

MEETING NOTES

WATER FOR 2060 PRODUCED WATER WORKING GROUP

Meeting #1 March 3, 2016
2:00 p.m.

Oklahoma Water Resources Board
3800 N. Classen Boulevard, Oklahoma City, OK 73118

J.D. Strong, Executive Director of the Oklahoma Water Resources Board, and Chairman of the Water for 2060 Produced Water Working Group (PWWG), welcomed the members and attendees to the first meeting of the Group. He stated Governor Fallin had announced establishment of the PWWG on December 1, 2015, and charged the Group with discussing opportunities and challenges associated with treating produced water for beneficial uses to save fresh water by reusing and recycling oil and gas produced water, particularly alternatives to deep well disposal.

Chairman Strong set the stage for the Group's work saying members will meet to solve problems in a relaxed atmosphere, there is no schedule to meet, nor reporting requirements. He distributed copies of the "Water for 2060" brochure and noted the Water for 2060 Advisory Council's "Energy and Industry Recommendation 3: Promote Industrial Use of Marginal Quality Water" with the goal of increasing the use of marginal quality water supplies in industrial application. There is no legislative action required, and costs are associated with state agency staff time. The effort of the PWWG is a step toward implementing this recommendation, and with the current decline in the industry, the challenge will be to recommend reuse and recycling produced water while minimizing cost to the industry. The Group will be looking at gathering information and input on technological processes and barriers, as well state and federal regulatory structures for produced water.

Chairman Strong asked everyone to make self-introductions. Members of the PWWG in attendance were: Bud Ground, Environmental Federation of Oklahoma; Jeff Everett (for Usha Turner), OG&E Energy Corporation; Jesse Sandlin, Oklahoma Oil & Gas Association; Mike Mathis, Oklahoma Independent Petroleum Association; Michael Dunkel, CH2M; Mike Ming, GE Global Research; Mike Paque, Groundwater Protection Council; Fred Fischer, Oklahoma Panhandle Agriculture & Irrigation Association; Secretary of Agriculture Jim Reese; Tim Rhodes, Oklahoma Corporation Commission; Scott Thompson, Oklahoma Department of Environmental Quality; Brent Kisling, Enid Regional Development Alliance; Alan Riffel, Oklahoma Municipal League; Mark Matheson, Oklahoma Rural Water Association; Chad Penn, Oklahoma State University; and Terry Stowers, Coalition of Oklahoma Surface & Mineral Owners.

Mr. Michael Dunkel, CH2M, presented to the Group "Options to Produced Water Disposal" defining the problem of too much produced water, cutbacks to injections, and needing to explore economically viable alternatives. He provided conversions for consideration, and discussed in detail with members the current options for dealing with produced water and associated results: reuse for oil and gas as clean brine →transfer (transportation by truck and pipeline) and storage; reuse for other industry as brine; desalinate to "fresh water" →reuse for agriculture or other industry; discharge; and forced evaporation which creates a need to dispose of concentrated brine. Concluding his presentation, he talked about the information needed for moving forward, i.e., water quantity and quality, identifying industries that could use water, costs for permanent pipe volumes and distances, costs for trucking and transfer lines, and assessment of regulatory and legal issues, and what help the State and regulators can do.

Mr. Mike Ming, GE Global Research, presented to the Group “Innovated Challenge to Cost and Scale” which concerned finding ways to use the water, a comparison of water needs and produced water generation, noting not all use is needed in the same quality. He emphasized the problem needs to be assessed by breaking it down into manageable pieces. Fossil fuel and hydrocarbons still provide the largest amount of energy in the world; fresh water is drying up, energy is needed for desalination, shale gas in North America is in water constrained areas, coal-fired energy requires a lot of water to cool, so the needs for water is not decreasing and in Oklahoma drought is a major consideration. Water management technology strategies should be developed for the purpose of the water, and to meet short term needs while ensuring a long-term reliable water-energy supply. Factors to consider are risk, cost, energy, food, water, with outcomes being actionable. The response to market challenges is to develop the roadmap for moving forward by considering technology and design, extending digital industrial capabilities, and creating appropriate business models. Technology management is key to determining what will be done and what won’t through feasibility, viability and desirability, and developing policy for innovative management to create new markets for production while meeting the Water for 2060 goals.

Following the presentations, the members discussed options in technology, current processes and uses, the value of aquifer storage recovery, and what information would be useful in developing a strategy forward. Summarizing, Mr. Strong said the OWRB will provide a webpage for the PWVG under its current “Water for 2060” page and include the presentations from today’s meeting, as well as other pertinent presentations from GWPC’s recent UIC conference in Denver, and the Energy Water Initiative by CH2M:

- U.S. Onshore Unconventional Exploration and Production Water Management Case Studies (Prepared for the Energy Water Initiative)
- Produced Water Reuse and Recycling: Role in Long-term Water Sustainability
- Agricultural Reuse of Treated Produced Water
- Water Associated with Oil & Gas Development and Long Term Water Sustainability Strategies. (Environmental Defense Fund)

Information/tasks the group will be gathering for future presentations include:

- Survey of what other states are doing
- Assess volume and quality of what water is being produced (invite Kyle Murray at the Oklahoma Geological Survey to make a presentation at the next meeting)
- Inventory potential users/uses of produced water; DEQ’s GIS-based tool showing available quantities of municipal waste water as a model
- What is the current cost to oil and gas industry for produced water disposal.
- Landowner/ownership and liability issues (in regard to aquifer storage and recovery)
- Assessment of state and national situation, current regulatory framework and what is needed to bring the companies together (barriers).

Chairman Strong concluded the meeting stating he anticipated the group would meet in about two months, and he thanked everyone for their participation and attention.