voice of san diego™

Panel Endorses Plans to Increase Local Reuse of Purified Wastewater

By DON WOOD
Voice Guest Columnist
Monday, July 18, 2005

OPINION

This week, a broad cross section of local community leaders convened for three days at the Marina Conference Center in Mission Bay to review an extensive new report on a city of San Diego staff research study on water reuse options.

This was the second of two local American Assembly workshops hosted by city water department staff. The research study design was based on comments received at the first water reuse American Assembly workshop held last October. The American Assembly model was developed by the last president Dwight Eisenhower to allow citizens to debate issues of common interest in a manner that ensures that all points of view get heard and issues are thoroughly understood by all participants.

The study was undertaken by city staff and consultants at the direction of the San Diego City Council. The Council directed staff to convene an Independent Advisory Panel (IAP) of nationally respected water researchers and scientists, and ask them to review the study's design and preliminary results. Staff was also instructed to convene assemblies of local community, business, and environmental leaders to review the study results and make comments on the study's findings.

Over the three day meeting, assembly participants heard from city water department staff, members of the scientific IAP, consultants and other water experts who carefully explained how the research study was designed and conducted, water reuse options that were identified and carefully examined as part of the study and alternatives being recommended for implementation in the future.

Workshop participants learned that all the water that is imported to our region is recycled water in one form or another. The group learned that hundreds of

municipalities and tribes living along the Colorado River take water from the river, use it for industrial and sanitary purposes, treat it, and return it to the river. These cities, counties and tribes currently hold more than 600 water treatment permits. Because of the extensive use those upstream consumers make of the river's water, the assembly learned that what we typically consider "raw" Colorado water actually contains partially treated and untreated wastewater.

The fact that our municipal water treatment facilities have always proven capable of treating this raw water to the point where it meets all federal, state and regional potable water quality control standards made workshops participants less skeptical about the city's potential ability to treat and purify local wastewater to those same and higher standards. The state and federal governments have set very stringent water quality standards for all types of wastewater reclamation and reuse that are much more demanding than the standards we currently apply to current municipal potable water supplies.

In general, the research study alternatives discussed included:

1. Expansion of the city's existing "purple pipe" recycled water distribution that allows customers to purchase recycled water at a discount for landscaping and other non-potable uses

2. Fairly small scale projects that would purify a tiny portion of the city's recycled water supply and blend those supplies into the city's potable water system reservoirs for a year or more

3. Alternatives that would purify a larger amount (but still less than 10 percent of the city's reclaimed water supplies) and blend that purified water into an expanded San Vincente Reservoir for a year or more, before it would be treated still another time at the city's Alvarado treatment facility near Lake Murray and added to the city's potable water supply system.

Workshop members questioned the scientists and experts very closely on city plans to take reclaimed water that has already been treated to a "tertiary" level (reclaimed wastewater is classified as treated to "primary," "secondary" and tertiary standards as the amount of impurities removed increases). Tertiary means that almost all potentially harmful ingredients have been removed. The group learned that this water would then be subjected to reverse osmosis filtration, which removes all impurities down to 1/3000th of the size of a human hair. This filtration would remove anything larger than a pure water molecule, including germs, bacteria, viruses and any other impurities that might prove harmful to human health and safety. Then, as added insurance, the filtered water

would also be treated with hydrogen peroxide and subjected to ultraviolet light exposure.

The assembly participants were assured by city staff and members of the independent scientific advisory panel that this extensive purification process can produce water that is as clean and safe as most of the expensive bottled waters people buy in stores. Long term initial testing conducted at a small scale purification demonstration plant at the North City water reclamation facility have proven that these extensive filtration and disinfection steps successfully remove known potential pathogens and impurities from the purified water.

While different assembly members assigned varying priorities on the basic alternatives identified in the research study, there appeared to be a strong group consensus that the major public health and safety issues associated with reuse of purified wastewater had been identified and addressed in the study, and that any further debate regarding our reuse of this purified water should not focus on concerns over public health and safety.

At the end of the third day, the assembly participants endorsed a group statement recommending that the city move forward to maximize its beneficial reuse of purified wastewater, noting that doing so can provide the city with a safe new supply of locally produced water. The recommendations also call for the expansion of purple pipe distribution systems serving South Bay recycled water customers, and exploration of additional ways to supplement the South Bay's potable water supplies with purified water on a small scale basis over the long term.

The Assembly also recommended that the city build a large scale water purification plant next to its North City reclamation plant to produce greater amounts of purified water, which would then be blended with raw Colorado River water in an expanded San Vincente Reservoir, thereby enhancing the water quality of the supply in the reservoir. After a year of more of blending in the storage system, the blended water would be treated again and used to supplement our local potable water supplies. Because of the existing infrastructure already in place at the North City plant site, the group believed this would be the least costly way to achieve indirect potable reuse of purified wastewater, and would avoid also any social justice concerns, since the stored water in San Vincente reservoir can be distributed to all parts of the city's water distribution system.

The group felt this approach offers the city the best opportunity to develop a safe new supply of locally produced water which can help, along with increased conservation and seawater desalinization, to ensure the regions water supplies

for generations to come. The assembly recommended that before purified water is blended into the city's potable water supplies, the city establish an ongoing purified water monitoring and quality control system, to ensure that purified water remains completely safe and healthy after it is produced, before, and after it is blended into our drinking water system.

Don Wood is a retired SDG&E energy conservation program policy advisor, who now serves as a Senior Policy Advisor at the Pacific Energy Policy Center. He also serves as the current chairman of Citizen's Coordinate for Century 3's water and energy committee. Wood was given the 1994 Revelle award for lifetime community leadership in urban design and planning.