

MEETING MINUTES

Oil and Gas Technical Advisory Board Meeting

September 5, 2024

TAB MEMBERS PRESENT

Voting Members: David Yoxtheimer, Ph.D., PG (Chair), Fred Baldassare, PG, Casey Saunders, PE, Jeffrey Walentosky, PG

Non-voting Advisors: Unable to Attend

DEP STAFF PRESENT

Kurt Klapkowski, Kris Shiffer, Don Hegburg, Joe Kelly, Ann Mathew, Steve Brokenshire, Todd Wallace, Nic Pistory, Lauren Stebbins

CALL TO ORDER

A hybrid 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 and also via Microsoft Teams. This meeting was open to the public. Klapkowski called the meeting to order at about 10:00 a.m. and opened the meeting with introductions of Pennsylvania Department of Environmental Protection (DEP or Department) staff and a roll call of the TAB members.

Klapkowski also informed the individuals in the meeting room and on the Microsoft Teams call that this meeting is recorded in its entirety. Klapkowski stated that in accordance with the state Wiretapping and Electronic Surveillance Control Act, 18 Pa. C.S. § 5703, individuals participating in this meeting convey their implied acceptance and consent to be recorded.

APPROVAL OF MEETING MINUTES

Yoxtheimer asked board members if there were any comments or suggested edits to the meeting minutes and called for a motion to approve the meeting minutes of the June 13, 2024 TAB meeting. Saunders moved to accept the minutes and Baldassare seconded. The meeting minutes were approved unanimously.

PUBLIC COMMENT

Yoxtheimer asked the Department if any members of the public registered to provide comment. Wallace responded that one individual named Thomas Pike, Environmental Policy Advocate for Protect PT, registered to provide comment at today's meeting.

Mr. Pike stated that he will provide comments related to the agenda topic titled “Update: Underground Injection Control (UIC) Primacy.” Mr. Pike commented that Protect PT prefers the current arrangement of how UIC wells are permitted rather than a system where Pennsylvania DEP would have primacy on injection wells. Protect PT is concerned that under a state-primacy scenario that the process of approving an injection well would be fast-tracked, with fewer opportunities for public input. Protect PT prefers the status quo, where both EPA and DEP play a role in the approval process for injection wells which provides member of the public multiple opportunities to engage with regulators about what infrastructure is built in their communities.

EROSION AND SEDIMENT CONTROL GENERAL PERMIT (ESCGP-4)

On October 5, 2024, the Department will publish notice as final the Erosion and Sediment Control General Permit-4 (ESCGP-4) for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing or Treatment Operations or Transmission Facilities in the *Pennsylvania Bulletin*. The Department solicited public comment on the proposed revisions to ESCGP-4 from June 29, 2024, through July 29, 2024. Eight commenters submitted approximately 83 comments. Kelly provided an explanation of the general categories of the comments received. The Department prepared a Comment and Response Document and made appropriate changes to the ESCGP-4 based on those comments. This General Permit will be available to the public on the Department’s website on October 5.

Kelly reported that the Oil and Gas Program has been coordinating with the Bureau of Information Technology to make necessary changes to the ESCGP-3 electronic permit to dovetail with the ESCGP-4.

DEP updated the transition plan and the goal is to publish the general permit by October 5, 2024. Internal training will be conducted with DEP staff and then the Department will offer external training to the regulated community.

Walentosky commented that the Post Construction Stormwater Management (PCSM) Best Management Practices (BMP) Manual is not yet published and he is concerned about cross-walking that document to the ESCGP-4. Kelly responded that the documents will be as consistent as possible.

Walentosky mentioned that the forms associated with ESCGP-4 were not posted to eComment. Kelly responded that the Department sent the forms to TAB members via e-mail sometime around July 23, 2024.

Walentosky asked what the final date the DEP expects to allow the regulated community to submit the ESCGP-3 to Department. Kelly responded that the cut off will be around the second week in October. For any large projects that involve earth disturbance, the permittee should contact the Department to schedule a pre-application meeting.

GUIDELINES FOR THE DEVELOPMENT AND IMPLEMENTATION OF OIL AND GAS WELL SITE INTEGRATED CONTINGENCY PLANS (ICP) FOR UNCONVENTIONAL WELL SITES TGD

Brokenshire reported that the ICP TGD is on track to be published as final by the end of this calendar year. The Department is reviewing all Preparedness, Prevention and Contingency (PPC) Plans and this guidance will help industry better understand the deficiencies that the Department is observing based on its review of PPC Plans.

Klapkowski provided some additional insight into the history of the development of the ICP TGD. The Department worked with the PA Emergency Management Agency to develop a single unified plan to address all emergency planning requirements in one document. This ICP TGD is a roadmap that is intended to help the regulated community navigate all requirements by voluntarily using this document.

Walentosky asked if the Department is observing any common threads of deficiencies to the PPC plans that are submitted to the Department. Brokenshire responded that Safety Data Sheets are routinely omitted from the plans. Brokenshire suggested that the Safety Data Sheets can be provided via a QR code as an appendix to the PPC Plan. Many pressure Barrier Plans also seem to be “generic” and do not address specific site conditions.

GUIDANCE FOR MAINTAINING FREEBOARD AND DEWATERING OF WELL DEVELOPMENT IMPOUNDMENTS FOR UNCONVENTIONAL OIL AND GAS OPERATIONS TGD

Kelly explained that well development requirements were added to Chapter 78.59b in 2016. This guidance is intended to address how impoundments are to be properly dewatered to avoid pollution at the well site. Brokenshire delivered a PowerPoint presentation to provide additional details about the TGD.

Walentosky stated he is unaware of the availability of this draft guidance. Brokenshire explained that about 2019 the Department developed draft guidance and shared it with operators. Brokenshire reported that many operators have been using the draft guidance and the Department is finalizing the guidance in the form of this TGD.

Walentosky asked what the timeline is for publication and Brokenshire responded that publication is expected within the next 6-8 weeks.

UPDATE ON INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) INITIAL GRANT FORMULA GRANT, REGULATORY IMPROVEMENT GRANT AND MATCHING GRANT

Shiffer provided a verbal summary of the status of each of the elements of the IIJA Grant. Klapkowski emphasized that the Formula Grant funding will also be used to help document undocumented orphan and abandoned wells. Klapkowski also reported that the

Department is partnering with the Environmental Defense Fund which received funding from Bloomberg, L.P. to identify undocumented wells in areas of Clarion, Venango and McKean counties using drones outfitted with magnetometers. Finally, Klapkowski reported the Department is collaborating with the U.S. Department of Energy and the National Energy Technology Laboratory in Pittsburgh that are working on innovative approaches such as developing machine language to pull information out of old records, digitizing maps, ground penetrating radar and methane detection technologies.

Saunders asked when the Department plans to launch the Orphan Well Plugging Grant (OWPG) program. Shiffer responded that the Department will publish the opening date in the *Pennsylvania Bulletin*. The OWPG will be an electronic grant and will be available on a first come-first served basis. The Department has 15 calendar days to review and approve a grant application. A conditional approval letter and grant agreement will be sent to the applicant. After the U.S. Department of Interior is informed, a Notice to Proceed will be issued. Reimbursement will be made on a per well basis.

Saunders asked if the 5-well threshold for the number of wells to be awarded applies per operator. Shiffer explained that the threshold applies per application/per applicant and after all five wells are plugged, the applicant can apply to plug up to five additional wells. Klapkowski reminded the board that the OWPG Program is limited to orphan wells only as directed by law. There are currently about 7,000 orphan wells in the DEP database so there are plenty of wells that can be plugged using this funding.

Saunders asked how the remaining 80 percent of Phase 1 Formula Grant funding will be spent. Klapkowski explained that the funds will be spent according to the budget that was approved by the U.S. Department of Interior and includes: well plugging via Request for Proposal solicitations, methane monitoring, surface/sub-surface remediation, outreach and engagement and 10% will cover the DEP's costs to administer the program.

Shiffer informed the board of the Methane Reduction Emission Reduction Program (MERP) that is funded via the Inflation Reduction Act.

FORMULA GRANT (PHASE 1) – MEASUREMENT & TRACKING OF GROUNDWATER AND SURFACE WATER CONTAMINATION

Hegburg explained that groundwater and surface water inspections and remediation is an element of the Phase 1 Formula Grant and 10 percent of the grant will focus on this area. Given the historic lack of state funding, there is minimal data regarding impacts of orphan and abandoned wells to groundwater and surface waters of the commonwealth.

The Department developed an Environmental Assessment Screening tool called "Survey 1,2,3) that is a GIS tool used to record the results of inspections of orphan and abandoned wells in Pennsylvania. About 2,700 orphan and abandoned wells have been inspected by the Department and some show signs of contamination. Environmental contractors will be retained via Request for Proposal solicitations to conduct oil and gas groundwater work.

Hegburg pointed out that the U.S. Department of Interior has included requirements for states to follow regarding the federal Endangered Species Act and National Historic Preservation Act. There are similar state requirements, but the Department is updating the Formula Grant to address these requirements.

Hegburg also mentioned that the Department is considering conducting a health study in the second phase of the Formula Grant. Walentosky asked if there are more details related to the health study and Hegburg responded that the Department has not developed any details at this time and it is only being considered.

WELL PLUGGING SUBCOMMITTEE REPORT

Walentosky explained that the Well Plugging Subcommittee (“Subcommittee”) has grown to about 45 members of which about half are DEP staff. To facilitate a more focused discussion and action-oriented approach, a smaller workgroup of about nine individuals was formed to focus on the issue related to the topic of reasonable efforts to determine attainable bottom related to well plugging and to bring recommendations to the Subcommittee.

The industry members of the workgroup developed an abstract to present to the Subcommittee to further the conversation about attainable bottom. The abstract developed by the industry participants reads as follows:

“Once the operator has cleaned out the well to at least 200 feet below the coal protective casing or service casing, whichever is deeper, and an additional 100 feet of well bore cannot be cleaned out within one 8-hour work shift, the DEP inspector will be notified that a reasonable effort has been made and the minimal attainable bottom depth will be considered reached. A cement plug of a least 50 feet will be set at the minimal attainment bottom of the well bore. After sufficient time has elapsed, the depth and efficacy of the plug will be confirmed and the remaining well bore will be plugged with a solid column of cement to the surface.”

Walentosky said that the industry members of the workgroup feel that the above abstract captures the true efforts of a well plugging job and addresses potential fresh groundwater contamination and will prevent vertical migration of fluids in the well bore.

Walentosky stated that the Well Plugging Subcommittee met on August 20, 2024, in the DEP Knox District Office and also virtually and discussed the abstract.

Walentosky commended Mr. Mark Jacobs (Subcommittee member who works at Penneco) who during the August 20 Subcommittee meeting discussed an actual case study that pertains to an ongoing well plugging project. The case study included consideration of a checklist to be used when plugging a well.

Hegburg responded that following the August 20 Subcommittee meeting, a Department-led workgroup was established to consider the recommendations outlined in the abstract. The DEP workgroup met three times in May, June and July of 2024. The DEP-led workgroup identified two key points contained in the abstract that need further consideration and were shared with the Subcommittee. The two points pertain to the following two sections of the abstract:

1. "...if 100 additional feet cannot be cleaned out on an 8-hour shift then minimal attainable bottom is reached and a reasonable effort has been made", and
2. "Cleaning out to at least 200 feet below the surface or protective coal casing whichever is deeper..."

These two concepts raise regulatory, safety, environmental and economic concerns to the DEP workgroup members and need to be worked out. Hegburg stated that plugging conditions vary across the commonwealth and regulations are designed as such. For example, there are differences when plugging in coal areas versus non-coal areas of the state.

Hegburg stated that, in general, a time limit is not a suitable metric for determining what constitutes attainable bottom. Attainable bottom is unique to each well and is situational on a case-by-case basis. When approving attainable bottom and what constitutes a "reasonable effort," consideration must be given to efforts used to reach the total depth of the well including diagnostic techniques utilized or implemented based on the well-specific conditions and construction methods. The Department must be aware of and consider this sort of information before making a decision on what is considered an attainable bottom for each well.

Hegburg said that a good path forward includes developing an information package about wells similar to what Mr. Jacobs from Penneco developed. Hegburg stated that industry representatives also asked the Department to develop a Standard Operating Procedure to address what protocol the Department should consider in the review of attainable bottom requests.

Klapkowski stated that the Department is open to a discussion of taking a look at the well plugging regulations to determine what amendments might be necessary to modernize these regulations.

UPDATE: UNDERGROUND INJECTION CONTROL (UIC) PRIMACY

Klapkowski reported that the commonwealth has decided to proceed with pursuing Class VI (carbon capture) primacy. Pennsylvania is eligible to receive about \$2.1 million in federal IJA funding to assist in defraying the costs of seeking federal primacy. The Department plans to submit the grant application to pursue the \$2.1 million by the end of September.

Klapkowski explained there are mainly three things that the U.S. Environmental Protection Agency evaluates as part of a state's primacy application. The first is whether a state's regulations are at least as stringent and broad in scope as the federal regulations. Second, the state public participation processes must be as open and transparent as the federal processes and third the state must maintain equivalent enforcement authority as the federal enforcement authority.

One likely hurdle that will need to be addressed in the process of seeking federal primacy might relate to the current bonding requirements in Pennsylvania. Pennsylvania's oil and gas regulations limits a bond for a conventional well to only \$2,500 per well with a \$25,000 blanket bond for all wells owned and operated by a conventional well operator. Another matter that will need further evaluation pertains to the long-term stewardship provisions of Act 87 of 2024 that authorizes the Department to permit UIC wells in Pennsylvania. This Act addresses pore space ownership and provides for Unitization Orders that must be considered as part of the primacy evaluation process.

TYPE 1L CEMENT FOR USE IN WELL CONSTRUCTION

Hegburg stated that cement placement is one of the most critical components of the well construction to support the casing, provide protection from corrosion and isolate zones at different pressure regimes to prevent hydraulic communication. Effective cement placement requires the selection of correct type and blend, mixing/prep in field, placement down hole and adequate cure time. For drilling/casing, Department staff may review cement job logs, inspect cement samples if available and watch for cement returns.

Cement manufacturers are moving away from the production of traditional cement blends to Type 1L cement, also known as Portland Limestone Cement (PLC). PLCs use different percentages of limestone that result in less generation of carbon dioxide in the manufacturing process. Carbon dioxide emissions across the nation could be reduced 8-10 percent when the cement industry fully switches to these "Low Carbon Cements".

Type 1L cement is being used in concrete in virtually all construction-related markets that have traditionally used Type I, Type II Portland cement. Type 1L cement is currently accepted by nearly all departments of transportation throughout the United States; however, the use in type 1L cement in the Oil and Gas Industry does not appear to be standard at this time.

This matter was presented to TAB after DEP had received a few requests from a well plugging company to use Type 1L cement during 2022. DEP previously received requests for the use of Class L, another Low Carbon Cement, and approved the use of Class L cement in the construction and plugging of oil and gas wells on May 13, 2021 after determining that this cement satisfied regulatory standards. DEP had reviewed Type 1L cement and was prepared to follow a similar approval route for use in plugging only, but after receiving feedback at the TAB meeting and further review by DEP this effort was placed on hold. At the previous TAB meeting, Walentosky asked if the

Department is interested in TAB seeking industry representation on the work group and Hegburg responded in the affirmative. Yoxtheimer stated that he would take the lead in working with TAB to set up this work group. DEP staff have been conducting additional regulatory and technical research prior to moving forward with forming a TAB subcommittee.

Hegburg suggested that now that additional research has been conducted by the Department it is a good time for TAB to proceed with the formation of a Subcommittee to further examine Type 1L cement standards. The Subcommittee could provide recommendations on possible regulatory specifications, potential revisions to the definition of cement and requirements for well plugging, potential practices of service companies to test cement blends including Type 1L for compliance with a Departmental cement definition, permeability and “pulse-decay” methods and the suitability for the use of Type 1L cement downhole.

UPDATE: FINANCIAL ASSURANCE STRATEGIES TO ADDRESS FUTURE WELL ABANDONMENT

Klapkowski reported that the Department was unable to schedule a follow up meeting since the prior TAB meeting to discuss this topic further; however, there was some discussion at the August 15 Pennsylvania Grade Crude Development Advisory Council (CDAC) meeting on this topic. The discussion at the CDAC meeting focused on the possibility of developing a tool similar to the Underground Storage Tank Indemnification Fund (USTIF) that is used by the Department to provide a consistent set of funding to respond to leaking underground storage tanks.

Shiffer reported the USTIF has been in place since 1994 and is a successful program that could serve as a model for developing a strategy to address future well abandonment. The Department is considering using the Phase 2 Formula Grant to fund a Request for Proposal solicitation to hire a company to conduct an actuarial study to develop a financial assurance tool similar to USTIF. Klapkowski stated that the Department intends to continue to gather input from other states and this is likely to be a topic of discussion at the upcoming meeting of the Interstate Oil and Gas Compact Commission in October.

NEW BUSINESS

No new business.

ADJOURNMENT

Yoxtheimer asked for a motion to adjourn the meeting. Saunders made a motion and Walentosky seconded. The motion passed unanimously, and the meeting was adjourned.