

Executive Summary
Final Rulemaking
Amendments to 25 Pa. Code Chapters 78 and 78a
Environmental Protection Performance Standards at Oil and Gas Well Sites

The Department of Environmental Protection (Department or DEP) recommends final-form amendments to Chapter 78 (relating to conventional oil and gas wells) and creation of a new Chapter 78a (relating to unconventional wells) for consideration by the Environmental Quality Board (EQB or Board).

Purpose of the Final Rulemaking

This final-form rulemaking relates to surface activities associated with the development of oil and gas wells. The goal of this regulation is to set performance standards for surface activities associated with the development of oil and gas wells and to prevent and minimize spills and releases to the environment to ensure protection of the waters of the Commonwealth, public health and safety and the environment.

In order to properly regulate the two sides of the oil and gas industry in Pennsylvania, the final-form rulemaking splits the regulation into separate Chapters governing conventional well development (Chapter 78) and unconventional well development (Chapter 78a).

Major areas of the rulemaking in both Chapters include public resource impact screening, water supply replacement standards, waste management and disposal, and establishing identification and select monitoring of wells located proximal to hydraulic fracturing activities. Other new provisions regulating both sides of the industry include standards for well development impoundments; a process for the closure or waste permitting of wastewater impoundments; onsite wastewater processing; site restoration; standards for borrow pits; and reporting and remediating spills and releases.

The conventional Chapter contains requirements for the proper regulation of road-spreading of brine; while the unconventional Chapter contains requirements for the containment of regulated substances; oil and gas gathering pipelines, well development pipelines and water management plans.

Summary of the Final Rulemaking

This regulation is needed to ensure that surface activities related to the development of conventional and unconventional wells are conducted in a manner that protects the health, safety, and environment and property of Pennsylvania citizens consistent with the Pennsylvania Constitution and with the environmental laws that provide authority for this final-form rulemaking. The requirements related to surface activities that currently exist in Subchapter C of Chapter 78 were last updated in 2001 – prior to the significant expansion of development utilizing enhanced drilling techniques at both conventional and unconventional well sites.

This final-form rulemaking is needed for several specific reasons, including: (1) codification of current policies and practices; (2) statutory changes and new environmental protection standards for conventional and unconventional wells resulting from the passage of the 2012 Oil and Gas Act including direction to promulgate specific regulations; (3) new technologies associated with extracting oil and gas from conventional formations and gas and natural gas liquids from unconventional formations; (4) changes in the Department's other regulatory programs; (5) environmental protection gaps in the Department's existing regulatory program currently addressed through policy; and, (6) recommendations from State Review of Oil and Natural Gas Environmental Regulations (STRONGER), particularly those related to the potential risk of hydraulic fracturing communication.

The final-form rulemaking recognizes the needs of industry with reasonable protections for public health and the environment. This final-form rulemaking has been developed to achieve the EQB's trustee obligations to protect and conserve public natural resources in a reasonable and sustainable manner and in accordance with Article I, Section 27 of the Pennsylvania Constitution. These regulations concurrently ensure that private property interests, which are also protected under the Pennsylvania Constitution, are limited only to the extent necessary to achieve the constitutional mandates of Article I, Section 27 (*i.e.*, to protect the people's right to clean air, pure water and the preservation of natural, scenic, historic and esthetic values of the environment, and to conserve and to maintain public natural resources for the benefit of all the citizens of Pennsylvania, include future generations).

In meeting the needs expressed above, the final-form rulemaking accomplishes several critical goals: (1) improving protection of water resources; (2) adding public resources considerations to the well permitting process; (3) protecting public health and safety; (4) addressing landowner concerns and (5) enhancing transparency and improving the Department's data management efforts. The final-form rulemaking accomplishes these goals while appropriately differentiating between the conventional and unconventional industries and their respective impacts.

Given the attention paid to the process used to develop the conventional regulations, it is particularly important to understand exactly what is included in the substance of the two Chapters.

Significant Differences Between Conventional and Unconventional Rules

The final-form regulations pertaining to conventional oil and gas regulations are significantly different from the rules proposed for unconventional operations. The conventional rules (25 Pa. Code Chapter 78) treat all conventional operators as small businesses and are appropriately tailored to meet this industry's operational practices and unique limitations while ensuring reasonable protection of public health and safety of the environment. As a result of the public comment process and engagement with conventional industry representatives, described below, the final-form rulemaking represents a significant revision from the requirements that applied to the conventional industry in the proposed rulemaking.

Use of pits to store drilling wastes: The unconventional industry will be prohibited from utilizing pits to store drill cuttings and waste fluids. This includes both storage on the well site as

well as larger centralized impoundments, unless the operator obtains a residual waste permit. The conventional industry will continue to be able to use pits that are less than 3,000 square feet and store less than 125,000 gallons of fluid under a permit by rule. Larger pits will require an individual permit. This size limit was developed in the final-form rulemaking based on comments received by the Conventional Oil and Gas Advisory Committee.

Vandal proofing tanks: The unconventional industry will be required to install valve locks, open end caps, retractable ladders or other similar protective measures to prevent vandalism to their tanks. No such requirement exists for the conventional industry.

Tank inspections: Operators of unconventional wells must perform routine maintenance inspections of tanks on well sites once a month. Conventional operators are only required to inspect tanks once a quarter, which tracks the existing requirement to perform an integrity assessment on each existing well once per quarter.

Disposal of drill cuttings: The unconventional industry will be required to obtain an individual permit to dispose of drill cuttings at the well site. This practice is permitted by rule for the conventional industry and no substantive changes to this practice are included.

Secondary containment at well sites: The unconventional industry will be required to employ secondary containment around all storage vessels, trucks used to store pollutorial substances and drill rigs. Secondary containment is only required at new, replaced or refurbished brine tanks or tanks with more than 1,320-gallons capacity storing oil at conventional sites.

Gathering lines: The final-form unconventional rules contain new sections on gathering line construction and horizontal directional drilling beneath streams. The conventional rules do not contain these sections.

Temporary pipelines: The unconventional rules contain a new section on the installation and use of temporary lines used to transport freshwater and wastewater. The conventional rules do not contain this provision.

Water management plans: In accordance with the 2012 Oil and Gas Act, the final-form unconventional rules require operators to obtain a water management plan before they withdraw water for hydraulic fracturing purposes. The conventional rules do not contain this requirement.

Beneficial use of brine: Conventional operators have the ability to beneficially use their brine for dust suppression and de-icing purposes. Waste fluid from unconventional wells may not be used for these purposes.

Reporting: Unconventional operators must report their product (gas and condensate) and waste on a monthly basis. Conventional operators must report annually.

Important Changes that Affect Both Industries

Public resource impact screening: The Department has an obligation to protect public resources under Article I, Section 27 of the Pennsylvania Constitution, the Administrative Code of 1929, the 2012 Oil and Gas Act, the Clean Streams Law, the Dam Safety and Encroachments Act, the Solid Waste Management Act and other statutes. Moreover, the Department shares responsibility for the protection of natural resources with other Commonwealth agencies and municipalities that also have trustee duties under Article I, Section 27 of the Pennsylvania Constitution, as well as federal agencies. To meet these constitutional and statutory obligations, §§ 78.15 and 78a.15 establish a process for the Department to identify, consider and protect public resources from the potential impacts of a proposed well and to coordinate with applicable public resource agencies.

On final, the Department added common areas on school property or playgrounds, and DEP approved well head protection areas (those areas included in a public water supply's ground water wells zone of influence) to this requirement. The purpose of this statutory amendment is to require DEP to evaluate impacts to public resources associated with recreation and aesthetics.

Pre-hydraulic fracturing review: The final-form rulemaking requires both conventional and unconventional operators to evaluate the potential for their hydraulic fracturing operations to impact abandoned and operating wells and monitor at-risk wells. This rule is based on a recommendation of the audit DEP's well construction regulations by the "State Review of Oil and Natural Gas Environmental Regulations" organization or STRONGER. STRONGER is a 501(c)(3) non-profit, multi-stakeholder educational organization whose purpose is to assist states in improving environmental regulations associated with the exploration, development and production of crude oil and natural gas. Conventional operators are only required to meet this requirement if the well will be stimulated by hydraulic fracturing (the majority are), and the survey and monitoring areas are appropriately smaller for conventional wells.

Water supply restoration standards: If oil and gas development degrades a water supply, the operator must restore or replace the supply with one that meets Safe Drinking Water Act standards or is as good as pre-drilling conditions if the water supply was better than the Drinking Water Act standards. This restoration standard is more stringent than the previous standard and is the result of changes made by the 2012 Oil and Gas Act.

Spill reporting and clean-up: Spills of any substance that can pollute the environment that exceed five gallons and are not completely contained within secondary containment must be reported to DEP. Spills greater than 42 gallons (one barrel) must be cleaned up in accordance with the Land Recycling and Environmental Remediation Standards Act (Act 2). Cleaning up spills to the scientifically based standards established by Act 2 is required of all industries.

Borrow pits: Section 3273.1(b) of the 2012 Oil and Gas Act provides a limited exemption the Noncoal Surface Mining Conservation and Reclamation Act. The final-form rulemaking ensures that all borrow pits used in support of conventional and unconventional oil and gas development are constructed, operated and reclaimed in a responsible manner that protects public health, safety and the environment.

Electronic filing: Electronic filing requirements are included throughout the final-form rulemaking. When files, reports and other necessary documents are filed electronically, it enables the Department to:

- more efficiently track well development and operations from beginning to end, enabling inspectors to focus on field inspections of the hundreds of thousands of wells in the Commonwealth rather than the review and management of paper submissions;
- provide the public easy access to data via the Department's web site;
- develop business rules to ensure that the data submitted is complete and accurate, thereby reducing the workload for both the Department and operators in returning and addressing deficient submissions;
- have a complete picture regarding well development/operations to more efficiently determine compliance. For example, when reviewing production data, Department staff needs to have the permit, Well Record, Completion Report, and additional information readily available in order to determine the validity of the production/waste data. Currently, paper files need to be retrieved, sometimes from other Department offices, to obtain this information.

Affected Parties

Unconventional Operators

According to the U.S. Small Business Administration, oil and gas well operators with less than 500 employees qualify as small businesses. There are currently approximately 73 operators of unconventional well sites in Pennsylvania. The Marcellus Shale Coalition (MSC) estimated that less than half of these operators may be classified as a small business. Unconventional operators with applicable business operations will be required to comply with the provisions of the final-form regulation. For example, not all operators utilize pits or impoundments, therefore those sections would not apply to those specific operators.

Conventional Operators

There are currently approximately 5,808 operators of conventional oil and gas well sites in Pennsylvania. Most, if not all, classify as a small business based on the US Small Business Administration's employee threshold. While most of the rulemaking that applies to unconventional operators also applies to conventional operators, bifurcation of the regulations into Chapters 78 and 78a and recommendations made by COGAC have led to the removal of portions of the rulemaking that did not substantially apply to conventional operators.

Although provisions such as §§ 78.56 (as they related to modular storage structures), 78.58 (onsite processing) and 78.59a – 78.59c (freshwater and centralized impoundments) apply to conventional operators, these operators do not usually employ the practices regulated by the provisions, and thus they should have minimal effect on conventional operators.

Pipeline Companies

Companies that build and install pipelines will be affected by proposed § 78a.68 (relating to oil and gas gathering lines), § 78a.68a (relating to horizontal directional drilling), and § 78a.68b (relating to temporary pipelines for oil and gas operations). Each of these sections incorporates the requirements of Chapter 102 (relating to erosion and sediment control) and 105 (relating to dam safety and waterway management) into Chapter 78a. This cross-reference does not add any new regulatory requirements, as pipeline companies are already required to comply with these existing regulations. There are approximately 42 pipeline or midstream companies operating within the Commonwealth. The U.S. Small Business Administration defines a small business with NAICS code 237120 - Oil and Gas Pipeline and Related Structures Construction as having gross annual receipts of less than \$33.5 million and NAICS code 486210 – Pipeline Transportation of Natural Gas as having gross annual receipts of less than \$25.5 million. Because the small business determination is based on gross annual receipts, the Department is unable to determine the number of pipeline companies that would qualify as small businesses.

Other Affected Entities

Landowners

Through this regulation, landowners will be notified and given an explanation of the consequences if they refuse an operator's request to access their land to conduct a pre-drill survey. Under the 2012 Oil and Gas Act, if a water supply is impacted from oil and gas extraction activities, and the landowner refused a pre-drill water survey, the presumption of liability of the operator is void. The final-form rulemaking codifies these statutory provisions in order to clarify landowner's rights and responsibilities. Additionally, under several provisions in this rulemaking landowners obtain notice of certain activities, such as on-site disposal of waste (§§ 78.62 and 78.63) and site restoration reports (§§ 78.65 and 78a.65).

Local Government

A few local governmental entities may be affected by this proposal if they utilize brine for dust suppression or de-icing activities. Overall, the affect would be minimal as this rulemaking simply codifies existing practices of the Department for plan approval of these activities. Additionally, if local governmental entities manage public resources, they may be affected by the public resource impact screening provisions. Public resource agency involvement in the well permitting process is not required by this rulemaking, but to the extent that a local governmental entity is a public resource agency, this rulemaking provides a formal opportunity to comment on potential impacts and necessary mitigation measures to protect public resource.

General Public

The general public, including those who appreciate and benefit from Pennsylvania's natural resources, will be affected through the additional considerations included in this rulemaking to mitigate the impacts of the oil and gas industry. Local small businesses that depend on visitors to state parks and forests will benefit from this rulemaking. An analysis done by Pennsylvania State

University shows visitors to Pennsylvania's state parks generate more than \$1 billion in economic activity in nearby communities and support almost 13,000 related jobs. Out-of-state users of Pennsylvania's natural resources account for \$274 million of that total economic activity.

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

Advisory Groups

The Department engaged in significant discourse with the Oil and Gas Technical Advisory Board (TAB) and other groups during the development of the proposed and final-form rulemakings. The initial public discussion of what became this final-form rulemaking occurred at TAB's January 21, 2010 meeting, where the Department presented an overview of subjects to be addressed in this rulemaking. At TAB's April 12, 2011 and October 21, 2011 meetings, the Department again discussed topics to be included in this rulemaking as well as providing TAB with updates on the Department's development of the draft proposed rulemaking.

On February 16, 2012, the Department presented TAB with a detailed conceptual summary of the proposed amendments addressing surface activities to Chapter 78. After the enactment of the 2012 Oil and Gas Act, this detailed summary was revised and discussed again with TAB on August 15, 2012.

DEP met with other industry representative groups on several occasions during the development of the draft proposed rulemaking, including: the Marcellus Shale Coalition (MSC), which is mostly comprised of businesses representing unconventional drillers; the Pennsylvania Independent Oil and Gas Association (PIOGA), which represents unconventional and conventional drillers; the Pennsylvania chapter of the American Petroleum Institute (API) as well as individual operators and midstream companies. In addition, the Department held regular meetings with industry representatives quarterly throughout the entire pendency of the rulemaking; the rulemaking generally and specific individual topics addressed by the rulemaking were standard agenda items at those meetings.

Local government organizations were also involved in discussions of the proposed regulation, including a county Commissioner, the Pennsylvania State Association of Township Supervisors and the Pennsylvania State Association of Boroughs.

The Department also involved several environmental organizations in the development of these proposed regulations including the Chesapeake Bay Foundation, the Western Pennsylvania Conservancy), The Nature Conservancy, and the Pennsylvania Environmental Council. In addition, the Department held regular meetings with environmental organization representatives (including Clean Water Action and the Delaware Riverkeeper Network) quarterly throughout the entire pendency of the rulemaking; the rulemaking generally and specific individual topics addressed by the rulemaking were standard agenda items at those meetings. The Department also consulted with its sister state agencies and commissions during the development of the proposed

and draft final-form rulemaking, including the Department of Transportation, the Department of Conservation and Natural Resources, the Fish and Boat Commission, the Game Commission and the Historical and Museum Commission.

The Department shared a draft of the proposed rulemaking Annex A with TAB members in December 2012, and discussed a revised version of the draft proposed rulemaking at the TAB meeting on February 20, 2013. In response to TAB's comments, the Department again revised the draft proposed rulemaking and presented it to TAB on April 23, 2013, for their formal consideration. At the April 23, 2013, meeting, TAB voted unanimously, with one member absent, to recommend that the Board publish the proposed rulemaking for public comment.

Following the April 2013 TAB meeting, the Department continued discussions on the topics contained in the proposed rulemaking at the TAB's June 12, 2013 meeting. At that meeting, TAB Subcommittees were established and future meetings scheduled. On two occasions, those TAB Subcommittees met to consider public resource impact permit screening, water supply replacement, the general topic of waste management and the area of review requirements – July 17-18, 2013 (Greensburg, PA) and August 14-15, 2013 (State College, PA). Participants in those meetings included associations representing both the conventional and unconventional industries, consultants, attorneys, environmental groups and members of the public.

Following publication of the rulemaking for public comment on December 14, 2013 and the close of the public comment period, the Department discussed the comments received on the proposed rulemaking as well as the draft final-form rulemaking with TAB at its June 26, 2014 meeting. At the September 25, 2014 TAB meeting, the Department discussed splitting the regulation into two individual Chapters as well as discussing significant changes to Annex A of the rulemaking, especially to the extent those changes concerned conventional operators.

In terms of the final-form rulemaking, the Department discussed the draft final-form Annex A published under the Advanced Notice of Final Rulemaking (ANFR) process with TAB at meetings on March 20, 2015 and April 23, 2015. Following the close of the ANFR public comment period, the Department released an updated draft final-form rulemaking, which it discussed with TAB on September 2, 2015. TAB suggested changes to that document, so the Department considered those requests and further amended the final-form regulation and discussed those changes with TAB members during a webinar held on September 18, 2015. Additional changes to the draft final-form rulemaking resulted from suggestions made during that webinar. The Department presented the final-form rulemaking appearing in Annex A to TAB at its October 27, 2015 meeting. On October 27th, the Board voted unanimously to move the rulemaking to the Environmental Quality Board (EQB) without expressing support or disapproval and indicated they would be presenting a report on the rulemaking to the EQB. On January 6, 2016, TAB submitted a report on the final-form rulemaking to the EQB.

The Department also discussed the draft final-form rulemaking with the Conventional Oil and Gas Advisory Committee (COGAC) in 2015. The Department formed COGAC in March 2015 in order to have an advisory body that was focused solely on the issues confronting the conventional oil and gas industry. The Department discussed the comments received on the proposed rulemaking and the ANFR final-form rulemaking with COGAC on March 26, 2015.

Following the close of the ANFR public comment period, the Department released an updated draft final-form rulemaking, which it discussed with COGAC on August 27, 2015. COGAC suggested changes to that document, so the Department considered those requests and further amended the final-form regulation and discussed those changes with COGAC members during a webinar held on September 18, 2015. Additional changes to the draft final-form rulemaking resulted from suggestions made during that webinar. The Department presented the final-form rulemaking appearing in Annex A to COGAC at its October 29, 2015 meeting. At that meeting, COGAC adopted a resolution recommending EQB disapproval of the final-form rulemaking as it applied to conventional operators. At a meeting on December 22, 2015, COGAC adopted comments to the Board on the final-form rulemaking, urging disapproval.

Public Comments and EQB Hearings

The public comment period on the proposed rulemaking ran for 90 days, commencing with *Pennsylvania Bulletin* publication on December 14, 2013 (43 *Pa.B.* 7377) and ending on March 14, 2014. The EQB also held nine public hearings on the proposed rulemaking, including:

- January 9, 2014, West Chester, PA
- January 13, 2014, Williamsport, PA
- January 15, 2014, Meadville, PA
- January 16, 2014, Mechanicsburg, PA
- January 22, 2014, Washington, PA
- January 23, 2014, Indiana, PA
- January 27, 2014 Tunkhannock, PA
- February 10, 2014, Troy, PA
- February 12, 2014, Warren, PA.

The Department received approximately 24,000 public comments on the proposed rulemaking, including a significant number of form-letter comments/petitions. In addition, around 300 individuals testified at the nine public hearings. The Independent Regulatory Review Commission (IRRC) also submitted comments on the proposed rulemaking.

Based on the review of those comments, the Department developed a draft final rulemaking that was formally published for public comment as an Advanced Notice of Final Rulemaking (ANFR) on April 4, 2015 (45 *Pa.B.* 1615). The public comment period on the ANFR ran for 45 days, until May 19, 2015, and the Department held three public hearings on the ANFR, including:

- April 29, 2015, Washington, PA;
- April 30, 2015, Warren, PA;
- May 4, 2015, Williamsport, PA.

The Department received approximately 4,800 comments on the ANFR. Of those, 302 were unique comments and the balance consisted of form-letter comments. In addition, 129 individuals provided testimony on the ANFR at the three public hearings.

The major comments received on this rulemaking, and the Department's responses, are summarized in the Order and specifically and explicitly addressed in the Comment and Response Document. It is worth noting that nearly every issue raised in the comments spanned from the provision being unreasonable, too restrictive and unnecessary, to the provision being not protective or restrictive enough but critical for the protection of public health and the environment.