

MEETING MINUTES

Oil and Gas Technical Advisory Board

February 14, 2018

TAB MEMBERS PRESENT

Voting Members: Bryan McConnell, P.G. (Chair), Robert Hendricks, P.G., David Yoxtheimer, P.G., Casey Saunders, P.E., Fred Baldassare, P.G.

Non-voting Advisors: John Walliser, Esq.

DEP STAFF PRESENT

Scott Perry, Kurt Klapkowski, Seth Pelepko, Bruce Jankura, Harry Wise, Joe Kelly, Steve Brokenshire, Myron Suchodolski, Todd Wallace, Elizabeth Davis, Ann Mathew, Jennifer Zarefoss, Roma Monteiro, Neil Bakshi

CALL TO ORDER

A meeting of the Oil and Gas Technical Advisory Board (TAB) was held in Room 105 at the Rachel Carson State Office Building, 400 Market Street, Harrisburg. This meeting was open to the public. McConnell called the meeting to order at 10:03 a.m.

APPROVAL OF MEETING MINUTES

McConnell asked for a motion to approve the meeting minutes from the November 1, 2017 TAB meeting. Hendricks made a motion to approve the meeting minutes and Saunders seconded. McConnell asked if there was any further discussion or suggested edits to the meeting minutes. McConnell stated that the words “XTO Resources” that appear in the second paragraph on the fourth page of the meeting minutes be changed to read “XTO Energy”. The TAB members voted unanimously to approve the November 1, 2017 meeting minutes, as amended.

GP-5/GP-5A/EXEMPTION 38 PRESENTATION

Perry introduced and thanked Mr. Krishnan Ramamurthy and Mr. Charles Boritz of DEP’s Bureau of Air Quality for their willingness to meet with TAB members and provide an update to the board regarding the status of the draft final GP-5 and GP-5A permits, as well as Exemption 38.

Ramamurthy stated that DEP received more than 10,000 comments regarding the proposed GP-5 and GP-5A during the public comment period that closed on June 5, 2017. DEP’s air quality staff are currently preparing a Comment and Response

Document. DEP plans to publish the Comment and Response Document along with the final general permits sometime in 2018.

Charles Boritz gave a presentation to the TAB members and discussed the revisions made to the general permits and Exemption 38 based on comments received.

Yoxtheimer asked Boritz if it is possible to quantify the overall future effect of the percentage of reductions proposed in the permit standards. Boritz explained that he cannot quantify the effect since the permits are designed to be prospective in nature and there will be no reduction from existing facilities. Boritz is working to develop a document that will attempt to examine percentage reductions and will share that when it is available. Yoxtheimer asked if this document will include a forward-looking component. Boritz responded that the document will not include a forward-looking component.

3-YEAR FEE REPORT

Perry explained that the Oil and Gas Act of 2012 directs DEP to provide the Environmental Quality Board (EQB) with an evaluation of the well permit fees every three years and to recommend regulatory changes to address any disparity between the program income generated by the fees and the Department's cost of administering the program with the objective of ensuring fees meet all program costs and programs are self-sustaining. DEP last submitted a fee report to the EQB at its January 21, 2014 meeting.

Perry provided an overview of the 3-Year Fee Report to the TAB members and explained that based on current fiscal projections, the fund that supports DEP's oil and gas program is expected to be insolvent by the end of the first quarter of fiscal year 2019-20.

Perry explained that about 90 percent of the costs associated with administering DEP's oil and gas program are related to personnel costs and about 10 percent of the costs pertain to operating expenses. As a cost cutting measure, staff resources have been reduced from 226 employees to 190 employees, which has hampered the Department from meeting its basic program goals related to permit review timeframes, inspections and policy development. Significant efforts have also been implemented to reduce operating costs such as eliminating many staff training opportunities and delaying the purchase of vehicles that are nearing the end of their operating lifespan.

To ensure that program income is sufficient to administer the oil and gas program, DEP plans to provide this 3-Year Fee Report to the EQB along with a recommendation to advance a fee rulemaking to increase the existing unconventional well drilling permit application fee of \$5,000 to \$12,500. DEP does not recommend increasing the well drilling permit fee for conventional wells since these permit fees account for less than 1 percent of program costs.

McConnell asked about the breakdown between well permit fees and permit fees associated with Erosion and Sedimentation Control General Permits (ESCGP). Perry

explained that the ESCGP permit fees are deposited into the Clean Water Fund and Chapter 105 permit fees are deposited into the Dam Safety Encroachment Fund.

Baldassare asked if General Fund monies are used to pay for DEP's oil and gas program. Perry explained that prior to the advent of the unconventional oil and gas industry, General Fund revenue was used to support DEP's oil and gas program. However, at that time the program was much smaller and had fewer responsibilities. Currently, no General Fund monies are used to support the oil and gas program.

McConnell asked if the conventional program is solvent. Perry responded that DEP inspects conventional well sites as frequently as unconventional well sites. The current funding mechanism to pay for DEP's oil and gas program is through well drilling permits, fines and penalties, and \$6 million from the Act 2 Impact Fee. DEP receives permit fees from both the unconventional and conventional operators; however, the permit fees from unconventional operators comprise the majority of the revenue received by DEP.

McConnell said that it is his understanding that DEP's oil and gas program is not receiving permit fees that are generated from the receipt of Chapter 102 and Chapter 105 permits despite oil and gas staff being responsible for the permit review and inspection functions associated with these permits at oil and gas sites. Perry agreed that this is the case.

Baldassare asked if the Department has considered increasing the amount of General Fund revenue to support the oil and gas program. Perry explained that this issue is not only a DEP issue, but also a Commonwealth-wide matter. Even if DEP receives "level" funding in General Fund revenues, increased annual operating costs can translate to a decrease in available funds. Perry also pointed out that the recommendation to EQB to advance a fee package would only pay for the current complement level of 190 positions.

Hendricks asked what the implication would be if there was a general uptick in the oil and gas industry that would generate a larger amount of fee revenue than anticipated. Perry responded that should revenues exceed personnel and general operating expenses, the Department might consider using some of the funding to respond to orphan and abandoned wells. Consideration might also be given to the possibility of supporting Community Environmental Projects.

Hendricks stated that he believes the unconventional industry has made good strides in improving operations over the past eight years. He asked if DEP is considering re-evaluating current inspection goals for unconventional wells. Perry responded that, in general, wells should be inspected at the beginning, middle and end of construction and development. DEP inspectors are meeting inspection goals as it relates to newly drilled wells. On average, DEP inspects new unconventional wells about 4 times and new conventional wells about 4 to 5 times. Another inspection priority is trying to locate abandoned wells in Pennsylvania, since it is estimated that at least 200 thousand such wells may exist. In 2017, DEP fell short in meeting inspection goals for natural gas

storage wells. Perry stated there are some conventional wells that may not have ever been inspected. The number of inspection staff has been reduced by about eight inspectors due to the overall decrease in oil and gas complement from 226 employees to 190 employees. Perry explained that the implementation of mobile inspection technology and the home storage of vehicles has helped make DEP more efficient and maintain a level number of inspections.

Perry stated that DEP is not requesting that TAB endorse the 3-Year Fee Report or subsequent fee rulemaking. The Oil and Gas Act directs DEP to advance a rulemaking of a technical nature to TAB and a proposed fee rulemaking is not technical in nature. However, DEP will accept any input that TAB may choose to present to the Department.

COAL-GAS COORDINATION COMMITTEE UPDATE

Saunders provided a verbal update of the status of the Coal-Gas Coordination Committee. The committee continues to meet monthly and has transitioned from the development of the “Guidelines for Chain Pillar Development and Longwall Mining Adjacent to Unconventional Wells” document to the development of a draft technical guidance document pertaining to the drilling of gas wells in gob areas. In particular, the committee is considering a variety of technical issues associated with drilling in sealed gob areas at active mine sites. The issues include: a determination of what constitutes the actual center of the gob area; consideration of potential explosive gas mixtures; protective measures associated with lightning strikes and casing integrity issues when mine influenced waters are present.

The committee is in the early stages of drafting this technical guidance document and will continue to develop the document during 2018. Jankura interjected that officials from West Virginia and Ohio have been invited to participate in these committee meetings. Both states started participating about a month ago.

Perry and McConnell commended the efforts of this committee.

UPDATE ON “GUIDELINES FOR CHAIN PILLAR DEVELOPMENT AND LONGWALL MINING ADJACENT TO UNCONVENTIONAL WELLS”

Saunders stated that the public comment period closed on January 30, 2018. DEP is currently in the process of reviewing the comments and preparing the formal Comment and Response document. Perry stated that this final guidance document should be ready for discussion with TAB at the next regularly scheduled meeting.

PUBLIC COMMENT

Chairman McConnell announced that TAB was prepared to receive public comment.

Mike Sherman of Range Resources Corporation stated that he recalled the Department had considered developing an annual registration fee as an alternative to the current flat

permit fee increase that is proposed in the 3-Year Fee Report. Sherman asked Perry if the annual registration fee is still under consideration by the Department. Perry responded that the Office of Oil and Gas Management considered a variety of options to addressing the funding shortfall issue. One option would have involved establishing multiple fees for various review actions that are conducted by DEP such as permit transfers and OG-71 authorizations, but that approach injected more uncertainty so it was abandoned. Another option would have involved establishing an annual registration fee for all regulatory active or inactive unconventional wells. Although DEP believes it has legal authority to enact an annual registration fee, there was not sufficient time to adequately review this approach so it was also abandoned. The Department ultimately decided to continue with the current fee framework and adjust the flat fee to ensure there is adequate revenue to support the oil and gas program. Walliser interjected that it is possible the multi-well permit development concept announced by Governor Wolf might also have an implication into potential future fee formulas.

Teresa Irvin McCurdy of TD Connections, Inc. inquired about DEP's willingness to work with industry to develop a multi-well permit approach. Perry responded that DEP is certainly willing to work with TAB and industry organizations to develop such an approach, but legislation will be required to authorize this approach.

McConnell asked if DEP has forfeited bonds in the past. Perry responded that bond forfeitures occur very rarely, since most wells do not have bonds associated with them. One of the greatest concerns of DEP's oil and gas program relates to the situation where there are no bonds in place to address well closures. Since 2000, only about 3-5 bonds have been forfeited; however, DEP has adopted several thousand wells where the owner is deceased and there was no bond instrument or other assets of an estate to address the matter. This is one reason DEP has been reluctant to pursue a regulatory approach to increase bond amounts for conventional well owners. In addition to financial concerns expressed by well owners, DEP has been unable to show a history of bond forfeitures that are sufficient to cover these costs.

LEGACY WELL UPDATE

Chairman McConnell suggested adjusting the meeting agenda to receive the Legacy Well Update agenda topic following the lunch period rather than at 2:15 pm. Harry Wise presented a verbal update of legacy wells.

Wise stated that there are currently about 8,400 orphan and abandoned wells that have been identified and are the responsibility of DEP. DEP does not have sufficient funds in its operating budget to address these wells. In 2017, DEP responded to six emergency well plugging projects at a cost of about \$435,000. DEP estimates it would require about \$15 million annually over a period of 40 years to address the universe of all currently known legacy wells in Pennsylvania if wells continue to be added to DEP's database at a rate comparable to the past. DEP is actively looking to alternate sources of funding that is available to assist with plugging legacy wells. Such examples include monies that are

administered by the Commonwealth Financing Authority to fund grants for orphan and abandoned wells, interagency agreements and potential philanthropic funding sources.

Wise stated that the Pennsylvania Grade Crude Development Advisory Council (CDAC) has established a legacy well plugging committee and DEP is working with the council to examine this issue.

Wise highlighted the opportunities that are available to operators that want to take advantage of plugging orphan and abandoned wells under the provisions of the Good Samaritan Act. This Act affords liability relief to operators that plug wells in a responsible manner when the orphan or abandoned well is not the legal responsibility of the operator.

Yoxtheimer mentioned that the Pennsylvania State University (PSU) received a U.S. EPA grant and is partnering with the Shale Alliance for Energy Research of PA (SAFER) to develop public education materials related to identifying and reporting legacy wells. It was also mentioned that Indiana University of Pennsylvania is developing a web-based application that can be accessed by cell phone to help record the location of legacy wells.

DRAFT WATER SUPPLY REPLACEMENT TECHNICAL GUIDANCE DOCUMENT

Kelly explained that the stakeholder workgroup that developed the Water Supply Replacement Technical Guidance Document (TGD) began meeting in February 2016 after the close of the public comment period and met on five or six separate dates to consider about 100 comments from six commentators. Kelly expressed his appreciation to each of the workgroup members and to Steve Brokenshire who has been facilitating the workgroup.

Brokenshire explained that numerous adjustments have been made to the TGD since the stakeholder meeting on November 15, 2017. He highlighted three specific changes as a result of comments received during that meeting and from other original stakeholder members not present at the meeting, including Professional Geologists from DEP's oil and gas program. First, the standards that apply to temporary water supplies pursuant to NSF ANSI 61 will also apply to permanent water supplies. Also, temporary treatment systems may serve as temporary water supplies, but only after the impacted water source has been tested and the type of treatment system that is needed is known. Some changes in terminology and clarifying language were added to the document. Finally, in response to a comment received from Baldassare during the most recent workgroup meeting, the TGD was changed to include standards for constituents that do not currently have a Maximum Contaminant Level (MCL) standard in any of the water quality standards lists used by the Department, such as methane. Baldassare stated that the revised language captures the concept sufficiently.

Brokenshire asked TAB members if there are any additional comments or suggested edits to the TGD. Hendricks presented a series of suggested edits to DEP for consideration.

Brokenshire responded that DEP will consider all suggested edits and will then finalize the document. Kelly reminded the TAB members that the final draft document must be reviewed by DEP's legal and policy offices.

Baldassare asked whether methane should be included in Appendix B. Brokenshire responded that he will include a section for methane with clarifying language that states "if applicable" in the section of Appendix B.

Baldassare inquired about the use of the term "contaminant" in the TGD. Brokenshire responded that the use of this term was in response to TAB's inquiry about whether using the word "parameter" was the proper term to use in the document. Brokenshire said that replacing the word "parameter" with "contaminant" is appropriate and its use in the document is consistent with the term as defined in the Safe Drinking Water Act.

Hendricks stated that it would be helpful if DEP will consider hosting a workshop for industry representatives, consultants and DEP staff after the TGD is finalized to ensure an opportunity for individuals to be advised on the intent of the document. It would also assist with promoting consistency in the understanding of industry representatives and of DEP district staff as they implement this guidance. Perry invited Hendricks to share a draft agenda to assist DEP in developing such a workshop.

Hendricks inquired about how DEP will approach "background" contaminants as it relates to providing alternate sources of water. Davis responded that DEP will address this matter on a case-by-case basis.

McConnell asked if DEP intends to present a final draft version of the TGD to TAB at a future meeting. Perry responded that DEP will consider all comments received from TAB and then proceed with publishing this document as final.

DRAFT PRESSURE BARRIER POLICY

Pelepko explained that the Draft Pressure Barrier Policy is intended to inform unconventional operators of what should be considered when developing the Pressure Barrier Policy component of a Preparedness, Prevention and Contingency (PPC) Plan. Pelepko stated that this policy is designed to function as a checklist and is not intended to be the sole vehicle to achieve compliance with respect to well control and the use of pressure barriers, rather, it represents a framework and approach that operators should find useful.

Since this policy was presented to TAB in April 2017, DEP received a letter from the Marcellus Shale Coalition (MSC) that included a list of comments related to the policy document. DEP convened a call with the members of MSC and operators in the third quarter of 2017 to further discuss the details of the draft policy.

Pelepko presented the most recent draft version of the Pressure Barrier Policy to TAB members and discussed the substantive changes that have been made to date. Pelepko

stated that DEP plans to publish this draft policy for public comment. Hendricks asked if DEP will consider MSC's suggested edits prior to publishing the draft document for public comment. Pelepko responded that DEP will consider all comments received. The draft policy will also be reviewed by DEP's legal and policy offices.

Yoxtheimer commented that the word "control" should be added to the third blue box on page 4 of the draft policy document that currently reads "...that may result in a loss of well." Pelepko agreed to include this edit.

GAS STORAGE FIELD UPDATE

Jankura provided a verbal update regarding the status of DEP's Gas Storage Field Workgroup. The workgroup examined current DEP oil and gas operating procedures related to monitoring the integrity of natural gas storage fields in Pennsylvania. The workgroup developed a protocol document to highlight the best operating procedures and to promote consistency across the district oil and gas offices.

The workgroup is currently conducting an internal review of historical data related to well construction with an eye toward single point of failure criteria. The workgroup plans to enter into discussions with storage well operators within the next three months to compare the findings of the workgroup with the information that is on record with the operators.

Pelepko explained that since the storage wells are conventional wells, DEP has also engaged with CDAC and has invited the council to participate in any future meetings along with the operators.

NEW BUSINESS

McConnell asked if any individuals in the room or on the Webinar wanted to provide any further public comment. No individuals requested to provide further comment.

McConnell asked if the Department could comment on the status of the three proposed policy documents that were discussed at the November 1, 2017 TAB meeting; including the "Policy for the Development and Publication of Technical Guidance", "Policy for the Development and Review of Regulations" and "Advisory Committee Guidelines." Bakshi responded that the public comment period closed in December 2017 and DEP is currently developing the Comment and Response Document for each policy.

On a separate matter, Pelepko wanted to clarify the record based on his review of the meeting minutes of the November 1, 2017 TAB meeting. Specifically, Tom Yarnick of XTO Energy had inquired about the Coal Gas Chain Pillar Guidance Document as it relates to the continuous monitoring of well pressures; whether they are annular or production pressures. Pelepko stated that the oil and gas regulations related to well integrity speak to an obligation to conduct quarterly monitoring of well pressures. However, in the context of the Coal Gas Chain Pillar Guidance Document, there is a

recommendation that the operator implement continuous real-time monitoring after the coal panel has been extracted and the gas well comes back online. The intent is to, as early as possible, pick up on any potential well integrity flaws and promote open communication between the DEP oil and gas program, DEP mining program, coal operators, and natural gas operators.

ADJOURNMENT

McConnell asked if there was a motion to adjourn. Saunders made a motion to adjourn the meeting and Yoxtheimer seconded. Motion passed unanimously and the meeting was adjourned at 2:19 pm.

DRAFT