

Governor's Water Augmentation, Innovation and Conservation Council Desalination Committee June 28, 2019 Meeting Summary

Time: 10:00am – 11:30 am

Location: Arizona Department of Water Resources

I. Welcome and Introductions

The new committee Chairman, Philip Richards, reconvened the new GWAICC's Desalination Committee. 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), Bill Plummer, Dee Korics (for John Kmiec), Pam Muse (for Lisa Atkins), William Garfield, Reed Blochberger (for Dave Roberts), Spencer Kamps, and Jamie Kelley. Attending from Arizona Department of Water Resources (ADWR) were Zack Richards and Cyndi Ruehl.

II. Recap

Chairman Richards introduced Zack Richards from ADWR to give an overview of where the Desalination Committee left off when they last convened about one and one-half years ago. Zack summarized the work completed by the committee over nearly three years of activity (see Committee meeting materials and video at <https://new.azwater.gov/gwaicc/information>). The review included:

- Prior brackish groundwater studies and presentations to the Committee
- Top seven "most promising areas," as delineated in the studies
- A project timeline, showing the amount of time to complete a desalination project
- A review of the top seven areas with an assessment of land availability/cost, location issues/end users, cost of the facility, sustainability of supply, brine disposal challenges, local issues, and legal issues/regulatory (the spreadsheet can be viewed on the ADWR website at <https://new.azwater.gov/sites/default/files/Summary%2520from%25202017-2018%2520Committee%2520work.pdf>)

III. Discuss Target Areas and their Associated Challenges

Chairman Richards expressed that each of the areas has its challenges. The Committee's next steps could be to revise the table with any new information and determine which challenges the Committee wants to address.

The Committee proceeded to identify the most critical challenges that restrict the seven top opportunities and to update the assessment table where known:

1. Yuma Brackish Groundwater Mound Challenges:

- Mr. Noble stated that the districts of the Gila Valley and the Yuma Valley have expressed strong concerns about who has the right to use this water and the resulting water balance if that water was moved out of the area. He said there seems to be no acceptance of the concept of developing a desalination facility that would result in the export of that groundwater. Mr. Noble does not recall any benefit shown to the local area, except maybe financial gains. Mr. Cullom added that desalination of this water would result in the benefit of more consistent water quality in exchanged water and

would reduce drainage water impacts in the Yuma Valley. The Committee agreed that it is not this committee's role to further engage the local area.

2. West Salt River Valley

Challenges:

- It is unknown if the Buckeye Waterlogged Area will retain its status past 2024 and the amount of water that could be extracted from the area for desalination purposes is undetermined. The Committee asked for some regulatory clarification that would detail what permits would be required and the length of time that those permits would allow in order to determine the lifecycle of a potential desalination project. The Committee also requested a timeline for updating 'the Salt River Valley-Hassayampa Groundwater Flow Model.' ADWR staff will research these issues for the next Committee meeting.
- The question was posed asking whether a desalination plant would drain the area so that it was no longer waterlogged, thus causing it to lose that designation. John Rasmussen of the Bureau of Reclamation (BOR) said that Reclamation's study on the West Salt River Valley will be shared with the Committee upon its completion. He said the model created in this study did not ask that particular question regarding the drainage of the waterlogged area, but the model could possibly lend itself to that scenario.
- Mr. Cullom said because that resource is in an AMA, regulatory aspects constrain the pumping of that brackish water, treating it as groundwater extraction, because the differences in water quality are not considered. Committee inquiries pertaining to that area were: Has there been language drafted to change the regulatory rule? Does the Groundwater Management Act within the Active Management Areas (AMAs) differentiate between brackish water and potable water? Could it be differentiated? Would the pumping of that brackish groundwater for desalination incur a replenishment requirement?
- Chairman Richards said he thinks one of the biggest hurdles in this location is brine disposal. There has not been a deep well injection pilot project yet. He said, such a project would demonstrate if that method of brine disposal would be possible and successful in Arizona. A company in Texas is piloting the process that converts the brine into a commodity. Chairman Richards suggests that it might be worth a trip to their facility to discover the status of that feasibility. Mr. Cullom recalled that Arizona Department of Environmental Quality (ADEQ) had been working on a primacy assumption on injection. Cyndi Ruehl, ADWR staff, will contact ADEQ to address this question at the next committee meeting.

3. Yuma Non-Groundwater through the Yuma Desalination Plant (YDP) to Bypass Drain

Challenges:

- Mr. Noble stated that Yuma-area residents generally support this potential project. The political and local issues as stated in the table are accurate, but there are severe environmental challenges in discharging the brine to the Cienega de Santa Clara. He said increasing the salinity of the Cienega could result in complications with Mexico. Mr. Cullom offered that the effects on the Cienega were studied in the YDP pilot run, which operated at one-third the capacity. The Cienega is a very important environmental resource for both the United States and Mexico as habitat for the endangered clapper rail bird and the vaquita porpoise. Mr. Cullom reported that the study concluded no significant impacts to the flora and fauna with the increased water salinity delivered to the Cienega. The high tide cleans out the system three times a

year.

- Mr. Cullom stated that brackish water desalination does not generate additional water for Arizona, but it does increase water for Lake Mead. Therefore, other beneficiaries of such a project would be Nevada and California. Referring to the pilot run spoken of prior, partners in Arizona, Nevada and California funded a year-long trial run of the existing plant which generated around 33,000 AF of water. The Committee agreed It would have to be made clear that the benefit is to the Colorado River system and not to any individual water supplier, municipality or conservation district. If the project does benefit these entities, then they should contribute in some way.
- Mr. Noble thinks the BOR is not interested in operating the YDP. Mr. Cullom said that there is opportunity within the Drought Contingency Plan (DCP) because the United States made a commitment to conserve 100,000 AF of water for the benefit of the Colorado River system. He feels that this is a useful opportunity to firm Colorado River water, but it's important to think about funding before spending energy thinking about the interstate issues. Chairman Richards asked if the Committee would be interested in talking with the BOR and neighboring states to see if the operation of this plant could be funded. The Committee instructed Ms. Ruehl to coordinate a conversation with the BOR in the context of the DCP commitment.

4. Winslow-Leupp

Challenges:

- It is tied to a tribal settlement. If there seems to be movement towards a settlement, that area that could move up the Committee's priority list.
- Distribution/transportation to areas of use is a substantial challenge.

5. Gila Bend

Challenge:

- The biggest challenge is the regulatory constraint to transport treated water across basins into the Phoenix AMA. The Committee agreed to investigate that regulatory hurdle, perhaps crafting some language that would begin the discussion to change that regulation for specific cases, such as the treatment of poor-quality water.

6. Wilcox Playa: nothing listed in the table needs to be changed.

7. Picacho-Eloy: nothing listed in the table needs to be changed.

IV. Discuss Goals and Next Steps

It was suggested that the Committee receive the information to their inquiries before reprioritizing the projects, such as a response from the BOR (in regards to their plans to operate the Yuma plant), ADWR (the brackish groundwater regulations within and outside the AMAs) and ADEQ (brine disposal regulation). Chairman Richards suggested waiting to hear from these agencies at the next Committee meeting would also give the Committee members time to think more about the list at hand.

The next Desalination Committee meeting will be August 22nd, 10:00-11:30 a.m. at ADWR.