

Meeting Minutes of the Pennsylvania Grade Crude Development Advisory Council

November 12, 2019

Clarion, Pennsylvania

Roll Call

Members present: Chairman Arthur Stewart, Senator Scott Hutchinson, Representative Martin Causer, Burt Waite, David Ochs, Mark Cline, Richard Parizek, David Hill, Scott Perry (for DEP Secretary Patrick McDonnell), Denise Brinley (for DCED Secretary Dennis Davin), Nicholas Andreycheck, Timothy Vickey (for Representative Ryan Bizzarro); Timothy Collins (for Senator John Yudichak), Dan Palmer (for Bill Murray), Terry Engelder

Call to Order

The November 12, 2019 meeting of the Pennsylvania Grade Crude Development Advisory Council (CDAC) was held at 840 Wood Street, Clarion, PA 16214. The meeting was open to the public and was called to order by Chairman Stewart at 10:20am. Following the call to order, the council recited the pledge of allegiance, and the roll call was performed.

Motion to approve the revised meeting agenda was made by David Ochs and seconded by Richard Parizek. Motion carried.

Public Comment

Kenneth Fleeman, Manager of Engineering for Abarta Oil and Gas Company stated that the number one concern for his company is the lack of viable disposal options for brine in Pennsylvania. He noted that facilities in the region have either closed or are operating at full capacity which has left operators with few options outside of trucking the waste water to Ohio for disposal. He thanked the Council for its efforts around well plugging efforts.

Approval of minutes from May 23, 2019 meeting

Chairman Stewart brought the minutes of the May 23, 2019 CDAC meeting to the attention of the Council. Timothy Collins recommended an amendment to the May 23, 2019 minutes.

Motion to approve the amended minutes was made by Timothy Collins and seconded by David Hill. Motion carried.

Reports

President's Report

Chairman Stewart acknowledged the guests in attendance – Tim Vickey for Representative Bizzarro, Tim Collins for Senator Yudichak, and Dan Palmer for ARG.

Produced Water Committee

Burt Waite updated the group on brine management issues which are affecting the conventional and unconventional industries alike. He cited environmental and regulatory reasons for why there are so few options: implementation of total dissolved solids (TDS) rule that went into effect in 2010; limitations on

chloride and TDS discharge limits on NPDS permits from centralized facilities; the development of a chloride discharge standard is expected to further limit discharge volumes; the PA Department of Environmental Protection's (DEP) decision to withdraw its authorization process for road spreading; US Environmental Protection Agency's (EPA) recent banning of gas well brine to publicly owned treatment works (POTW); and DEP's pending guidance for radioactive monitoring for POTW. He provided a historical snapshot of oil and gas waste water disposal in Pennsylvania and noted the regulatory changes that led to a decrease in the number of centralized treatment facilities in the state. Mr. Waite stated that he believes the trend towards decreased options will continue. He lauded GCI's approach to treating wastewater and noted Bear Lakes Incorporated's stated intention to develop underground injection options for wastewater in Pennsylvania.

Dave Ochs reviewed his summary of fluid recovery service treatment facilities and noted that three of the most important facilities for waste water treatment in northwest Pennsylvania – Creekside, Josephine, and Franklin – are no longer taking in water or are at risk of ceasing operations soon and that new options will be needed. He reviewed data from PA DEP and US EPA and suggested that an additional review from experts at Penn State would be useful in determining how much new produced water treatment capacity will be needed to support the industry moving forward. Chairman Stewart suggested looking into whether and to what extent EPA underestimated the amount of non-stripper well brine going to POTW. Scott Perry suggested that a letter highlighting the inconsistencies between EPA and DEP data may be useful in bringing attention to the situation. He also noted the need for EPA to distinguish between conventional and unconventional oil and gas wells.

Bill Henderson of GCI reviewed some of his company's plans moving forward. They are looking towards opportunities for growth in Warren, McKean, Indiana, and Greene counties, and northeast Pennsylvania. He noted their cost effective non-thermal desalination technologies and some of the cost savings and environmental benefits of their novel approach. GCI is working with local economic development organizations and their private sector partners to advance their Titusville project. They have pilot-tested their technology which has yielded the desired results. GCI would like to work with members of CDAC, DCED, and DEP to coordinate efforts moving forward. Denise Brinley noted that DCED can assist in helping to find sites. Mike Schuette of GCI emphasized that the biggest barrier GCI faces currently is the need to find a capital partner to begin constructing a plant. He further noted that there may be opportunities to turn some of their operation's byproducts into a saleable product like what Eureka Resources is already doing. Ultimately, the quality of GCI's water will determine where their operations can be cited which will be defined in their NPDS permit. Chairman Stewart inquired about the role of the commonwealth in helping to fund GCI's project. Ms. Brinley noted that it has been difficult to find a specific funding program from DCED given the uniqueness of GCI's project, and suggested helping to put GCI in touch with USDA's Rural Development Office.

Mr. Waite noted that Penn State's application to US Department of Energy to conduct a study of low cost treatment of brine for road spreading was unsuccessful despite the positive response from industry partners willing to provide in-kind services as match.

Mark Cline reported that the water treatment plant in Bradford has recently closed due to their failure to comply with deadlines. He further noted that the Josephine plant is expected to close in 2021 and the Creekside and Franklin plants have closed. On balance, this represents a significant loss in produced water treatment capacity in the region.

Mr. Perry updated the Council on two pending applications for underground wastewater projects – Seneca and Penneco – that are advancing through the permitting process without substantive issues. He suggested that the issue of doing additional seismic monitoring for these types of projects is one that will be evaluated on a site by site basis. DEP is also evaluating whether they can do concurrent application reviews with EPA.

Legacy Well Committee

David Ochs reported that none of the four applications to the Commonwealth Financing Authority's Orphaned and Abandoned Well Plugging (OAWP) Program were approved in the most recent round of funding approvals. He noted recent suggestions submitted by the Legacy Well Committee to the Commonwealth Financing Authority to increase the maximum grant amount to \$1,000,000; include information about the Good Samaritan Act in the program guidelines; extending the period of performance to complete well plugging; and providing flexibility in the bidding requirements so that non-governmental organizations can demonstrate cost competitiveness and be awarded well plugging contracts through the OAWP.

Mr. Perry reviewed recent DEP well plugging efforts including three wells in 2017, six wells in 2018, and an expected 16 wells for 2019. DEP is working with the Pennsylvania Department of Conservation and Natural Resources to plug an anticipated 64 wells in Cornplanter State Forest in 2020. DEP is attempting to quantify methane leakage from abandoned wells to determine if there is a way to identify some of the worst offenders and explore the possibility of opening market opportunities to receive carbon offset credits for plugged wells that lead to measurable methane leakage reductions.

Chairman Stewart discussed an additional funding issue around orphaned and abandoned well plugging and noted two pieces of pending legislation – SB 790 and HB 2154 – which include language that prioritizes, but does not guarantee, funding for well plugging. He noted that a conventional oil and gas act that guarantees a fixed amount of funding for well plugging could go a long way towards getting more wells plugged at more competitive costs.

Chairman Stewart noted that the Legacy Well Committee was going to apply for a Governor's Award for Environmental Excellence to recognize wells that have been recently plugged. Ms. Brinley noted that there is likely value in creating a communications vehicle (e.g. website) to bring positive attention to the conventional industry in Pennsylvania to provide information – something that is difficult given that the conventional industry typically does not have a dedicated public affairs or external relations staff. Nicholas Andreycheck noted the work of Ohio Oil and Gas Energy Education Program (OOGEEP) as a potential model for disseminating information about Pennsylvania's operators. Richard Parizek suggested developing a strategy around getting press attention to wells that have been plugged given the positive environmental story associated with plugging efforts. Ms. Brinley noted that the Governor's Office of Energy may be able to help disseminate some of this information. Mr. Perry noted that he will be talking to the Pittsburgh Post-Gazette and agreed to discuss with them this issue based on the current CDAC discussion.

Mr. Perry reported that the US Coast Guard appears to be immovable on their position regarding landowner liability for plugging wells from which the landowner did not profit. He noted a potential upcoming meeting in Washington D.C. to highlight the issue to the individuals that control the US Coast Guard.

Dave Hill reported that the most recent meeting among the CDAC Well Plugging Workgroup, the Oil and Gas Technical Advisory Board (TAB), industry personnel and DEP included discussions about attainable bottom; PA DEP's presentation of intern work on attainable bottom; updated scoring sheets for evaluating OAWP applications; DEP's legal analysis regarding the discrepancies between Act 214, Act 13, and Chapter 78 which industry is seeking to resolve; that DEP would like to see industry more often self-report knowledge of leaking wells; and that industry would like to see DEP inspectors made more aware of discussions among the industry and DEP.

Economic

Dave Ochs reported on his most recently collected oil and gas pricing data. Oil and gas prices have been chronically low for several years and the projection is that they will remain low into the foreseeable future. Gas prices in Pennsylvania have been trading at a discount when compared to the industry standard (NIMEX) price since around 2012 which has hit the state's operators particularly hard. Chairman Stewart reported recent data from the US Energy Information Administration which indicates dramatic surges in dry natural gas and oil production. Terry Engelder noted that with all the associated gas coming out of the Permian Basin in Texas, and its proximity to the nation's major liquification facilities, that dry natural gas prices are expected to remain stubbornly low. Dan Palmer reported that the average price of a barrel of crude oil recently dropped about \$10 to approximately \$56 per barrel. Chairman Stewart noted that oil production also increased in the US despite the decline in individual oil rigs. Mr. Hill noted that the costs for the unconventional oil producers are so low that they can make a profit even if oil falls to \$30 per barrel.

DCED

Adam Walters noted that DCED's marketing team has updated the style of the CDAC Annual Report. The updates were purely aesthetic, and no content changes were made.

Denise Brinley provided an update on the Pennsylvania Governor's Office of Energy. It is an office that seeks to bring into alignment the work that is being done across commonwealth agencies to address energy matters in Pennsylvania as well as issues related to climate. The office is currently receiving feedback from agencies that handle work in Pennsylvania's energy space with the intention of creating a new platform for the commonwealth to deal with energy matters. She noted the complexities inherent to Pennsylvania's energy system including the desire to decarbonize with the need to address the fact that the state is a large fossil fuel producer. The Governor's Office of Energy will plan to present at the subsequent CDAC meeting on action steps that the Council can respond to.

Legislative

Chairman Stewart noted that he compared the two bills in each chamber of the legislature pertaining to a new conventional oil and gas well act (COGWA) and is willing to share his analysis with members of the Council at their request.

DEP

Mr. Perry noted that DEP has not advanced any activity related to the legislation, and DEP will soon be bringing for discussion draft regulatory language for CDAC to contemplate. There was discussion about addressing the discrepancies between Act 214, Act 13, and Chapter 78 by way of a new conventional oil

and gas well act. Updated rules for well plugging will ultimately be presented to CDAC, but they are unlikely to be addressed through COGWA.

New Business

Chairman Stewart noted that the Governor's Office has not made any appointment changes since the addition of Dave Hill as the representative of the Pennsylvania Independent Petroleum Producers. He noted that the Produced Water and Legacy Well committees are well staffed and performing well, but that the Economics Committee could benefit from additional members and a refreshing of the charges made of the Committee. The Council discussed reconstituting the Economics Committee with Mr. Andreycheck, Mr. Hill, Ms. Brinley, and Dan Weaver agreeing to participate. Chairman Stewart will distribute a list of the members for each committee, including their contact information for the benefit of the Council. It was noted that the Regulatory Review Committee does have members and it is expected that they will begin meeting regularly again soon.

Mr. Cline noted the risk in relying solely on GCI to provide a long-term solution for wastewater treatment. The lack of treatment solutions for the industry's produced water is approaching a critical inflection point in which there may soon not be any viable options for treating wastewater. Existing POTWs are either unable or unwilling to accept produced water. Mr. Perry noted that underground injection options may emerge as a partial solution given, in part, to the increased comfort level that DEP has for monitoring even minor seismic events. The Produced Water Committee will focus their efforts on researching the extent to which EPA has underestimated the quantity of non-stripper well brine going to POTWs; study the total daily quantity of water that needs treated/disposed; explore writing a letter to the EPA regarding alternative methods of injection in Pennsylvania and to ask their reconsideration of their definition of conventional versus unconventional wells. The Economics Committee will focus their efforts on reaching out to USDA to determine if there are any federal dollars available for brine treatment; exploring state programs that may be available for GCI (Senator Hutchinson noted that PENNVEST may be an option given their ability to provide low interest loans for water quality projects); work on developing an approach towards education by replicating best practices (e.g. OOGEEP, PSU Agriculture Extension); and determining if PCN could be a vehicle for getting the industry's message across to the public. The Legacy Well Committee will focus its efforts on exploring carbon trading credits that may be available for plugged wells; and researching plugged orphan well statistics to highlight the positive work that has been done towards ameliorating this environmental issue. Chairman Stewart will work with each of the Committee chairs and co-chairs to solidify the charges of each committee.

Mr. Walters offered to provide the audio recording of CDAC meetings to members which would be available on the file transfer protocol site established specifically for CDAC members to access.

The next CDAC meeting will tentatively be held on March 10, 2020. Mr. Walters will work with Chairman Stewart to schedule a date that does not conflict with the House and Senate session schedules.

Motion to adjourn was made by David Hill and seconded by Burt Waite. Motion carried.

The meeting was adjourned at 2:44 pm.