



Public Policy Review

by Sharon Megdal

Should Yuma Desalter Operate? Varied, Complex Issues Are Raised



In May, I visited the Yuma Desalting Plant, which has recently been the focus of much attention. Whether or not the plant is operated has implications for water deliveries to Mexico under U.S. treaty obligations and is important to Central Arizona. It is also important to those concerned about the Cienega de Santa Clara environmental habitat. My visit was very informative.

The U.S. Bureau of Reclamation built the plant to address the high salinity of tail water from the Welton-Mohawk Irrigation District. About 100,000 acre feet of irrigation water applied to district land but unused by crops was flowing back to the Colorado River. Its very high salt content raised concerns about the water. To meet the requirements of Minute 242 of the 1944 treaty with Mexico, the treatment plant was built to remove the salt from the Welton-Mohawk tail water. To keep the salty water from flowing into the Colorado River while the plant was under design and construction, Reclamation built a 53-mile bypass canal. This canal diverted the water to the Santa Clara Slough in Mexico.

The bypass canal was built as an interim measure prior to the plant becoming operational. Completed in 1992, the plant operated only for a short period in 1993. It was shut down due to operational issues. Also, excess Colorado River flows met water obligations to Mexico without operating the plant.

Over the years the Santa Clara Slough, now known as the Cienega de Santa Clara, has benefitted from this "bypass" water. In recognition of the important habitat of the Cienega and surrounding area, the Mexican government declared the region a Mexican National Biosphere. There is significant interest in keeping the Welton-Mohawk tail water flowing to the Cienega. But, at the same time, the water was intended to be used to meet the U.S. obligation to deliver 1.5 million acre feet of water to Mexico annually. During wet years, meeting this obligation has not been of concern. In times of drought, however, every drop of water counts, and the water deliveries to the Cienega do not count toward meeting the U.S. obligation. Many Arizona water interests are concerned that the federal obligation to deliver 1.5 million acre feet of water annually to Mexico be satisfied without causing disproportionately adverse effects to Arizona.

What started out as a water quality issue has essentially become a water quantity matter. With drought conditions persisting, storage along the Colorado River is at very low levels. If Welton-Mohawk water is not treated for delivery to Mexico, that water has to come from elsewhere. Recently, the water has come from storage at Lake Mead. If river supplies, including amounts in storage, are short, Central Arizona Project deliveries are the first to be cut, as the CAP holds the most junior rights to the river. The worst case scenario: The entire 1.5 million-acre-feet CAP entitlement would be cut before others with Colorado River allocations experience cutbacks.

This is why the Central Arizona Water Conservation District, the operators of the CAP, have been advocating operation of the Yuma Desalting Plant.

Water issues are complex. And the question of whether or not to run the Yuma Desalting Plant is no exception. There are multiple implications to consider, including environmental and economic. The U.S. Bureau of Reclamation, with responsibility for operating the Yuma Desalting Plant and managing the Colorado River generally, is considering its options. Governor Napolitano, who recently visited the plant, and others in Arizona are likewise evaluating alternatives. Scrutiny of the complicated modeling of the Colorado River scenarios continues. Significant uncertainties are involved. We know there will be shortages. Their frequency and severity over the next 100 years will determine the impacts on the region served by CAP and the Colorado River watershed more generally. If CAP experiences a cutback, users of non-Indian agricultural water will be the first to be cut back within the Arizona system.

These users of CAP water have rights to use groundwater, but their ability to do so depends on the condition of their well delivery systems, and there could be significant cost implications associated with the re-substitution of groundwater for surface water. The Arizona Water Banking Authority has been storing water on behalf of CAP municipal water users for several years. So, the impact of any future municipal supply cutbacks will depend on their cumulative size relative to the amount of water stored by the bank. If agriculture returned to groundwater and municipal water users began drawing upon stored water, water tables throughout Central Arizona would obviously be affected.

What are the costs and benefits of running the Yuma Desalting Plant to treat the tail water from the Welton-Mohawk Irrigation District? A lot of effort is going into identifying alternatives, including land fallowing in Arizona. Everything depends upon projections and assumptions. The answer to the question is difficult to provide but must be pursued.

Visiting the plant and the adjacent national water treatment research center helped me realize that the Yuma Desalting Plant is an asset, not the "white elephant" it has been called. It can be operated, if not to treat the irrigation tail water, then to treat water for other purposes, such as delivery of Colorado River water to municipalities in Arizona and/or in Mexico.

Yes, issues related to operating the plant are complex. Their resolution will likely require not only careful analysis but compromise and flexibility.

Note: Good background papers on the Yuma Desalting Plant are "The Yuma Desalination Plant: Arizona Perspectives," by Tom Carr, Arizona Department of Water Resources (August 2002) and "Dealing with the Colorado River's Salinity: What is the Future of the Yuma Desalting Plant?" by Sue McClurg, Water Education Foundation (Winter 2003-2004). ■