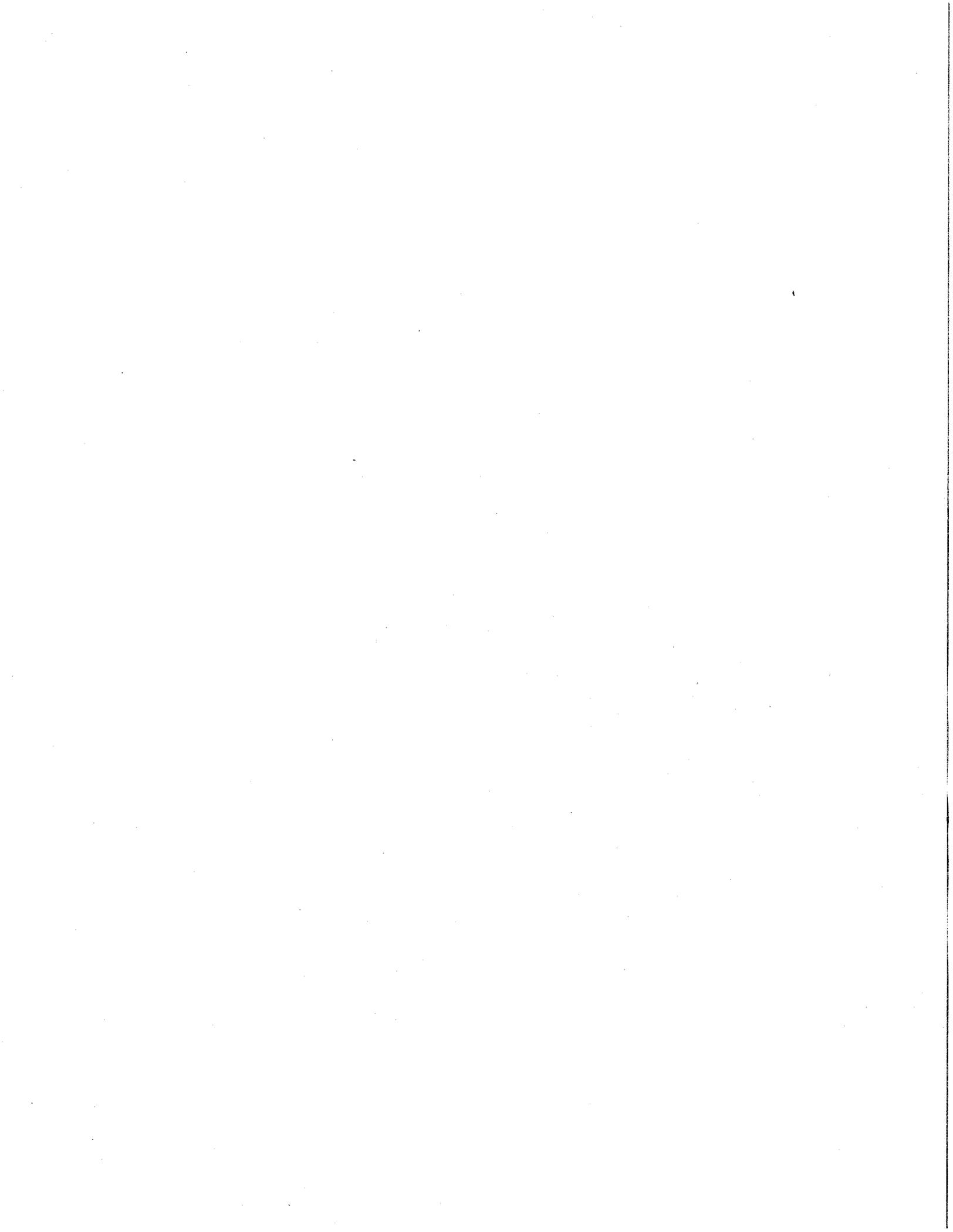
Re: Proposed Rulemaking: Environmental Protection Performance Standards at Oil and Gas Well Sites (#7-484)

Dear Mr. Sumner:

Pursuant to Section 5(a) of the Regulatory Review Act, please find enclosed a copy of a proposed regulation for review and comment by the Independent Regulatory Review Commission (Commission). This proposal is scheduled for publication as a proposed rulemaking in the *Pennsylvania Bulletin* on December 14, 2013, with a 60-day public comment period and seven public hearings. The Environmental Quality Board (Board) adopted this proposal on August 27, 2013.

The enclosed rulemaking includes comprehensive amendments to 25 *Pa Code* Chapter 78, Subchapter C concerning surface activities associated with the construction and operation of oil and gas well sites in Pennsylvania in order to strengthen environmental protection measures at these sites and to implement provisions of the 2012 Oil and Gas Act (Act 13 of 2012). The proposed amendments update existing requirements associated with the containment of regulated substances, waste disposal, site restoration and the reporting of releases at oil and gas well sites. The rulemaking also establishes new planning, notice, construction, operation, reporting and monitoring standards for surface activities related to the development of oil and gas wells. The proposed rulemaking includes requirements for freshwater impoundments, centralized impoundments, containment systems and practices for unconventional wells, wastewater processing, borrow pits, gathering lines, horizontal directional drilling, temporary pipelines, and road-spreading of brine. New requirements for addressing impacts to public resources, identifying and monitoring orphaned and abandoned wells during hydraulic fracturing activities, and water management planning are also included in this proposed rulemaking.

The Department of Environmental Protection (Department) conducted extensive outreach in the development of the proposed rulemaking. Representatives from the Department met with the Oil and Gas Technical Advisory Board (TAB) at the committee's April 12, 2011, October 21, 2011, August 15, 2012, February 20, 2013 and April 23, 2013 meetings to discuss, review and receive comments on the proposed regulatory concepts and the eventual draft proposed regulations. At the latter two TAB meetings, public input was received from several groups including the Pennsylvania League of Women Voters, the Pennsylvania Department of Conservation and Natural Resources, and others representing containment specialists and the general public.



The Department also provided an overview of the proposed regulations to the Small Business Compliance Assistance Advisory Committee on October 24, 2012. This advisory committee is represented by small business owners who provide assistance and advice to the Department about how to assist small businesses with regulatory compliance and to ensure that small businesses are considered when new regulations are developed. The Department also met with and received input on the regulations from organizations representing industry, local government, and the non-profit sector, including the Marcellus Shale Coalition, the Pennsylvania Independent Oil and Gas Association (PIOGA), the American Petroleum Institute (API), Lycoming County Commissioner Jeff C. Wheeland, the Pennsylvania State Association of Township Supervisors (PSATS), the Pennsylvania State Association of Boroughs (PSAB), the Chesapeake Bay Foundation (CBF), the Western Pennsylvania Conservancy (WPC), The Nature Conservancy, and the Pennsylvania Environmental Council (PEC).

The Department will provide the Commission with the assistance required to facilitate a thorough review of the enclosed proposal. Section 5(g) of the Regulatory Review Act provides that the Commission may, within 30 days of the close of the comment period, convey to the agency its comments, recommendations and objections to the proposed regulation. The Department will consider any comments, recommendation or suggestions submitted by the Commission, as well as the Committees and public commentators, prior to final adoption of the enclosed regulation.

Please contact me by telephone at 717.783.8727 or by e-mail at [hbook@pa.gov](mailto:hbook@pa.gov) if you have any questions or need additional information.

Sincerely,



Hayley L. Book  
Director  
Policy Office

Enclosures





**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO  
THE REGULATORY REVIEW ACT**

I.D. NUMBER: 7-484

SUBJECT: Environmental Protection Performance Standards at Oil and Gas well sites

AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

**TYPE OF REGULATION**

- Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolerated Regulation
  - a.  With Revisions
  - b.  Without Revisions

2013 DEC -11 PM 2:47

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**FILING OF REGULATION**

DATE	SIGNATURE	DESIGNATION
12-4-13	<u>Dan Meyer</u>	Majority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY Rep. Miller
12-4-13	<u>Joseph R. Koh</u>	Minority Chair, HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY Rep. Vitali
12-4-13	<u>Patricia Calvey</u>	Majority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY Senator Yaw
12/4/13	<u>Yamiletta Blauder</u>	Minority Chair, SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY Senator Quadricchi
12/4/13	<u>R. Cooper</u>	INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL (for Final Omitted only)
12/4/13	<u>Sandra Husen</u>	LEGISLATIVE REFERENCE BUREAU (for Proposed only)

