MARCELLUS SHALE COALITION

December 16, 2021

The Honorable Daryl Metcalfe, Chairman
House Environmental Resources & Energy Committee
144 Main Capitol Building
P.O. Box 202012
Harrisburg, PA 17120-2012

Dear Chairman Metcalfe,

During yesterday's hearing of the House Environmental Resources and Energy Committee regarding decommissioning of alternative energy facilities, several misstatements of fact and current law were made by members of the committee. Ironically, many of these misstatements related to Pennsylvania's oil and natural gas industries, despite this not being the subject matter of the committee hearing. We appreciate your efforts to correct the record in real time, but some of the statements were so egregious that a more thorough response seems warranted.

Bonding for Oil & Gas Wells

As you noted, natural gas bonding levels for unconventional wells were updated as part of Act 13 of 2012 and are among the highest in the nation. The chart below reflects the maximum amount of bonds from eight other leading oil and natural gas producing states:

STATE	BOND AMOUNT
Pennsylvania	**$600,000 blanket for 150+ unconventional wells; tiered levels based on wellbore length**
Colorado	$20,000/well or $100,000 for 100+ wells
New Mexico	$250,000 blanket (100+) active wells; separate bond for inactive wells
North Dakota	$50,000/well or $100,000 blanket for 2+ wells
Ohio	$15,000 blanket for 2+ wells
Oklahoma	$25,000 blanket
Texas	$25,000 (10 wells) - $250,000 (100+ wells) blanket
West Virginia	$250,000 blanket
Wyoming	$100,000 blanket

A bond is meant to represent a reasonable proportion of the cost to plug a well that, combined with the assets of the operator, provide sufficient resources to ensure it is properly plugged. Current Pennsylvania law already requires an operator to incur whatever costs are necessary to properly plug a well and reclaim a well site. Importantly, Pennsylvania's bonding requirements

also cover restoration of the well site, in addition to the physical plugging of the well.[1] A Fact Sheet on bonding is attached for further information.

Waste from Unconventional Shale Gas Operations

Simply put, there is no exemption or loophole related to shale gas waste. Those making these claims either do not understand basic statutory construction in Pennsylvania, or worse yet are knowingly misleading their constituents.

The reason that certain aspects of the Solid Waste Management Act itself may not be applicable to some oil and gas operations is because the General Assembly instead inserted similar, and in most cases even more prescriptive, standards within the Oil and Gas Act (Act 13 of 2012). These statutory provisions and accompanying regulations are perhaps the strictest in the nation. Attached is a Fact Sheet which provides a detailed overview of how waste from the unconventional natural gas industry is regulated in Pennsylvania.

One final point on this subject: a committee member noted that while the legislation which was the subject of the public hearing sought to place disposal limits on landfills for alternative energy components, there were no such similar limits for the oil and gas industry. This is patently false. Each landfill facility in Pennsylvania has a strict – and very conservative – limit established by the Pennsylvania Department of Environmental Protection (PA DEP) as to how much waste associated with oil and gas it can accept on an annual basis.

Abandoned Wells and Methane

There are no abandoned shale gas wells leaking methane in Pennsylvania. Over 12,000 shale gas wells have been drilled in Pennsylvania to date; all are either under active operation/ownership or have been properly plugged in accordance with PA DEP regulations. Furthermore, Pennsylvania's severance tax – the Impact Fee – has generated hundreds of millions of dollars for environmental and conservation purposes, including the plugging of legacy wells drilled well before today's modern regulatory framework was in place. And many Pennsylvania shale gas operators have either funded third party entities to plug wells or directly plugged abandoned wells they have encountered in the field.

The MSC operates a Well Plugging workgroup led by and comprised of industry operators which coordinates efforts to prioritize and improve efficiencies related to abandoned well plugging, including working in partnership with PA DEP to help ensure that well plugging funds flowing to Pennsylvania under the federal infrastructure law are used as best as possible.

[1] 58 Pa.C.S. §3225 (a)&(d)

Road Spreading of Brine

No unconventional natural gas wastewater is or has been spread upon Pennsylvania's roadways for dust suppression, de-icing, or other purposes. While never an issue, the process was formally prohibited in 2016 as part of the comprehensive updates to Pennsylvania's unconventional oil and natural gas regulations.

Conclusion

While it is unfortunate that some legislators continue to misrepresent Pennsylvania's natural gas industry and its employees – who live, work and pay taxes to this Commonwealth – we are appreciative that you and your like-minded colleagues are willing to correct the record and stand up for your hardworking constituents.

Thank you for your review and consideration of this information.

Sincerely,

Jim Welty
Vice President, Government Affairs

cc: House Environmental Resources & Energy Committee Members

Attachments

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Oil and Gas Well Bonding

What is the purpose of a well bond?

A bond represents the amount of money an oil or gas operator must set aside to help offset the cost of plugging a well when it is no longer anticipated to be used for future production. The amount of a bond is intended to represent a reasonable portion of the plugging cost that, combined with an operator's other assets, ensures sufficient resources are available to properly plug the well.

Is the bond amount the total amount a producer must pay to plug a well?

No. Under Pennsylvania law, oil and gas producers must incur whatever cost is necessary to properly plug a well at the end of its useful life and to reclaim and restore the surrounding well site. Wells must be plugged in accordance with Pennsylvania environmental regulations and reclaimed and restored well sites must pass an inspection by state environmental inspectors.

What are the bond amounts for oil and gas operators in Pennsylvania?

Required bond amounts in Pennsylvania are set separately for conventional and unconventional oil and gas operators. For conventional operators, the amount is $2,500 per well, or an operator may choose to secure a $25,000 blanket bond to cover all of its conventional wells. For unconventional operators, amounts are based upon the total well bore length (< 6,000 feet or at least 6,000 feet) and the number of wells an operator has. The highest bond amount is $600,000 for an operator that has at least 167 unconventional wells.

How do Pennsylvania's well bonding requirements compare to other states?

While the structure of calculating well bond amounts varies by state, Pennsylvania's bond amounts for unconventional shale gas operators are among the highest in the nation:

STATE	UNCONVENTIONAL WELL BOND AMOUNT
Pennsylvania	**$600,000 blanket for 167+ unconventional wells; tiered levels based on wellbore length**
Colorado	$20,000/well or $100,000 for 100+ wells
New Mexico	$250,000 blanket (100+) active wells; separate bond for inactive wells
North Dakota	$50,000/well or $100,000 blanket for 2+ wells
Ohio	$15,000 blanket for 2+ wells
Oklahoma	$25,000 blanket
Texas	$25,000 (10 wells) - $250,000 (100+ wells) blanket
West Virginia	$250,000 blanket
Wyoming	$100,000 blanket

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UNCONVENTIONAL SHALE DEVELOPMENT WASTE

What is Unconventional Shale Development waste?

There are two types of waste from unconventional shale development: solid and liquid waste. Solid waste primarily is in the form of drill cuttings generated when a well is drilled through different formations of the earth. Solid waste drill cuttings are typically chemically inert and sent to landfills for disposal. Liquid waste typically refers to fluids that return up the wellbore to the surface during and after a well is hydraulically fractured and put into production.

How is waste from Unconventional Shale Development regulated?

Unconventional shale development waste primarily is regulated by Act 13 of 2012, known as the Oil and Gas Act, and Act 97 of 1980 (as amended), known as the Solid Waste Management Act, and their associated regulations. Among these provisions:

- Act 13 regulates the overall development of unconventional oil and gas, including specific requirements for waste handling, tracking and reporting.
- 25 Pa. Code Chapter 78a, which was promulgated in 2016, further delineates the obligations of an unconventional operator with respect to waste handling, tracking and reporting. In addition, the 2016 updates prohibited the use of open drilling pits and required centralized storage impoundments to be permitted under the requirements of the Clean Streams Law.
- The Solid Waste Management Act and its regulations establish standards for the collection, handling, transportation, processing, disposal and beneficial use of solid waste in Pennsylvania, including waste from the unconventional shale industry when transported, stored, treated or disposed off well sites.

What are the different classifications of waste?

In Pennsylvania, waste is typically regulated as either residual, municipal or hazardous, depending upon the source of generation and potential risks that waste may pose to the environment or public health. The classification of waste dictates the manner in which it is collected, handled, transported, processed, and ultimately disposed or beneficially used. Unconventional shale development waste generally is characterized as residual waste. A *Form U Request to Process or Dispose of Residual Waste* form must be completed and approved by the Pennsylvania Department of Environmental Protection (PADEP) prior to treatment or disposal at a permitted solid waste treatment or disposal facility in PA. This approval process, which includes sampling of the waste constituents, assures that all waste received by the treatment or disposal facility is disposed according to the waste criteria acceptance conditions of the treatment or disposal facility's PADEP solid waste permit. Obtaining a solid waste permit is a rigorous process, including lengthy (multi-year in some cases) review by the PADEP with extensive public comment and input. Once obtained, it is incumbent on the operator of the facility to maintain compliance with the terms of the permit; failure to do so jeopardizes the facility's permit and ability to operate within the Commonwealth.

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May liquid waste from Unconventional Shale Development be treated and discharged into Pennsylvania waterways?

The unconventional natural gas industry does not send liquid waste to publicly owned treatment works (POTWs). The industry voluntarily discontinued sending liquid waste to POTWs, which treat liquid waste and discharge into waterways, back in 2011. This voluntary action was eventually incorporated as a federal rule and a condition of the discharge permits of POTWs, and no POTW has discharged unconventional liquid waste into a waterway since this time.

Approximately 90% of fluids are recycled by operators and reused to stimulate new wells, while the balance of liquid waste is safely disposed in deep underground injection wells that are approved and permitted by the U.S. EPA.

Federal and PADEP regulations permit centralized wastewater treatment (CWT) facilities to discharge unconventional liquid waste if it is first treated to meet federal treatment standards. However, this may not be a viable option in most situations because currently there is limited CWT facility capacity in the Commonwealth.

Is Unconventional Shale Development waste disposed properly in PA?

Yes. To ensure that any waste is disposed appropriately, it must be characterized based upon testing from an accredited laboratory. As an added safeguard, each Pennsylvania landfill may only accept a fixed amount of waste from oil and gas activities on an annual basis. Pennsylvania's landfills have strict permit requirements and acceptance criteria and, therefore, regardless of the federal exemption that exists for oil and gas related waste in 40 CFR 261, wastes that are characteristically hazardous or contain listed hazardous constituents cannot be disposed in Pennsylvania landfills. Waste that is characteristically hazardous or is a listed hazardous waste can only be disposed at a RCRA Subtitle C permitted Hazardous Waste Facility or, in the case of a waste that exhibits a hazardous waste characteristic, must be treated in a manner that renders the material to no longer be hazardous. There are currently no such facilities in Pennsylvania accepting hazardous oil and gas waste.

How is Unconventional Shale Development waste tracked and reported?

- Oil and gas is the only industry in PA that is required to report waste volumes monthly. PADEP requires oil and gas operators to electronically submit monthly waste volumes on a per well basis.
- Oil and gas is also the only industry that is required to report waste at levels more detailed than the individual facility level (oil and gas operators are required to report waste monthly per well and annually per well pad).
- Oil and gas operators must also provide an annual report (via Form 26R) per well pad for each waste type generated.
- Oil and gas has a few waste streams not directly generated by oil and gas production that are also required to be submitted biennially.
- Other industries in PA are only required to report waste generated to the PADEP annually and/or biennially.
- Waste treatment and disposal facilities are separately permitted by PADEP and must submit their own reports on the amount and origin of waste accepted at each facility.

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Oil and gas related waste generation volumes can be easily viewed by the public. This data includes volumes generated per well and the disposal location for each waste type. Electronic monthly reporting of waste, which far exceeds the reporting frequency of any other industry in PA, can be downloaded from the PADEP website by the public. Most other industry waste generation data, such as the 26R reports, are submitted to the PADEP via paper copy and/or PDF documents that cannot be easily retrieved and analyzed.

What is leachate?

Leachate is liquid that drains – or 'leaches' – through a landfill. It must be collected and handled according to regulatory requirements. Facilities that have received a Form U approval must chemically analyze waste, including leachate, by using a PADEP-accredited laboratory. As part of the chemical analysis, an evaluation of the leachate of solid waste via the Toxicity Characteristic Leachate Procedure (TCLP) is performed. The TCLP is a US EPA-approved method to simulate leaching of materials from solid waste placed within a landfill. A 2016 PADEP study of leachate samples from nine landfills concluded "*that there exists little difference in the radium detected in leachate from the landfills that accept higher volumes of oil and gas derived waste versus radium detected in leachate from the remaining landfills in Pennsylvania*." Further, the study concluded that there is "*limited potential for radiological environmental impacts from leachate*" from landfills that accept oil and gas derived waste.

Additionally, landfill leachate is monitored and managed in accordance with a landfill's PADEP issued solid waste facility permit. Leachate sent to treatment facilities is also monitored/managed in accordance with the treatment facility's PADEP issued solid waste facility permit. At the end of the treatment process, any sediment/sludge generated during treatment of leachate is returned to the landfill for disposal as a solid waste.

What are NORM and TENORM?

In Pennsylvania, operators monitor waste leaving the well site for Naturally Occurring and Technologically Enhanced Radioactive Materials (NORM & TENORM). Protective measures include:

- The Form U and 26R approval processes, which include analysis for radiochemistry to determine proper protection and disposal;
- Preparing and implementing a Radiation Protection Action Plan (RPAP) by both the oil and gas operator and landfill. The RPAP establishes thresholds for monitoring every truckload of waste, specifically when it arrives at a landfill, preventing any unknown amount of NORM/TENORM from being received for disposal;

PA landfills can accept NORM/TENORM; however, they are individually modeled and have regulatory thresholds in their permits regarding the amount of radioactive material each facility may accept each month. The RPAP provides additional protocols, as necessary, to assure adequate protection to the worker, public and surrounding environment.

For more information, please view the MSC's NORM and TENORM Fact Sheet.