

Governor's Water Augmentation, Innovation and Conservation Council Desalination Committee August 22, 2019 Meeting Summary

Time: 10:00am – 11:30 am

Location: Arizona Department of Water Resources

I. Welcome and Introductions

The following Committee members, and GWAICC members or their designees, were present: Philip Richards, Chuck Cullom, Wade Noble, Patrick Adams (for Warren Tenney), Susan Craig (for Sarah Porter), Pam Muse (for Lisa Atkins), Jay Tomkus (for Maria Dadgar), Bruce Hallin, Terri Sue Rossi, and Dave Dunaway (for Trevor Baggio). Attending from the Arizona Department of Water Resources (ADWR) were Einav Henenson, Kelly Brown, Clint Chandler, Carol Ward, Bret Esslin, Zack Richards and Cyndi Ruehl.

II. Follow-Up to Questions Related to the Buckeye Waterlogged Area

Chairman Richards introduced Einav Henenson, the Active Management Area Director for ADWR, who addressed questions that were asked by the Committee related to the Buckeye Waterlogged Area (BWLA).

Ms. Henenson stated that entities withdrawing groundwater from within the BWLA are required to comply with all groundwater withdrawal regulations with the exemptions specified in [A.R.S. 45-411.01](#). In general, entities located within the BWLA are exempt from irrigation water duties, conservation requirements for distribution of groundwater (specified in the Management Plan), and groundwater withdrawal fees.

She also noted that ADWR does not regulate groundwater differently if that groundwater is considered brackish. In addition, non-exempt wells withdrawing groundwater within an Active Management Area must have a grandfathered water right or a groundwater withdrawal permit regardless of whether an entity is located within the BWLA. These permits are specified in [A.R.S. 45-512](#).

Under ADWR Assured water supply rules, groundwater withdrawn from within the BWLA is considered consistent with the Active Management Area's Management Goal as long as groundwater is exempt from the conservation requirements specified in [A.R.S. 45-411.01](#) and is not subject to replenishment obligations. However, entities located within the BWLA must become members of the Central Arizona Groundwater Replenishment District (CAGR) and replenishment obligations will be required when the BWLA exemptions expire.

The BWLA exemptions are set to sunset on January 1, 2025. ADWR is required by statute to conduct a hydrologic assessment of the BWLA and submit a recommendation to either extend or end the exemptions to the Governor, the President of the Senate, and the Speaker of the House of Representatives by December 15, 2019.

Concerns were raised in the meeting regarding the classification of the water within the Buckeye Waterlogged Area and how additional withdrawals could impact other users. The Committee agreed to develop a technical group devoted to identifying constraints and impediments to a desalination project at this location and to report its findings back to the Desalination Committee.

III. *ADEQ Primacy Assumption for Deep Well Injection of Brine*

Dave Dunaway, Groundwater Protection and Water Reuse Value Streams Manager, ADEQ, updated the Committee on the possibilities for deep-well injection of brine – a byproduct from desalination operations. Underground Injection Control (UIC) is a part of the [Safe Drinking Water Act](#) (1974) that allows for in-ground disposal of water, solution mining, or general recovery of water. ADEQ has a statutory mandate to obtain the UIC program from the Environmental Protection Agency (EPA). Currently, this program is dual regulated, as the entity is required to carry an Aquifer Protection Permit (APP) from ADEQ, as well as a UIC permit at the federal level. By obtaining the UIC program from the EPA, ADEQ would remove its duplicative nature and perhaps increase the efficiency of the permitting process. The rules for the UIC program have been drafted, and a goal has been set to have the program fully adopted by mid to late 2020.

At the moment, it is still possible to obtain a [Class 1 Municipal Disposal Well](#) permit from the EPA for brine disposal purposes. This activity must not influence any underground source of drinking water outside of the line of demarcation, which the EPA determines as a pollution management area. Pilot tests are allowed under a [Class 5](#) permit.

IV. *Historical Information on the Yuma Desalting Plant (YDP) & Update*

Mike Norris and Terri Thomas, Deputy Area Manager and Area Manager from the Bureau of Reclamation (BOR), provided a timeline of the development of the Yuma Desalting Plant (YDP) and future plans for the plant.

The YDP was constructed under the authority of the Colorado River Basin Salinity Control Act of 1974 to treat saline agricultural return flows from the Wellton Mohawk Irrigation and Drainage District (WMIDD). The treated water is intended for inclusion in water deliveries to Mexico. The YDP was completed in 1991 and tested operationally at one-third capacity in 1992. Since 1993, the YDP has been maintained in a ready-reserve stand-by status. In 2010, the BOR conducted a pilot run of the YDP at one-third capacity at up to 365 days within a 12 to 18-month period. This pilot was completed under budget, operated with a 100% on-stream factor, and with a 100% safety record. At the completion of the project, 9.6 billion gallons of water were treated.

The BOR Yuma Area Office (YAO) is located within the same complex as the YDP. Capital improvement projects for the complex are being completed as federal funding becomes available. The chlorine system will need to be upgraded, an ammonia system will need to be installed, filter vales will need to be replaced, and a 22-mile sludge line will need replacing as it has exceeded its life expectancy. The railroad system will also require modification if the plant were to operate beyond one-third capacity. The BOR YAO will develop a project management plan for the YDP within the next year.

The preliminary cost is approximately \$583 per acre-foot to operate the plant at one-third capacity. The amortized cost, which includes improvements to the facility, adds \$143 per acre-foot for a total of \$726 per acre-foot of desalinated water. The costs will fluctuate due to economic driver such as energy, chemicals, manpower and escalation. Seventy-five thousand acre-feet of water would be saved if the YDP were to run at full capacity (72 MGD).

Chairman Richards questioned the costs to Arizona of *not* operating the YDP. Chuck Cullom of the Central Arizona Project volunteered to collaborate with the Colorado River Management section of ADWR and the BOR YAO to calculate those costs and report back to the committee at a future meeting.

V. *Closing Remarks & Next Meeting Date*

Chairman Richards will be reaching out to officials at the [Kay Bailey Hutchinson Desalination Plant](#) in El Paso, Tex., to request an update on the mineral recovery process from the brine discharged by the plant.

The next Desalination Committee meeting will be October 10, 10:00-11:30 a.m. at ADWR.