



Produced Water Working Group

Meeting Summary of Fifth Meeting, 9:30 am March 10, 2017
OWRB Board Room, 3800 N. Classen Blvd., Oklahoma City, Oklahoma

ATTENDEES:

Produced Water Group Members and representation (from Sign In and/or Introductions):

Michael Teague, Sec. Energy & Environment
Julie Cunningham, Chair/OWRB
Tim Baker, OCC
Fred Fischer, OPAIA
Bud Ground, EFO
Teena Gunter, for OK Sec. of Agriculture
Brent Kisling, Enid Reg. Development Alliance
Dave Lampert, OSU

Mike Mathis, OIPA/Continental
Mike Ming, GE
Mike Paque, GWPC
Alan Riffel, OML
Jesse Sandlin, Devon/OKOGA
Terry Stowers, COSMO
Scott Thompson, ODEQ
Usha Turner, OG&E

OWRB Staff and Consultants:

Mike Dunkel, CH2M
Owen Mills, OWRB

Anna Childers, CH2M

Other Attendees:

Allen, Jon OWRB
Amosu, Ope GE
Black, Galyn White Star
Boehs, Jared Pure Water Services
Boudreau, Donald Veolia
Boyd, Joyce OCC
Bruner, Monty Env. Tech Group
Bruns, Joan GE
Cauthron, Bill OWRB
Cox, Jayme Cimarex
Cravey, CC Reliable One
Cravey, Shannon Reliable One
Downey, Patricia OCC
Erickson, Mike Marathon Oil
Everett, Jeff OG&E
Feezel, Anthony Reliable One
Foltz, Tommy Ecolab
Gibson, Sara OWRB
Hallderson, Brent Fountain Quail Energy
Karges, Arnella OKOGA
Kirk, Lloyd ODEQ
McCurdy, Rick Chesapeake
McElroy, Philip Reliable One
Moore, Trey Logic Energy
Morford, Michael Bison Group

Moss, Justin OSU
Murray, Kyle OGS
Myers, Jeff OCC
Naggs, Veolia
Pearen, Holly EDF
Porter, Monty OWRB
Powell, Tyler OSEE
Rick McCardy, Chesapeake
Robins, Tom OSEE
Saunders, Nicole EDF
Schultz, Brad ONEOK
Singletary, Rob OWRB
Slatton, OCC
Stalling, Rob OWRB Board
Steele, Ed GE
Tahmassebi, Saba ODEQ
Typanic, Chris Reliable One
Walker, Ella OGS
Ward, Sharissa Reliable One
Wertz, Joe State Impact
Westerheich, John GE OGTC
Whorton, Sherrie Everblue Water Tech
Wilkins, Kent OWRB
Wilmoth, Adam Oklahoman
Yates, Dan GWPC

Welcome and Vision for Produced Water Working Group

Ms. Julie Cunningham, OWRB Interim Executive Director and Produced Water Working Group (PWWG) Interim Chairman, opened the final scheduled PWWG meeting by welcoming the attendees, and held introductions. Ms. Cunningham reviewed the agenda and logistics for the meeting. She also provided a recap of the progress thus far and the PWWG efforts up to now. The primary goal for the meeting was to present the findings and recommendation included in the draft Oklahoma Water for 2060 Produced Water Reuse and Recycling Report (Report) that was provided to the PWWG ahead of the meeting and to solicit input from the PWWG on the findings and make recommendations to include in the final Report. The Oklahoma Secretary of Energy and Environment, Mr. Michael Teague, emphasized the long-term focus with the produced water study efforts. He stated that the produced water re-use will be part of the innovative water use and source picture for Oklahoma. The Secretary stated that the work has just begun by the PWWG's first round of results and recommendations that we will be discussing today.

Presentation of Draft Study Results and Draft Recommendations

Mr. Michael Dunkel provided a PowerPoint presentation of the draft Oklahoma Water for 2060 Produced Water Reuse and Recycling Report. Mr. Dunkel summarized the different produced water use economic scenarios and their rankings based on their cost efficiency. He reminded that the current task is to assess how Oklahoma can reuse produced water most effectively. The cost estimates included in the Report were developed for the most viable scenarios. Followed by the presentation, the PWWG members were provided an opportunity to ask questions and provide feedback on the Report findings. The group discussed the different water use categories. The main comments included the cost comparisons of different scenarios, the different cost assumptions and elements used in developing the costs. The PWWG members recommended that consideration for Aquifer Storage Recovery (ASR) as a potential option to store marginal quality water and the potential for agricultural water use and application of produced water should be addressed in the report. Mr. Dunkel agreed and added that the PWWG should consider providing feedback on all the key findings and recommendations. Secretary Teague emphasized the importance of the report's findings that recommend and identify further research and investigation topics. Mr. Dunkel mentioned that the report will be revised to reflect the comments received during the meeting as well with any comments sent to Owen Mills and Michael Dunkel via email by March 31st, 2017. The comments will be summarized into a separate summary table and will be included in the final Report. The anticipated schedule for the final Report is mid-April, 2017.

Bureau of Reclamation Grant Proposal Ground Water Protection Council

Michael Paque of GWPC briefed the PWWG on the recent submittal for Funding Opportunity with the Bureau of Reclamation (BOR) WaterSMART Title XVI Water Reclamation and Reuse Program grant No. BOR-DO-17-F003. OWRB (applicant on the grant) submitted the proposal on January 5, 2017. The total project cost is \$300,000 with a \$150,000 Federal share. The total length of the study is 18 months upon issuance of notice to proceed. The study would support the findings and recommendations of the ongoing PWWG effort slated to be completed by June 2017 to search for ways to use produced water as a benefit to the state as a part of the Water for 2060 initiative and to find solutions that reduce deep-well injection volumes. OWRB proposes build on the conclusions of the PWWG initial scoping study and more fully evaluate the most encouraging recommendations. The non-Federal project partners are: Oklahoma Water Resources Board (Applicant), Environmental Defense Fund (EDF), Groundwater Protection Council (GWPC), and Bureau of Economic Geology (UT). The anticipated award date is sometime in May 2017.

Legislative Overview and Discussion

Mr. Bud Ground of EFO provided an overview of the legislative working group efforts and summarized the various bills in the Oklahoma State Legislature that address directly or indirectly produced water. As stated in the previous PWWG meetings, the Oklahoma rules and regulations need to be changed to incentivize and permit PW uses (e.g., water ownership, definition and liability of spills, classification of water once treated, regulatory authority, infrastructure right-of-ways etc.). Incentives for reusing PW coupled with disincentives for not reusing PW will likely be necessary to get large volumes of water recycled. Doing this will support recycling today vs. waiting for the market to force it to happen. The PWWG has been given some of the credit as the impetus for these bills. Through the subcommittee workings, these helped to develop shell bills to advance the PW use. The subcommittee helped to formulate issue / solution pairings.

E.g. HB 1485 on environment and natural resources; state agencies to issue permits for Clean Water Act. SB 287 on oil and gas; authorizing DEQ and Corporation Commission to administer oil and gas programs. SB 743 on oil and gas; creating the Oil and Gas Produced Water Recycling Act; instructing Commission to promulgate certain rules; ownership of produced water. SB 285 on Corporation Commission; Oklahoma Brine and Produced Water Development Act. SB 475 on gross production tax; manner in which certain payment of tax is allocated; construing application of specified act.