

PROPOSED RULEMAKING

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CH. 78]

Environmental Protection Performance Standards at Oil and Gas Well Sites

The Environmental Quality Board (Board) proposes to amend Chapter 78 (relating to oil and gas wells). The proposed rulemaking would amend Chapter 78 to update the requirements regarding surface activities associated with the development of oil and gas wells. Additionally, the proposed amendments would address recent statutory changes in the act of February 14, 2012 (P. L. 87, No. 13) (Act 13), codified at 58 Pa.C.S. §§ 2301—3504.

The proposed rulemaking would update existing requirements regarding containment of regulated substances, waste disposal, site restoration and reporting releases. The proposed rulemaking 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 rulemaking 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 proposed rulemaking appears in Section J of this preamble. Persons with a disability may use the AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available on the Department of Environmental Protection's (Department) web site at www.dep.state.pa.us (select "Public Participation").

C. Statutory Authority

This proposed rulemaking is being made under the authority of 58 Pa.C.S. §§ 3215(e), 3218(a), 3218.2(a)(4), 3218.4(c) and 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 Land Recycling and Environmental Remediation Standards Act (35 P. S. § 6026.104) and sections 1917-A and 1920-A of The Administrative Code of 1929 (71 P. S. §§ 510-17 and 510-20).

D. Background and Purpose

The proposed rulemaking 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 this Commonwealth, including the Marcellus Shale formation. Compared to conventional oil and gas development in this Commonwealth, 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 into law. Act 13 repealed the Oil and Gas Act (58 P. S. §§ 601.101—601.605). Act 13 amended and consolidated the provisions of the repealed act into 58 Pa.C.S. §§ 3201—3274 (relating to development) (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 proposed rulemaking.

This proposed rulemaking would update 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 (WMP) and road-spreading activities.

On February 16, 2012, the Department presented a conceptual summary of the proposed amendments to Chapter 78 to the Oil and Gas Technical Advisory Board (TAB). After the enactment of Act 13, this summary was revised and discussed with TAB on August 15, 2012. A draft of the proposed rulemaking was discussed at the TAB meeting 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, 2013, meeting, TAB voted unanimously to recommend that the Board publish this proposed rulemaking.

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

By way of further background, 58 Pa.C.S. § 3215(b)(4) (relating to well location restrictions) 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 Commonwealth Court held that 58 Pa.C.S. § 3215(b)(4) is unconstitutional, null and void in violation of the nondelegation doctrine. On July 27, 2013, the Commonwealth 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 rulemaking 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," "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" to reflect the proposed requirements. Under 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) will require well permit applications to be submitted electronically through the Department's web site.

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

Subsection (d) is proposed to be added to require well permit applicants to consult with the Pennsylvania Natural Heritage Program regarding the presence of State or Federal threatened or endangered 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 threatened or endangered species when fulfilling their permitting obligations under Chapter 102 (relating to erosion and sediment control). For that reason, subsection (e) is proposed to be added to specify that compliance with §§ 102.5 and 102.6(a)(2) (relating to permit requirements; and permit applications and fees) is deemed to comply with the requirements to address threatened or endangered 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 jurisdictional 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 time frame.

Act 13 directed the Board to promulgate regulations for the Department to condition a well permit based on its impact to public resources. Proposed subsection (g) will 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 58 Pa.C.S. 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 proposed to be added to 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) (relating to protection of water supplies) 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 the standards in the Pennsylvania Safe Drinking Water Act (35 P. S. §§ 721.1—721.17) 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 is proposed to be amended to reflect this statutory language.

§ 78.52. Predrilling or prealteration survey

The proposed amendments to subsection (d) 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 58 Pa.C.S. § 3218(d)(1)(i) and (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.

Proposed subsection (g) reflects 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 the notice to the Department.

§ 78.52a. Abandoned and orphaned well identification

This proposed section requires 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 shall 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 shall be provided to the Department.

§ 78.53. Erosion and sediment control

The proposed amendments to this section cross reference the requirements of Chapter 102. 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 well sites*

The proposed 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 § 91.34 (relating to activities utilizing pollutants) and Chapter 102. Further proposed changes provide that the well operator shall prepare and develop a site-specific PPC plan prior to storing, using, generating or transporting regulated substances to, on or from a well site from the drilling, alteration, production, plugging or other activity associated with oil and gas wells.

Proposed amendments 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 under proposed § 78.64a (relating to containment systems and practices at unconventional well sites) 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, will be deemed to meet the requirements of this section.

§ 78.56. *Temporary storage*

The proposed amendments to this section include changing the heading of the section from "pits and tanks for temporary containment" to "temporary storage" to clarify the difference between storage requirements and containment requirements in proposed § 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 web site.

The proposed 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 proposed amendments to this section 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 regarding the approval of pits that existed prior to July 29, 1989. The amendments also propose new provisions regarding 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. 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 proposed section contains design and construction standards for both freshwater and centralized impoundments, including construction and stabilization requirements for embankments.

§ 78.59b. *Freshwater impoundments*

This proposed 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 would require 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 influenced water in freshwater impoundments to ensure that it will not result in pollution to waters of the Commonwealth.

§ 78.59c. *Centralized impoundments*

This proposed section 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 shall complete a baseline hydrological investigation to document background conditions. Centralized impoundment operators shall 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 shall document compliance with the regulatory requirements, including those under the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27), make the 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 shall notify the Department prior to disposing drill cuttings under 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 under § 78.58 (relating to 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 proposed amendments 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 shall be documented and made available to the Department upon request, as well as 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 under § 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 web site and include the date the residual waste will be disposed. Compliance with this section shall 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 section requires 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 Act 13 requirements. This section specifies when these systems and practices shall be employed. Further, this proposed section specifies secondary containment requirements. Additionally, this section proposes provisions regarding 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 provision that allows for a 2-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 to obtain a 2-year extension under 58 Pa.C.S. § 3216 (relating to well site restoration).

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 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 proposed amendments to this section include amending the heading of the section to include remediating releases. Proposed amendments to this section also clarify the requirements regarding spills and releases of regulated substances on or adjacent to well sites and access roads. The proposed amendments further specify what spills or releases shall be reported to the Department, when and how a report shall be made, what information needs to be reported and necessary corrective measures.

The proposed amendments also clarify that the operator or responsible party shall 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 proposed 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 proposed section contains requirements regarding the construction and installation of gathering pipelines, including a limit on the extent of associated earth disturbance, flagging requirements and topsoil/subsoil standards. In accordance with 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 proposed section contains 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 Chapter 102 and Chapter 105 (relating to dam safety and waterway management). 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 shall 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 proposed 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 Chapters 102 and 105.

§ 78.69. *Water management plans*

This proposed section addresses posting, monitoring and reporting in the Ohio River Basin; reuse planning requirements; and WMP expiration and renewals. This proposed section also outlines the circumstances under which the Department may deny a WMP application or suspend, revoke or terminate an approved WMP.

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

This proposed section includes requirements regarding 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 shall only be conducted under 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 under this section are deemed to have a residual waste permit by rule.

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

This proposed section includes 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 shall only be conducted under 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 under this section are deemed to have a residual waste permit by rule.

§ 78.73. *General provision for well construction and operation*

Proposed subsections (c) and (d) require operators to visually inspect orphaned and abandoned wells identified under proposed § 78.52a (relating to abandoned and orphaned well identification) during hydraulic fracturing activities. Subsection (c) 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 Act 13 statutory requirements, including new well report and stimulation record requirements.

§ 78.123. *Logs and additional data*

The proposed changes address 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 this proposed rulemaking. 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 regulations that require operators to identify orphaned and abandoned wells and monitor these 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 well sites and ensure that any spills or releases are properly contained. The proposed amendments to the reporting requirements for releases will ensure Statewide 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 regarding 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 this Commonwealth are developed for natural gas, the 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 this Commonwealth.

Compliance Costs

There are compliance costs associated with the additional environmental protection measures in this proposed rulemaking. These additional costs primarily fall on unconventional well operators due to the passage of the 2012 Oil and Gas Act.

The estimated total compliance costs of this proposed rulemaking on all unconventional operators are between \$75,002,050 and \$96,636,950 annually. The esti-

mated savings of this proposed rulemaking on unconventional operators is approximately \$21,734,700 annually. Taken together, the estimated net cost of this proposed rulemaking on unconventional operators is between \$53,267,350 and \$74,902,250 annually.

The estimated compliance costs of this proposed rulemaking on conventional operators are between \$5,389,360 and \$12,006,000. The estimated savings of this proposed rulemaking on conventional operators is approximately \$36,680 per year. The estimated net cost of this proposed rulemaking 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 when the proposed amendments have been discussed. Therefore, the requirements in this proposed 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, Department 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 proposed rulemaking is finalized on how to identify and document the seasonal high groundwater table as required in proposed §§ 78.56(a)(11) and 78.62(a)(9) (relating to temporary storage; and disposal of residual waste—pits) and current § 78.63(a)(9) (relating to disposal of residual waste—land application).

Paperwork Requirements

The proposed rulemaking contains several new planning requirements, when applicable, including 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 web site, thereby reducing paperwork.

Additionally, the proposed amendments require the development and submission of forms regarding the following activities, when applicable: consideration of public resources; location of orphaned and abandoned wells; certification by licensed professionals regarding 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 Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department 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 ensure that the citizens and the environment of this Commonwealth experience the advantages of the oil and gas resources in this Commonwealth. The proposed amendments 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 these 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

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on December 4, 2013, the Department submitted a copy of this proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate Environmental Resources and Energy Committees. 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 of the close of the public comment period. The comments, recommendations or objections must specify the regulatory review criteria which have not been met. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the rulemaking, by the Department, the General Assembly and the Governor of comments, recommendations or objections raised.

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 e-mail, by mail or express mail as follows. If an acknowledgement of comments submitted online or by e-mail is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt.

Comments may be submitted to the Board by accessing the Board's online Regulatory Comment System at <http://www.ahs.dep.pa.gov/RegComments>. Comments may be submitted to the Board by e-mail to RegComments@pa.gov. Written comments should be mailed to the Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477. Express mail should be sent to the Environmental Quality Board, Rachel Carson State Office Building, 16th 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 proposed rulemaking. The hearings will be held at 6 p.m. on the following dates:

- January 7, 2014 Tunkhannock High School
Auditorium
135 Tiger Drive
Tunkhannock PA 18657
- January 9, 2014 West Chester University of
Pennsylvania
Sykes Student Union—Theater
110 West Rosedale Avenue
West Chester, PA 19383
- January 13, 2014 Pennsylvania College of Technology
Klump Academic Center
One College Avenue
Williamsport, PA 17701
- January 15, 2014 Meadville Area Senior High School
Auditorium
930 North Street
Meadville, PA 16335
- January 16, 2014 Good Hope Middle School
Auditorium
451 Skyport Road
Mechanicsburg, PA 17050
- January 22, 2014 Washington and Jefferson College
Rossin Campus Center/Allen
Ballroom
60 South Lincoln Street
Washington, PA 15301
- January 23, 2014 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 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 Environmental Hearing Board may accommodate their needs.

E. CHRISTOPHER ABRUZZO,
Chairperson

Fiscal Note: 7-484. No fiscal impact; (8) recommends adoption.

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

Subchapter A. GENERAL PROVISIONS

§ 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 or as otherwise provided in this chapter:

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

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

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

***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.**

Attainable bottom—The depth, approved by the Department, which can be achieved after a reasonable effort is expended to clean out to the total depth.

***Body of water*—The term as defined in § 105.1 (relating to definitions).**

***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.**

Casing seat—The depth to which casing is set.

Cement—A mixture of materials for bonding or sealing that attains a 7-day maximum permeability of 0.01 millidarcies and a 24-hour compressive strength of at least 500 psi in accordance with applicable standards and specifications.

Cement job log—A written record that documents the actual procedures and specifications of the cementing operation.

Centralized impoundment—A facility that is:

(i) A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials.

(ii) Designed to hold fluids or semifluids 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.

(iii) Constructed solely for the purpose of servicing multiple well sites.

Certified laboratory—A laboratory accredited by the Department under Chapter 252 (relating to environmental laboratory accreditation).

Coal area—An area that is underlain by a workable coal seam.

Coal protective casing—A string of pipe which is installed in the well for the purpose of coal segregation and protection. In some instances the coal protective casing and the surface casing may be the same.

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.

Conductor pipe—A short string of large-diameter casing used to stabilize the top of the wellbore in shallow unconsolidated formations.

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.

Deepest fresh groundwater—The deepest fresh groundwater bearing formation penetrated by the wellbore as determined from drillers logs from the well or from other wells in the area surrounding the well or from historical records of the normal surface casing seat depths in the area surrounding the well, whichever is deeper.

Drill cuttings—Rock cuttings and related mineral residues generated during the drilling of an oil or gas well.

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.

Fresh groundwater—Water in that portion of the generally recognized hydrologic cycle which occupies the pore spaces and fractures of saturated subsurface materials.

Freshwater impoundment—A facility that is:

(i) Not regulated under § 105.3 (relating to scope).

(ii) A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials although lined with synthetic materials.

(iii) Designed to hold fluids, including surface water, groundwater and other Department-approved sources.

(iv) Constructed for the purpose of servicing multiple well sites.

Gas storage field—A gas storage reservoir and all of the gas storage wells connected to the gas storage reservoir.

Gas storage reservoir—The portion of a subsurface geologic formation or rock strata used for or being tested for storage of natural gas that:

(i) Has sufficient porosity and permeability to allow gas to be injected or withdrawn, or both.

(ii) Is bounded by strata of insufficient porosity or permeability, or both, to allow gas movement out of the reservoir.

(iii) Contains or will contain injected gas geologically or by pressure control.

Gas storage well—A well located and used in a gas storage reservoir for injection or withdrawal purposes, or an observation well.

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

Gel—A slurry of clay or other equivalent material and water at a ratio of not more than 7 barrels of water to each 100 pounds of clay or other equivalent matter.

Intermediate casing—A string of casing set after the surface casing and before production casing, not to include coal protection casing, that is used in the wellbore to isolate, stabilize or provide well control.

L.E.L.—Lower explosive limit.

[*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 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.

Noncementing material—A mixture of very fine to coarse grained nonbonding materials, including unwashed crushed rock, drill cuttings, earthen mud or other equivalent material approved by the Department.

Noncoal area—An area that is not underlain by a workable coal seam.

Nonporous material—Nontoxic earthen mud, drill cuttings, fire clay, gel, cement or

equivalent materials approved by the Department that will equally retard the movement of fluids.

Nonvertical well—

(i) A well drilled intentionally to deviate from a vertical axis.

(ii) The term includes wells drilled diagonally and wells that have horizontal bore holes.

Observation well—A well used to monitor the operational integrity and conditions in a gas storage reservoir, the reservoir protective area or strata above or below the gas storage horizon.

Oil and gas operations—The term includes the following:

(i) 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.

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

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

(A) Oil and gas pipelines.

(B) Natural gas compressor stations.

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

(iv) Construction, installation, use, maintenance and repair of all equipment directly associated with activities in subparagraphs (i)—(iii) to the extent that the equipment is necessarily located at or immediately adjacent to a well site, impoundment area, oil and gas pipeline, natural gas compressor station or natural gas processing plant.

(v) 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] when 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—Post-construction stormwater management plan—The term as defined in § 102.1 (relating to definitions).

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

Perimeter area—An area that begins at the outside coal boundaries of an operating coal mine and extends within 1,000 feet beyond those boundaries or an area within

1,000 feet beyond the mine permit boundaries of a coal mine already projected and permitted but not yet being operated.

Permanently cemented—Surface casing or coal protective casing that is cemented until cement is circulated to the surface or is cemented with a calculated volume of cement necessary to fill the theoretical annular space plus 20% excess.

Pit—A natural topographic depression, manmade excavation or diked area formed primarily of earthen materials designed to hold fluids, semifluids 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.

Private water supply—A water supply that is not a public water supply.

Process or processing—The term has the same meaning as “processing” as defined in section 103 of the Solid Waste Management Act (35 P. S. § 6018.103).

Production casing—A string of pipe other than surface casing and coal protective casing which is run for the purpose of confining or conducting hydrocarbons and associated fluids from one or more producing horizons to the surface.

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.

[*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.]

Regional groundwater table—

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

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

Regulated substance—Any substance defined as a regulated substance in section 103 of Act 2 (35 P. S. § 6026.103).

Retrievable—When used in conjunction with surface casing, coal protective casing or production casing, the casing that can be removed after exerting a prudent effort to pull the casing while applying a pulling force at least equal to the casing weight plus 5,000 pounds or 120% of the casing weight, whichever is greater.

Seasonal high groundwater table—The saturated condition in the soil profile during certain periods of the year. The condition can be caused by a slowly permeable layer within the soil profile and is commonly indicated by the presence of soil mottling.

Sheen—An iridescent appearance on the surface of the water.

Soil mottling—Irregular marked spots in the soil profile that vary in color, size and number.

Stormwater—Runoff from precipitation, snow-melt, surface runoff and drainage.

Surface casing—A string or strings of casing used to isolate the wellbore from fresh groundwater and to prevent the escape or migration of gas, oil or other fluids from the wellbore into fresh groundwater. The surface casing is also commonly referred to as the water string or water casing.

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

(i) **Transport materials used for the drilling or hydraulic fracture stimulation, or both, of a well and the residual waste generated as a result of the activities.**

(ii) **Lose functionality after the well site it serviced has been restored under § 78.65 (related to site restoration).**

Tophole water—Water that is brought to the surface while drilling through the strata containing fresh groundwater and water that is fresh groundwater or water that is from a body of surface water. Tophole water may contain drill cuttings typical of the formation being penetrated but may not be polluted or contaminated by additives, brine, oil or man induced conditions.

Total depth—The depth to which the well was originally drilled, subsequently drilled or the depth to which it was plugged back in a manner approved by the Department.

Tour—A workshift in drilling of a well.

Unconventional formation—A geological shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore.

Unconventional well—A bore hole drilled or being drilled for the purpose of or to be used for the production of natural gas from an unconventional formation.

Vertical well—A well with a single vertical well bore.

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 under law, and protects public health, safety and welfare.

Water protection depth—The depth to a point 50 feet below the surface casing seat.

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

(i) **The owner or operator of a public water system as defined in section 3 of the Pennsylvania Safe Drinking Water Act (35 P. S. § 721.3).**

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

Water source—

(i) **Any of the following:**

(A) **Water of the Commonwealth.**

(B) **A source of water supply used by a water purveyor.**

(C) **Mine pools and discharges.**

(D) **Any other waters that are used for drilling or completing a well in an unconventional formation.**

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

(A) **Which are used for drilling or completing a well in an unconventional formation.**

(B) **Which do not discharge into waters of the Commonwealth.**

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

Watercourse—The term as defined in § 105.1.

Well operator or operator—Any of the following:

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

(ii) 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.**

[**In cases where**] (iii) 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—The term as defined in § 105.1.

Workable coal seam—One of the following:

(i) A coal seam in fact being mined in the area in question under the act and this chapter by underground methods.

(ii) A coal seam which, in the judgment of the Department, reasonably can be expected to be mined by underground methods.

§ 78.2. [**Scope**] (Reserved).

[**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.**]

Subchapter B. PERMITS, TRANSFERS AND OBJECTIONS

PERMITS AND TRANSFERS

§ 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) of the act (58 P. S. § 601.201(e)(4) and (5))] 3211(e.1), (4) and (5) of the act (relating to well permits).

* * * * *

§ 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 web site 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 of the act (58 P. S. § 601.215)] 3225 of the act (relating to bonding), the fee in compliance with § 78.19 (relating to permit application fee schedule), proof of the notification required under section 3211(b.1) of the act (relating to well permits), necessary requests for variance or waivers or other documents required to be furnished by law or the Department, and the information in subsections (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 this Commonwealth with the first application submitted after _____, (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*) and provide any changes to its business relationships 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 § 102.5 (relating to permit requirements) and complied with § 102.6(a)(2) (relating to permit applications and fees), the applicant is deemed to comply with subsection (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 subparagraph, 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 1,000 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 has 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 the 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 will consider the impact of any potential permit condition on the applicant's ability to exercise its property rights with regard to the development of oil and gas resources and the degree to which any potential condition may impact or impede the optimal development of the oil and gas resources. The issuance of a permit containing conditions imposed by the Department under this subsection is an action that is appealable to the Environmental Hearing Board. The Department has the burden of proving that the conditions were necessary to protect against 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 of the act (58 P. S. § 601.601),**] **under section 3271 of the act (relating to well plugging funds)** and an affidavit affirming that the information on the original application is still accurate and complete, that the well location restrictions are still met and that the [**surface owners, coal owners and operators, gas storage operators, where the permit renewal is for a proposed well location within an underground gas storage reservoir or the reservoir protective area, and water supply owners within 1,000 feet**] **entities required to be notified under section 3211(b)(2) of the act (relating to well permits)** have been notified of this request for renewal. 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.

* * * * *

(c) A person who operates multiple well projects may submit one copy of the documents required under subsection (a) if the documents are applicable to the entire project.

(d) All containment practices and onsite processing associated with disposal and enhanced recovery wells shall comply with this chapter.

§ 78.19. Permit application fee schedule.

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

<i>Vertical Wells</i>		<i>Nonvertical Wells</i>		[Marcellus Shale] Unconventional Wells	
<i>Total Well Bore Length in Feet</i>	<i>Total Fee</i>	<i>Total Well Bore Length in Feet</i>	<i>Total Fee</i>	<i>Total Well Bore Length in Feet</i>	<i>Total Fee</i>
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.**

* * * * *

OBJECTIONS

§ 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 of the act (58 P. S. § 601.205)**] **3215 of the act (relating to well location restrictions)** or on the basis that the information in the application is untrue in a material respect, and request a conference under

section [501 of the act (58 P. S. § 601.501)] 3251 of the act (relating to conferences).

* * * * *

§ 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 of the act (58 P. S. § 601.202)] section 3212 of the act (relating to permit objections) 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 and 202 of the act (58 P. S. §§ 601.201 and 601.202)] 3211 and 3212 of the act (relating to well permits; and permit objections). 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) of the act (58 P. S. § 601.201(e))] 3211(e) of the act (relating to well permits).

Subchapter C. ENVIRONMENTAL PROTECTION PERFORMANCE STANDARDS

§ 78.51. Protection of water supplies.

* * * * *

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

* * * * *

(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) of the act (58 P. S.

§ 601.208(c))] 3218(c) of the act (relating to protection of water supplies), the Department will issue orders to the well operator necessary to assure compliance with this section. The presumption established by section 3218(c) of the act is not applicable to pollution resulting from well site construction.

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

* * * * *

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

* * * * *

(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 of the act (58 P. S. § 601.501)] 3251 of the act (relating to conferences).

(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 web site.

§ 78.52. Predrilling or prealteration survey.

(a) A well operator who wishes to preserve its defense under section [208(d)(1) of the act (58 P. S. § 601.208(d)(1))] 3218(d)(1)(i) and (2)(i) of the act (relating to protection of water supplies) that the pollution of a water supply existed prior to the drilling or alteration of the well shall conduct a predrilling or prealteration survey in accordance with this section.

(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 section [208(d)(1)] 3218(d)(1)(i) and (2)(i) of the act shall provide a copy of all the sample results taken as part of the survey to the Department [and] 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 the landowner or water purveyor within 10-business days of receipt of the sample results. [Test] Survey results not received by the Department within 10 business days may not be used to preserve the operator's defenses under section [208(d)(1)] 3218(d)(1)(i) and (2)(i) of the act.

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

(1) The location of the water supply and the name of the surface landowner or water purveyor.

(2) The date of the survey, and the name of the [certified] independent Pennsylvania-accredited laboratory and the person who conducted the survey.

(3) A description of where and how the [sample was] samples were collected.

* * * * *

(f) A well operator who wishes to preserve the defense under section [208(d)(2)] 3218(d)(1)(ii) and (2)(ii) of the act 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:

* * * * *

(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 shall provide written notice to the landowner or water purveyor indicating that the presumption established under section 3218(c) of the act 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. Proof of written notice will be presumed if provided in accordance with section 3212(a) of the act (relating to permit objections).

(Editor's Note: The following section is new and printed in regular type to enhance readability.)

§ 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.

(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 under subsection (b) and proof of notification that the operators submitted questionnaires under 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 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.

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

(a) *Preparation and implementation of plan for oil and gas operations.* **[Prior to generation of waste, the well operator shall prepare and implement a plan under § 91.34 (relating to activities utilizing pollutants) for the control and disposal of fluids, residual waste and drill cuttings, including tophole 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.] Persons conducting oil and gas operations shall prepare and implement site specific PPC plans according to §§ 91.34 and 102.5(l) (relating to activities utilizing pollutants; and permit requirements).**

(b) *Preparation and implementation of plan for well sites.* In addition to the requirements in subsection (a), the well operator shall prepare and develop a site specific PPC plan prior to storing, using, generating or transporting regulated substances to, on or from a well site from the drilling, alteration, production, plugging or other activity associated with oil and gas wells.

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

[(b)] (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)] (e) *Revisions.* The well operator shall revise the PPC plan prior to implementing a change to the practices identified in the PPC plan.

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

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

[(e)] (h) *Emergency contacts.* A list of emergency contact phone numbers for the area in which the well site is located must be included in the plan and be prominently displayed at the well site during drilling, completion or alteration activities.

[(f)] (i) *Emergency response for unconventional well sites.*

* * * * *

§ 78.56. [Pits and tanks for temporary containment] Temporary 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 and wastes from the drilling, altering, completing, recompleting, servicing and plugging the well, including brines, drill cuttings, drilling muds, oils, stimulation fluids, well treatment and servicing fluids, plugging and drilling fluids other than gases in a pit,

tank or series of pits and tanks 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 and wastes which are used or produced during drilling, altering, completing, recompleting, servicing and plugging the well.

(2) Modular aboveground storage structures that are assembled onsite may not be utilized to store regulated substances without Department approval. The Department will maintain a list of approved modular storage structures on its web site. The owner or operator shall notify the Department at least 3 business days before the beginning of construction of these storage structures. The notice shall be submitted electronically to the Department through its web site and include the date the storage structure installation will begin. If the date of installation is extended, the operator shall renotify the Department with the date that the installation will begin, which does not need to 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 must 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 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 tophole 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 [with] that covers the bottom and sides of the pit. Liners used in a pit or other approved storage structures must comply with the following:

(i) The liner must have a coefficient of permeability of no greater than 1×10^{-7} 10^{-10} cm/sec [and with sufficient strength and thickness to maintain the integrity of the liner].

(ii) The liner must 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 will be maintained on the Department's web site.

(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 must 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. [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.] 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.

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

(12) Stormwater must 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 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. The notice shall be submitted electronically to the Department through its web site and include the date the liner will be installed. If the date of installation is extended, the operator shall renotify the Department with the date of installation, which does not need to be 3 business days in advance. Notice is not required if the licensed professional engineer or geologist that designed the well site submits a statement on forms provided by the Department certifying that the pit and the pit liner, as built, are compliant with this section. This certification shall be submitted within 10 business days of installation of the pit liner.

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

(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, the] The owner or operator shall remove or fill the pit within 9 months after completion of drilling, or in accordance with the extension granted by the Department under section [206(g) of the act (58 P. S. § 601.206(g))] 3216(g) of the act (relating to well site restoration) and § 78.65(d) (relating to site restoration). Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 calendar days of construction.

§ 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 may 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.

(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 1×10^{-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.]

(c) 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 must have containment capacity sufficient to hold the volume of the largest single tank, plus an additional 10% of volume for precipitation. Compliance with § 78.64 (relating to containment around oil and condensate tanks) or using double walled tanks capable of detecting a leak in the primary container fulfill the requirements in this subsection.

(d) Tanks, series of tanks or other aboveground 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

by _____ (*Editor's Note: The blank refers to 3 years after the effective date of adoption of this proposed rulemaking.*). A well operator utilizing underground or partially buried storage tanks as of _____, (*Editor's Note: The blank refers to the effective date of adoption of this proposed rulemaking.*) shall 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 by _____ (*Editor's Note: The blank refers to 6 months after the effective date of adoption of this proposed rulemaking.*)

(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 §§ 245.531—245.534 (relating to corrosion and deterioration prevention).

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

§ 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 (relating to centralized impoundments):

- (1) Mixing fluids with freshwater.
- (2) Aerating fluids.
- (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 Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003).

(e) Processing of fluids in a manner approved under subsection (a) will 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 beginning of processing operations. The notice shall be submitted electronically to the Department through its web site and include the date activities will begin.

(f) Sludges, filter cake or other solid waste remaining after the processing or handling of fluids under subsection (a) or (b), including solid waste mixed with drill cuttings, shall be characterized under § 287.54 (relating to chemical analysis of waste) before the solid waste leaves the well site.

(Editor's Note: Sections 78.59a, 78.59b and 78.59c are new and printed in regular type to enhance readability.)

§ 78.59a. Impoundment embankments.

Embankments constructed for freshwater and centralized impoundments for oil and gas activities must meet the following requirements:

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

(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 may not be used around sand. The last 3 feet of this drain at the downstream slope must be constructed of AASHTO #8 material.

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

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

(5) Soils to be used for embankment construction must be classified in accordance with ASTM-D-2487 (Unified Soils Classification). Soil samples must 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 must be constructed out of soils designated as GC, GM, SC, SM, CL or ML, only. Soils with split designations when one of the designations is not GC, GM, SC, SM, CL or ML may not be used. Soils must 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) Particles greater than 6 inches in any dimension may not be used for embankment construction.

(8) Soil used in embankment construction must 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 must be 9 inches.

(iii) Soil shall be compacted until visible nonmovement 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 § 102.22 (relating to site stabilization) shall 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 2 feet. The rockfill must 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 § 78.59a (relating to impoundment embankments), freshwater impoundments must be in compliance with this section.

(b) A well operator that constructed a freshwater impoundment shall register the location of the freshwater impoundment by _____, *(Editor's Note: The blank refers to 60 days after the effective date of adoption of this proposed rulemaking.)* 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 must completely surround the freshwater impoundment to prevent unauthorized acts of third parties and damage caused by wildlife.

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

(f) Freshwater impoundments shall be restored by the operator so 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 9 months of completion of drilling the last well serviced by the impoundment. A 2-year restoration extension may be requested under section 3216(g) of the act (relating to well site restoration). 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 include the following:

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

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

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

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

(h) 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 under § 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 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 under § 105.91 shall obtain a permit from the Department prior to construction of the impoundment and comply with Chapter 105 (relating to dam safety and waterway management).

(b) The embankment of the centralized impoundment shall meet the requirements of § 78.59a (relating to impoundment embankments).

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

(1) In a floodplain of waters of the Commonwealth as defined in section 3215(f)(5) of the act (relating to well location restrictions).

(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 must 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:

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

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

(iii) Is compatible with the impounded fluid.

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

(v) Is covered with nonwoven 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.

(vi) Is constructed of a natural clay material and include an upper 6 inches that is:

(A) Free of coarse rock fragments greater than 0.75 inch in diameter.

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

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

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

(2) A secondary liner that:

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

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

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

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

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

(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) Uses 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 transmits 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) Covers the bottom and sidewalls of the impoundment.

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

(viii) Contains 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 must be equipped with a sump pump with a switch to automatically activate the pump if a leak occurs.

(B) Discharge from the sump pump must be directed back into the impoundment or other suitable containment. The sump may not have an outlet other than the sump pump discharge.

(C) The pump and sump must 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 must ensure that liquids drain from the leak detection zone.

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

(C) The minimum diameter of the perforated pipe must 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 must satisfy ASTM Method D5747, Compatibility Test for Wastes and Membrane Liners, or other compatibility tests approved by the Department.

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

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

(v) A minimum thickness of 40 mil unless a greater thickness is required under 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

<i>Fluid Height (ft)</i>	<i>Allowable Leakage Rate (gallons/acre/day)</i>
$h \leq 10$	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. The notice be made electronically to the Department through its web site.

(f) An operator that intends to construct a centralized impoundment shall initially complete a baseline hydrogeologic investigation to document background conditions under 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 under this subsection must include the constituents in subsection (i)(6).

(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 to accommodate the impoundment, the requirements of §§ 289.121—289.123 (relating to description of geology, soils and hydrology; general requirements; geology and groundwater description; and groundwater quality description) shall be followed and the groundwater monitoring period will 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 must accurately characterize groundwater flow, groundwater chemistry and flow systems on the site and adjacent area. The system must 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 downgradient 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 must 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 must be located so that they will not be affected by adverse effects on groundwater from the impoundment.

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

(6) Decontaminated prior to installation.

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

(1) The casing must 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 must 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 must 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 must be well rounded and dimensionally stable.

(v) The casing must 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 must 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:

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

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

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

(v) Protrudes above the monitoring well casing.

(vi) Has a lockable cap.

(vii) Is 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 shall 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.

(vi) Other parameters specified by the Department.

(j) Plans, specifications and reports for site characterization and groundwater testing systems required under 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 under this section must reasonably ensure mechanical integrity of the structure and function, be prepared by a registered professional engineer and be affixed with the engineer's seal and a certification which reads 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 are true and correct.

(m) Upon completion of construction of the impoundment, a facility completion and final certification report shall 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 may not be used until the facility completion and final certification report is received and approved by the Department. The Department will 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 under section 3216(g) of the act (relating to well site restoration).

(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 must 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 [and], 102 and 105, The Clean Streams Law (35 P. S. §§ 691.1—691.1001), **the Dam Safety and Encroachments Act (32 P. S. §§ 693.1—693.27)** and the act.

(b) The owner and operator may not discharge tophole water or water in a pit as a result of precipitation 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) of the act (58 P. S. § 601.205(b))**] **3215(b) of the act (relating to well location restrictions).**

(8) If the water does not meet the requirements of paragraph (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 under subsection (b) and submitted under § 78.65(f)(1) (relating to site restoration).

§ 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)] § 78.83(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, body of water or wetland**] watercourse or body of water unless approved as part of a waiver granted by the Department under section [205(b) of the act (58 P. S. § 601.205(b))] 3215(b) of the act (relating to well location restrictions).

* * * * *

(8) 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**] sediment 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)] § 78.83(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) of the act (58 P. S. § 601.205(b))] 3215(b) of the act.

* * * * *

(9) The drill cuttings are spread and incorporated into the soil. **The loading and application rate of drill cuttings may 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)] § 78.83(c) may be disposed of as follows:

(1) In a pit that meets the requirements of [§ 78.62(a)(5)—(18)] § 78.62(a)(5)—(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 web site. The operator does not need to request approval from the Department for use of approved solidifiers.**

(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 under this section. This notice shall be submitted electronically to the Department through its web site and include the date the cuttings will be disposed. If the date of disposal is extended, the operator shall renotify the Department of the date of disposal, which does not need to 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 production**] or stimulation 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 under § 78.58 (relating to onsite processing) may not be disposed of on the well site.**

(2) The well is permitted under section [201 of the act (58 P. S. § 601.201)] 3211 of the act (relating to well permits) or registered under section [203 of the act (58 P. S. § 601.203)] 3213 of the act (relating to well registration and identification).

(3) The requirements of section [215 of the act (58 P. S. § 601.215)] 3225 of the act (relating to bond-

ing) 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 web site and include the date the residual waste will be disposed. If the date of disposal changes, the operator shall renotify 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)] The pit is lined with a synthetic flexible liner that is compatible with the waste and has a coefficient of permeability of no greater than 1×10^{-7} cm/sec. The liner shall be of sufficient strength and thickness to maintain the integrity of the liner. The 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*.

(11) 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.

(12) 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.

(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 owner or operator shall correct damages or imperfections before placing waste in the pit, and shall maintain the pit until closure of the pit.]

(11) The pit and liner meet the requirements of § 78.56(a)(8)—(10) (relating to temporary storage).

[(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 [sedimentation] sediment 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 [§ 261.24 Table I (relating to characteristic of toxicity)] 40 CFR 261.24, Table 1 (relating to maximum concentration of contaminants for the toxicity characteristic).

(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.

* * * * *

§ 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 under § 78.58 (relating to onsite processing) may not be disposed of by land application.**

(2) The well is permitted under section [201 of the act (58 P. S. § 601.201)] 3211 of the act (relating to well permits) or registered under section [203 of the act (58 P. S. § 601.215)] 3213 of the act (relating to well registration and identification).

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

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

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

* * * * *

(20) The land application area shall be revegetated to stabilize the soil surface and comply with [§ 78.53] **Chapter 102** (relating to erosion and [sedimentation] sediment 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 under 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 [§ 261.24 Table I (relating to characteristic of toxicity)] 40 CFR 261.24, Table 1 (relating to maximum concentration of contaminants for the toxicity characteristic).

(c) The owner or operator may request to dispose of residual waste, including contaminated drill cuttings, in an alternate manner from that required in subsection (a) 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.

(d) The operator shall document compliance with subsection (b) and be made available to the Department upon request while conducting activities under subsection (a) and submitted under § 78.65(f)(7) (relating to site restoration).

§ 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 Part 112 (relating to oil pollution prevention) around the tank or tanks which will prevent the tank contents from entering waters of this Commonwealth.

* * * * *

(Editor's Note: The following section is new and printed in regular type to enhance readability.)

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

(a) This section applies to unconventional well sites.

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

(c) 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 must meet all of the following:

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

(2) A containment system must have a coefficient of permeability no greater than 1×10^{-10} cm/sec.

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

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

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

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

(2) Subsurface secondary containment systems must be designed to allow for the management or removal of stormwater.

(3) Subsurface secondary containment systems must 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) Subsurface secondary containment systems may 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 do not constitute a leak detection system for the purpose of this subsection. If the containment system did not completely contain the material, the operator shall notify the Department and remediate the affected area in accordance with § 78.66 (relating to reporting and remediating releases).

(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.

[In addition to complying with section 206 of the act (58 P. S. § 601.206), an owner or operator shall meet the following requirements:]

(a) The owner or operator shall restore the land surface within the area disturbed under section 3216 of the act (relating to well site restoration) and Chapter 102 (relating to erosion and sediment control).

[(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) 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. 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 (relating to containment systems and practices at unconventional well sites).

(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 § 102.8 (relating to PCSM requirements).

(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 wellheads 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, must comply with all post-construction stormwater management requirements in Chapter 102.

(v) The site is permanently stabilized according to § 102.22(a) (relating to site stabilization).

(2) The restoration period in this subsection may be extended by the Department for an additional period of time, not to exceed 2 years, upon demonstration by the well owner or operator of either of the following:

(i) The extension will result in less earth disturbance, increased water reuse or more efficient development of the resources.

(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 6 months after the completion of drilling for approval by the Department. The demonstration must include a site restoration plan that must provide for:

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

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

(iii) The stabilization of the well site that includes interim post-construction storm water management best management practices in compliance with § 102.8, including § 102.8(a)—(m).

(iv) Other measures to be employed to minimize accelerated erosion and sedimentation in accordance with The Clean Streams Law (35 P. S. §§ 691.1—691.1001).

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

(vi) The return of the portions of the site not occupied by production facilities or equipment to approximate original conditions, including preconstruction contours, and supporting 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)—(v) and all PCSM requirements in Chapter 102.

(e) 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 supporting 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, 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 under §§ 78.62 and 78.63 (relating to disposal of residual waste—pits; and disposal of residual waste—land application) 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)] A release of a substance causing or threatening pollution of the waters of this Commonwealth, shall comply with the reporting and corrective action requirements of § 91.33 (relating to incidents causing or threatening pollution).

(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 under 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.]

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

(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.

(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 § 91.33 (relating to incidents causing or threatening pollution), the operator or responsible party shall contact the appropriate regional Department office by telephone or call the Department's Statewide toll free number at (800) 541-2050 as soon as practicable, but no later than 2 hours after discovering the spill or release. 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 prevent:

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

(ii) Damage to property.

(iii) 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 shall remediate a release in accordance with one of the following:

(1) Spills or releases to the ground of less than 42 gallons at a well site that do not impact or threaten to pollute waters of the Commonwealth may be remediated by removing the soil visibly impacted by the release and properly managing the impacted soil in accordance with the Department's waste management regulations. The operator or responsible party shall notify the Department of its intent to remediate a spill or release in accordance with this paragraph at the time the report of the spill or release is made. Completion of the cleanup should be documented through the process outlined in § 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 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 paragraph (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.
 - (E) Interim remedial actions planned, initiated or completed.
- (ii) The initial report must 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 time frames 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 shall perform a site characterization to determine the extent and magnitude of the contamination and submit a site characterization report to the appropriate Department regional office describing the findings. The report must include a description of any interim remedial actions taken. For a background standard remediation, the site characterization must contain information required under § 250.204(b)—(e) (relating to final report). For a Statewide health standard remediation, the site characterization must contain information required under § 250.312(a) (relating to final report).
- (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 may not be required to meet the notice and review provisions of these standards except as described in this section.
- (v) If the site characterization indicates that the interim remedial actions taken did not adequately remediate the release the operator or responsible party shall develop and submit a remedial action plan to the appropriate Department regional office for approval. The plan is due within 45 calendar days of submission of the site characterization to the Department. Remedial action plans should contain the elements outlined in § 245.311(a) (relating to remedial action plan).
- (vi) Once the remedial action plan is implemented, the responsible party shall submit a final report to the appropriate Department regional office for approval. The Department 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 under this paragraph may elect to utilize Act 2 at any time.

(Editor's Note: Sections 78.67, 78.68, 78.68a, 78.68b, 78.69, 78.70 and 78.70a are new and printed in regular type to enhance readability.)

§ 78.67. Borrow pits.

(a) An operator who owns or controls a borrow pit that does not require a permit under the Noncoal Surface Mining Conservation and Reclamation Act (52 P. S. §§ 3301—3326) under the exemption in section 3273.1(b) of the act (relating to relationship to solid waste and surface mining), shall operate, maintain and reclaim the borrow pit in accordance with the performance standards in Chapter 77, Subchapter I and Chapter 102 (relating to environmental protection performance standards; and erosion and sediment control), and other applicable laws.

(b) Operators shall register the location of their existing borrow pits by _____, *(Editor's Note: The blank refers to 60 calendar days after the effective date of adoption of this proposed rulemaking.)* by providing the Department, in writing, 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 must meet one of the following:

(1) Be restored 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.

(2) Obtain a noncoal surface mining permit for its continued use, unless relevant exemptions apply under the Noncoal Surface Mining Conservation and Reclamation Act and regulations promulgated thereunder. A 2-year extension of the restoration requirement may be approved under § 78.65(d) (relating to site restoration).

§ 78.68. Oil and gas gathering lines.

(a) All earth disturbance activities associated with oil and gas gathering line installations and supporting facilities are 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 must 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 under 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 may 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 Chapter 102.

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

§ 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 will be authorized by the Department in accordance with Chapters 102 and 105 (relating to erosion and sediment control; and dam safety and waterway management).

(b) Prior to beginning of any horizontal directional drilling activity, the directional drilling operator shall develop a PPC plan under § 102.5(1) (relating to permit requirements). The PPC plan must include a site specific contingency plan that describes the measures to be taken to control, contain and collect any discharge of drilling fluids and minimize impacts to waters of the Commonwealth. The PPC plan must be present onsite during drilling operations and made available to the Department upon request.

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

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

(e) Materials staging areas shall be outside of a floodway, as defined in § 105.1 (relating to definitions), 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 will be listed on the Department's web site.

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

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

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

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

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

(a) Temporary pipelines must meet applicable requirements in Chapters 102 and 105 (relating to erosion and sediment control; and 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 under § 105.151 (relating to permit applications 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, may not have joints or couplings. Temporary pipeline crossings over wetlands must 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, must 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 1,000 barrels of fluid. Elevation changes that would effectively limit flow in the event of a pipeline leak shall be taken into consideration when determining the placement of shut off valves and be considered effective flow barriers.

(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 2 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 may not be transported through a temporary pipeline.

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

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

§ 78.69. Water management plans.

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

(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.

(4) Recordkeeping 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 § 95.10(b) (relating to treatment requirements for new and expanding mass loadings of Total Dissolved Solids (TDS)) will satisfy the reuse plan requirement. An unconventional well operator shall make the reuse plan available for review by the Department upon request.

(d) *Approval.* 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. This subsection does not affect the requirement in subsection (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 in sections 3211(m), 3252 and 3259 of the act (relating to well permits; public nuisances; and unlawful conduct).

(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 does 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 be conducted under a plan approved by the Department and may 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 under 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 must 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 subparagraph (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 must prevent direct infiltration to groundwater.

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

(f) The road shall initially be spread at a rate up to 1/2 gallon per square yard. The road shall subsequently be spread at a rate of up to 1/3 gallon per square yard. The application rate for race tracks and mining haul roads should be determined for each site and may not exceed 1 gallon per square yard.

(g) Road-spreading must meet the following:

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

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

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

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

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

(h) Trucks utilized to spread brine must have signs identifying plan applicant's name and business address on both sides of the vehicle. The signs must have lettering that is at least 6 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 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 Chapter 299 (relating to storage and transportation of residual waste).

(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 web site 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 renotify the Department in accordance with this subsection.

(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 shall be received by the Department on the 15th day of the month that follows the month the brine was spread. These

reports shall be submitted to the Department on a monthly basis even if road-spreading of brine did not take place during the previous month.

(m) Any changes to the approved road-spreading plan shall be submitted to the Department for approval. Approval shall 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 will 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 under a plan approved by the Department and may 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 under 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 under subsection (a) shall be submitted annually to the Department for approval and must 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 the 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 subparagraph (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 under 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 must meet the following:

<i>Allowable Level Pre-wetting</i>	<i>Parameter</i>	<i>Allowable Level Anti-icing / De-icing</i>
>170,000 mg/l	TDS	>170,000 mg/l
>80,000 mg/l	Chloride	>80,000 mg/l
>40,000 mg/l	Sodium	>40,000 mg/l
>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 and 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 are 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 may 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 may not be conducted on wooden or grated deck bridges.

(j) Brine may 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 Chapter 299 (relating to storage and transportation of residual waste).

(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 under 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 National Pollutant Discharge Elimination System 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 30 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 under subsections (e) and (l) shall be maintained by

the applicant for a minimum of 5 years at the applicant's place of business and shall be available to the Department for inspection. At a minimum, these records must 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 must have signs identifying the person's name and business address on both sides of the truck. The signs must have lettering that is at least 6 inches in height. Controls for spreading brine and pre-wetted antiskid material must 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 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 web site and include the date the activity will occur and the location where the activity will occur. If the date changes, the operator shall renotify the Department in accordance with this subsection.

(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 shall be received by the Department on or before the 15th day of the month that follows the month production brine was spread. These reports shall be submitted to the Department on a monthly basis even if activity did not take place in the previous month.

(s) Any changes to the approved plan shall be submitted to the Department for approval. Approval shall 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 will be deemed to have a residual waste permit by rule.

**Subchapter D. WELL DRILLING, OPERATION AND PLUGGING
GENERAL**

§ 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)] § 78.55(d) (relating to control and disposal planning; emergency response for unconventional well sites), 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 under § 78.52a (relating to abandoned and orphaned well identification) 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 of the act (58 P. S. § 601.211)] 3221 of the act (relating to alternative methods).

* * * * *

§ 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 of the act (58 P. S. § 601.501)] 3251 of the act (relating to conferences).

* * * * *

CASING AND CEMENTING

§ 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 of the act (58 P. S. § 601.211)] 3221 of the act (relating to alternative methods) shall be made in accordance with § 78.75 (relating to alternative methods).

PLUGGING

§ 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 of the act (58 P. S. § 601.211)] 3221 of the act (relating to alternative methods) to stop the vertical flow of fluids or gas within the well bore unless one of the following applies:

* * * * *

(3) The Department has approved the identification of the well as an orphan well under section [203 of the act (58 P. S. § 601.203)] 3213 of the act (relating to well registration and identification), 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.

* * * * *

INACTIVE STATUS

§ 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 of

the act (58 P.S. § 601.204)] section 3214 of the act (relating to inactive status) 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:

* * * * *

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

* * * * *

Subchapter E. WELL REPORTING

§ 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 [a Marcellus shale] an 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:

* * * * *

(10) Certification by the operator that the well has been constructed in accordance with this chapter and any permit conditions imposed by the Department.

(11) Whether methane was encountered other than in a gas 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 [submit] arrange for the 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] 67.3104) 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 [a well] drilling, 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 [a well] of drilling, the well operator shall file with the Department a copy of the drill stem test charts, formation water analysis, porosity, permeability or fluid saturation measurements, core analysis and lithologic log or sample description or other similar data as compiled. No information will be required unless the operator has had the information described in this subsection compiled in the ordinary course of business. No interpretation of the data is to be filed.

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

[(c) The information requested by the Department under subsections (a) and (b) shall be provided to the Department by the operator, within 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.

(d) 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.]

(d) Data required under subsections (b) and (c) shall be retained by the well operator and filed with the Department no more than 3 years after

completion of the well. Upon request, the Department will extend the deadline up to 5 years from the date of completion of the well.

(e) The Department is entitled to utilize information collected under this section in the enforcement proceedings, in making designations or determinations under section 1927-A of The Administrative Code of 1929 (71 P. S. § 510-27) and in aggregate form for statistical purposes.

Subchapter G. BONDING REQUIREMENTS

§ 78.301. Scope.

In addition to the requirements of section [215 of the act (58 P. S. § 601.215)] 3225 of the act (relating to bonding) 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 of the act (58 P. S. § 601.215)] 3225 of the act (relating to bonding), 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 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 of the act (58 P. S. § 601.215)] 3225 of the act (relating to bond-

ing) 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) of the act (58 P. S. § 601.215(a)(3))] 3225(a)(3) of the act (relating to bonding) are subject to the following conditions:

* * * * *

Number of Wells

- 1-10 with no intention to operate more than 10
- 11-25 or 1-10 and applies for additional well permits
- 26-50
- 51-100
- 101-200

(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.

§ 78.309. [Phased deposit of collateral] (Reserved).

[(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) An 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>Annual Deposit</i>	<i>Per Additional Well</i>
\$50/well	N.A.
\$1,150	\$150
\$1,300	\$400
\$1,500	\$400
\$1,600	\$1,000

(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) of the act (58 P. S. § 601.215(d) and (d.1))] 3225(d) and (d.1) of the act (relating to bonding) for a valid surety bond or collateral that has been filed and approved by the Department.

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Subchapter H. UNDERGROUND STORAGE

§ 78.402. Inspections by the gas storage operator.

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(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(a) and (b) of the act (58 P. S. § 601.301(a) and (b))] 3231(a) and (b) of the act (relating to reporting requirements for gas storage operations). 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.

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§ 78.403. Gas storage well integrity testing.

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(g) The Department may require the operator to perform additional tests it deems necessary after a conference is held under section [501 of the act (58 P. S. § 601.501)] 3251 of the act (relating to conferences).

§ 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 (relating to conferences).

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