

MEETING MINUTES

Oil and Gas Technical Advisory Board

September 19, 2019

TAB MEMBERS PRESENT

Voting Members: David Yoxtheimer, P.G., Robert Hendricks, P.G., Casey Saunders, P.E., Jeffrey Walentosky, P.G.

Non-voting Advisors: None present

DEP STAFF PRESENT

Scott Perry, Kurt Klappkowski, Joe Kelly, Steve Brokenshire, Seth Pelepko, Ann Mathews, Shaded Noyon, Crystal Magon, Todd Wallace, Joseph Iole

CALL TO ORDER

A meeting of the Oil and Gas Technical Advisory Board (TAB) was held via Skype conference call in Room 105 at the Rachel Carson State Office Building, 400 Market Street, Harrisburg. This meeting was open to the public. Perry called the meeting to order at 10:05 a.m. and welcomed Jeffrey Walentosky, P.G. as a new voting member and Dr. Susan Brantley as a new non-voting Advisor to TAB.

ELECTION OF OFFICERS

Perry reminded TAB that the first agenda item is to elect a Chairperson to TAB according to the Board Bylaws. Hendricks moved to nominate Yoxtheimer as board Chair and Walentosky seconded the motion. All voting members present at the meeting voted unanimously to elect Yoxtheimer as TAB Chair.

Hendricks reported that it is the intent of TAB that Walentosky will serve as the alternate to Yoxtheimer in the event he is unable to serve as chair at any future TAB meetings. Hendricks moved to nominate Walentosky as Yoxtheimer's alternate and Yoxtheimer seconded. All voting members present at the meeting voted unanimously to elect Walentosky as Yoxtheimer's alternate.

APPROVAL OF MEETING MINUTES

Yoxtheimer asked for a motion to approve the meeting minutes of the March 21, 2019 TAB meeting. Saunders made a motion to approve the meeting minutes and Hendricks seconded. Yoxtheimer asked if there was any further discussion or suggested edits to the meeting minutes. Walentosky stated that he abstains from voting on approval of the

minutes since he was not a TAB member at the time of the March 21 meeting. There was no further discussion. The meeting minutes were approved unanimously.

UPDATES FROM SURFACE ACTIVITIES DIVISION

ESCGP-3 Prioritized Review Workgroup Update

Kelly reminded TAB that DEP convened three separate workgroups to assist in the development of the Erosion and Sediment Control General Permit-3 including the Permit Workgroup, Electronic Data Management Workgroup and the Prioritized Review Workgroup. The first meeting of the Prioritized Review Workgroup was August 20 and was well attended.

The purpose of the Prioritized Review Workgroup is to replace the current “Expedited Review” process with a new process that includes a suite of enhanced environmental Best Management Practices (BMPs) that applicants can consider in the construction of oil and gas well gathering pipeline sites. Permit applications that receive higher scores will receive a prioritized review by DEP staff. The BMPs will fall into four categories: Planning, Construction Practices, Restoration and Impaired Resource Enhancement. A second meeting of the Prioritized Review Workgroup is currently in the planning stages.

Hendricks asked if DEP is considering other incentives besides quicker permit review timeframes. Kelly responded that DEP will consider any suggestions. Perry stated that he would like to see DEP highlight innovative practices through possible communication tools such as newsletters and updates on the DEP GIS webpage. Walentosky asked how TAB members can get involved in the Prioritized Review Workgroup process. Kelly invited any interested TAB members to participate in future meetings. Walentosky and Hendricks expressed an interest in participating.

ESCGP-3 Electronic Submissions & Reviews Update

Kelly reported that since October 2018, DEP has received only 21 percent of all 376 ESCGP permit applications electronically that were submitted, thus far, by applicants. The final major technical hurdle that DEP is working on pertains to increasing the “file upload size” of ESCGP permit documents. After this issue is addressed, DEP will publish an ESCGP-2 to ESCGP-3 Transition Plan for public comment and will conduct outreach to trade organizations in early 2020. Klapkowski stated that there will be a phase-in period and that DEP will communicate with the regulated community about the next phase of this initiative.

Water Supply Replacement Technical Guidance Document (TGD)

Kelly reported that the draft TGD is currently under DEP legal and policy review. Walentosky and Hendricks asked if it is possible that DEP will modify this document based on legal and policy review and if DEP will present the document to TAB if there are modifications that pertain to technical issues. Klapkowski stated that if there are

significant technical changes to the document, DEP will bring this TGD back to TAB for review.

Geologic Hazards

Kelly reminded TAB members that Chapter 102 includes planning requirements for considering geologic hazards as part of the development of Erosion and Sediment Control Plans. Kelly stated that DEP is developing a draft document that includes two components. The first component will assist DEP field staff in conducting geotechnical investigations and the second component will include mitigation methodologies about how to respond to geologic hazards such as sink holes. This draft document has been circulated internally within DEP's oil and gas program for review and will be circulated to DEP's Chapter 102 Program. Kelly stated that DEP plans to reconvene the ESCGP Permits Workgroup to review this draft document and will also share it with TAB for review before this document is finalized.

SPILL DISCUSSION AND UPDATED SPILL POLICY

Walentosky and Perry provided a summary of the status of the development of an updated Spill Policy. Walentosky stated that industry and DEP have been in discussions about spills and updating the current spill policy that was originally developed in the 2013-2014 timeframe. Walentosky stated that industry has had concerns about how DEP has issued Notices of Violations and taken enforcement actions and industry also has had issues with DEP's consistency in implementing Chapter 78.a66 of the Pennsylvania Oil and Gas Regulations. Industry developed a draft flowchart to ensure all stakeholders understand the process of spill reporting and response.

Perry explained that specific topics that pertain to inconsistency relate to interaction between DEP's Oil and Gas Program and Brownfields and Cleanup Program and their roles in the review of site characterization and remediation plans and signing off on final reports. Perry stated that these two program areas have been in communication about these matters. Perry acknowledged that there needs to be an accurate and consistent method in how violations are cited. Another point of discussion involved what constitutes a spill and methods of determining if a spill occurred. Perry provided an example of when a release occurs to competent secondary containment and the material is not released to the environment then this is not considered a spill that must be reported to DEP.

Walentosky mentioned that another concern of industry has been the practice of some DEP inspectors to report multiple violations for a spill at a single well pad site where multiple wells exist. Industry is concerned that this practice portrays the number of spills to be exaggerated.

COAL-GAS COORDINATION COMMITTEE UPDATE

Pelepko explained that this committee is not meeting during the third quarter of 2019, but plans to reconvene during the fourth quarter of 2019. Pelepko reminded TAB that the Chain Pillar TGD was released as interim final and DEP is currently preparing a Comment/Response Document and will be proceeding with finalizing this TGD. Two conditional pillar packages were received under the new process (one was since rescinded) and the efforts of the committee are starting to be implemented as a result of the release of the interim final document.

Pelepko reported that the most recent efforts of the committee considered unconventional natural gas operations adjacent to mining, but not in chain pillars. The objective is to develop a document that will look at these scenarios and will include a risk matrix document that is similar to one that was advanced by the Mine Safety Health Administration (MSHA). The group is also considering any actions that should be undertaken during completions adjacent to mining and DEP has developed a draft checklist for these scenarios. This checklist might also be included in the Pressure Barrier Guidance document when it is published for comment.

Saunders responded that the risk matrix is a good start, but it is far from being able to replace the direction that is currently provided in the 1957 Coal Pillar Study. The risk matrix does not include a scoring system or a way to determine the outcome of a project, rather it looks at potential risks. Saunders stated that not all risks are equal, which leads to uncertainty in terms of establishing safe setback distances when drilling adjacent to longwall mining activities. Overburden and geology are key factors in determining appropriate setback distances. Saunders stated that there needs to be general agreement on what constitutes safe setback distances as determined by science, along with a safety factor.

UPDATE ON DEPTH TO FRESH GROUNDWATER INITIATIVE

Pelepko updated TAB on the work that has been conducted over the past several years regarding this initiative. DEP has examined electrical log data and historical drilling data to model where basal fresh groundwater surfaces occur. Moving forward, two goals have been established: to run surface geophysics in North-central Pennsylvania where there is good control with logging data to map the deepest fresh groundwater and to determine if there is good electrical logging data that will help inform DEP's modeling of basal fresh groundwater surfaces. DEP has partnered with Penn State University (PSU) on this initiative and Yoxtheimer reported that PSU has hired a postdoctoral fellow to run the geophysical method that was proposed to test the fresh water/brine interface. This person is expected to begin working in late 2019 with a goal of completing this study by late Spring of 2020.

WELL LOG SUBMISSIONS THROUGH GREENPORT

As a result of the most recent regulatory updates to Subchapter C of Chapter 78, industry is required to submit industry well logs each time they are run. Pelepko explained that DEP updated the GreenPort Reporting Tool in May 2017 to allow industry to submit

standard well logs to DEP in an electronic format (LAS Format) to enable the data to be more readily processed and interpreted.

DEP ran a report of wells that were SPUD after May 2017 for which a well record was submitted to DEP, since this represents a good indicator of recent wells that have been drilled by the operator for which electrical logs should be available. DEP discovered that wells logs were not received for about 50 percent of wells that were drilled to total depth. Pelepko noted that during this timeframe there was a relatively small number of operators that were drilling wells that accounted for a fairly large number of well logs that were submitted. DEP randomly examined logs for the first 2,000 feet of drilling and found that 34% of the logs had useful information for understanding the shallow stratigraphy such as Gamma logs.

Pelepko explained that DEP's analysis leads to the following three questions:

1. For every well that is drilled, should there be at least one well log that is run?
2. Is the LAS format useful for other stakeholders?
3. Are there best management practices (BMPs) that can be established for electrical logging practices?

Hendricks explained that industry sometimes limits the number of well logs when the geology in an area is uniform and where there are multiple well pads present. Hendricks explained that these three questions could be considered by industry, if DEP wants to discuss further.

PUBLIC COMMENT

Perry opened the meeting to comment from the public; however, nobody in attendance at the meeting requested an opportunity to provide comment.

AREA OF REVIEW TGD UPDATE

Pelepko reported that this TGD was amended to address prior comments provided by TAB and is currently under review by DEP's Policy Office and Office of Chief Counsel. Pelepko explained that one complicating factor relates to litigation that was initiated by the Marcellus Shale Coalition and the preliminary injunction related to two issues that might affect the TGD. Walentosky asked if there is any sense as to the timing for this TGD to proceed to final publication and Perry responded that a specific date has not been established and is dependent of the outcome of the litigation.

DRAFT PRESSURE BARRIER POLICY

Pelepko reported that this draft TGD is available on the TAB webpage and includes prior input provided by TAB. This document is undergoing review by DEP's Policy Office and Office of Chief Counsel. Recently, two issues have emerged that will affect the timing of when this draft document is published for public comment. A recent well

control incident has caused DEP to reconsider whether any further edits to the draft TGD are necessary given the lessons learned from this incident. Secondly, The American Petroleum Institute “API” recently revised its standard (API-RP53) that is referenced in Section 78a.72 of Subchapter D of Pennsylvania’s oil and gas regulations. DEP is in the process of accessing this standard, since API has not made a version of this available to the public at no charge. DEP intends to review the revised API-RP53 standard to ensure that DEP understands the document as it relates to the regulations.

UPDATE ON COORDINATION BETWEEN TAB AND CDAC RE: LEGACY WELL AND PRODUCED WATER ISSUES

Pelepko explained that over the past five years, DEP has been collecting data to obtain a better understanding of what constitutes an “attainable bottom” when plugging a well. The goal when plugging a well is to reach the total depth of the well; however, this is not always possible. Recently, DEP’s oil and gas program initiated a study to investigate the topic of attainable bottom – a DEP approved plugging depth shallower than the total depth of the well. The goal of the study was to understand if plugging efficiencies can be gained and resources extended by evaluating attainable bottom trends and examining a subset of wells in the field for the presence of methane leaks. Among a variety of findings, DEP observed that out of all of the wells that were randomly selected for this study, only three wells that were plugged in the last five years had evidence of leaking methane. Lessons learned from this study will assist DEP to better understand the variables and outcomes when plugging wells to an attainable bottom. DEP has also presented these findings to a workgroup formed by the Pennsylvania Grade Crude Development Advisory Council (CDAC) to consider this issue. Saunders commended DEP on its presentation to CDAC.

Perry provided an update on the U.S. EPA’s Publicly Owned Treatment Work (POTW) rulemaking that now prevents POTWs from accepting brine fluids for treatment and disposal if the facility’s effluent is directly discharged to Waters of the Commonwealth. Although this federal rulemaking was estimated to affect brine fluids generated at 950 oil wells, the outcome resulted in nearly all natural gas wells in Pennsylvania being affected. The rule does not provide an exemption for low producing natural gas wells. Currently, there are only about two treatment facilities in Pennsylvania that indirectly discharge treated effluent that are accepting brine fluids. Perry reported that a separate company has approached the Department about a proposal to construct a non-thermal desalination treatment facility, but it is uncertain whether this company will proceed to full-scale deployment.

Perry stated that the road spreading of brine represents another issue that is related to produced waters. Currently, the spreading of brine is not an approved practice as a result of litigation brought against the Department by Grant Township. Some operators have decided to seek a co-product determination to use brine. Perry suggested that consideration should be given for the use of treated brine, rather than untreated brine, in road spreading applications.

UPDATE ON CLASS II UNDERGROUND INJECTION CONTROL (UIC) DISPOSAL WELL PERMIT REVIEW PROCESS

As a result of the Grant Township litigation, DEP developed a more detailed review of integrity and geologic elements of UIC well permit applications. The process also considers seismicity issues. This review has been captured in the form of an internal Standard Operating Procedure (SOP) that the district oil and gas permitting offices use in the review of UIC permit applications. The review that is conducted by DEP permitting staff mirrors the review that is conducted by U.S. EPA staff; however, Chapter 91 (PA Water Quality Management Program regulations) requires DEP to demonstrate that the underground disposal of produced fluids will not result in a polluttional event.

DISCUSSION ABOUT DEVELOPMENT OF FUTURE CHAPTER 78, SUBCHAPTER D PROPOSED RULEMAKING

Klapkowski explained that the notion of advancing a proposed rulemaking to amend Chapter 78, Subchapter D is merely in the concept stage at this point. In 2014, DEP discussed with TAB some general concepts regarding the well construction and subsurface regulations at Subchapter D and gas storage regulations at Subchapter H, but those regulatory amendments were not advanced due to the priority to advance the Subchapter C regulations.

The last time that the Subchapter D regulations were significantly amended was in February 2011 in response to unconventional development in Pennsylvania where DEP was observing some problems with regard to the casing and cementing programs. Not all sections of Subchapter D were amended at that time, such as well plugging regulations and coal bed methane wells. Since the Subchapter D regulations were promulgated in 2011, the Department became aware of some aspects of this regulation that could be amended to improve clarity and consistency. Also, the Department has been focused on a number of issues related to underground gas storage wells that should be addressed through revisions to Subchapter H.

UNCONVENTIONAL OIL AND GAS PERMIT APPLICATION FEE UPDATE

Perry updated TAB members on this final rulemaking which will increase the unconventional permit application fee from \$4,800 for a vertical unconventional well and \$5,000 for a nonvertical unconventional well to \$12,500 for all unconventional wells, based on an analysis of the receipt of 2,000 unconventional permit applications annually. Currently, the number of unconventional permit applications submitted to DEP is trending less than 1,600 for calendar year 2019. At this point, the \$6 million Impact Fee and the additional money generated by this rulemaking will only be sufficient to maintain DEP's current oil and gas program and complement of 190 positions.

Although DEP could justify increasing this fee on final, it plans to advance the rulemaking at the same permit fee as in the proposed rulemaking. DEP will continue to explore ways to fund the oil and gas program, since the current model of a one-time

permit fee is not the most effective way to fund the ongoing costs of the oil and gas program. Since this rulemaking is not technical in nature, DEP is not requesting TAB's comments on the final rulemaking; however, TAB may submit comments to the EQB if it so chooses.

STATUS OF "RADIOACTIVITY MONITORING AT SOLID WASTE PROCESSING AND DISPOSAL FACILITIES" TGD

In the interest of time, Perry addressed this meeting topic at the close of the TAB meeting. Perry reported that this TGD is currently under review by DEP's Policy Office and will be published in the *Pennsylvania Bulletin* for public comment. The Department received some feedback from the Marcellus Shale Coalition regarding concerns about the TGD potentially expanding the universe of facilities that must conduct radiation monitoring; however, this is not the intent of this TGD. The TGD applies to facilities that must develop a Radiation Action Plan pursuant to Chapter 78a.58. DEP intends to clarify that only oil and gas processing operations are subject to the guidance, not ancillary operations such as produced water tanks and the transportation of produced water. Another concern of industry pertains to whether DEP must "approve" Radiation Monitoring Plans; however, at this point, DEP does not plan to approve of such plans.

NEW BUSINESS

Wallace reminded board members that the next TAB meeting is scheduled for November 6, 2019; however, to meet this timeline, the draft meeting agenda and materials must be circulated through DEP's review and approval process in early October. Since this aggressive schedule allows only a couple of weeks lead-time to prepare for the next meeting, TAB agreed that the November 6 TAB meeting will be rescheduled to Wednesday, December 18, 2019. Wallace agreed to check room availability and work with the DEP Policy Office to publish a notice in the *Pennsylvania Bulletin*.

ADJOURNMENT

Yoxtheimer asked if there was a motion to adjourn the meeting. Saunders made a motion to adjourn the meeting and Hendricks seconded. Motion passed unanimously, and the meeting adjourned at 12:54 pm.