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Orange County Water District Awarded For Leadership and Innovation in Research and Water Reuse

FOUNTAIN VALLEY, Calif. (April 19, 2018) – Today, the Orange County Water District (OCWD) was honored by the American Academy of Environmental Engineers and Scientists (AAEES) at the 2018 Excellence in Environmental Engineering and Science Awards Luncheon and Conference in Washington, D.C. OCWD received two awards that demonstrate its leadership and innovation in research and water reuse. It received the Honor Award for Research for work to evaluate a more cost-effective and environmentally-friendly method of analysis of N-nitrosodimethylamine (NDMA) in drinking water and recycled water that will improve public health protection. Together with the Orange County Sanitation District (OCSD), OCWD also received the Grand Prize for Environmental Communications for the Groundwater Replenishment System (GWRS) Bottled Water Campaign. The campaign sought to educate and increase awareness of water reuse projects like the GWRS and to break the stigma associated with these types of projects that are at times referred to as "toilet-to-tap."

The GWRS is a joint collaboration of OCWD and OCSD that has been online since 2008 and provides 100 million gallons of water a day to north and central Orange County. It takes highly treated wastewater that would otherwise be discharged to the Pacific Ocean and purifies it using a three-step process consisting of microfiltration, reverse osmosis and ultraviolet light with hydrogen peroxide. It is the world's largest advanced water purification project for potable reuse and has been hailed as the global model.

NDMA is an unintended byproduct of the chlorination of wastewater and drinking water at treatment plants that use chloramines for disinfection. It is a drinking water contaminant of concern because of its miscibility with water, as well as its toxicity. While not yet regulated federally, NDMA has a very low notification level in California of 10 nanograms per liter for drinking water and is regulated in permitting guidelines for potable reuse (recycled) projects in the state.

"Monitoring for NDMA can be complicated due to the expensive and time-consuming laboratory methods currently in use," said OCWD President Denis Bilodeau. "As a promising alternative, OCWD's Research and Development (R&D) department has tested and validated a new method for NDMA analysis that was developed by OCWD's project partners at Kagoshima University and Nagasaki University in Japan. In fact, the method was recently used to complete high-frequency monitoring of NDMA at the GWRS to ensure that only the highest quality of water was produced. The technology has even been adapted to function as an online, near real-time monitoring instrument, which has great potential for operational and regulatory use at water treatment facilities around the world."

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Research to understand NDMA concentration and formation in recycled water, and how to alter water treatment to reduce concentrations, helps protect public health. Use of this method by potable reuse treatment plants would allow for improved monitoring and therefore better demonstration of the high quality of the water, allowing for greater acceptance and approval of reuse projects.

“The Orange County Water District is also helping pave the way for greater acceptance of reuse projects through its GWRS bottled water campaign,” said Bilodeau. “In 2017, OCWD and OCSD began the campaign to educate general and targeted publics about the safety, quality and taste of reused water in efforts to help similar reuse projects gain community support and ultimately help California be water-secure during droughts. As global leaders we feel it’s our job to foster support for these types of projects and we truly take pride in operating our own facility for more than 10 years.”

The campaign started in March 2017 with pre-kick-off industry and legislative events and culminated in a rousing Winter Fest celebration of the GWRS 10th anniversary and setting a Guinness World Records title for the most wastewater recycled to drinking water in 24 hours. Throughout the campaign traditional and social media were engaged, invited to attend events, interviewed staff/board, and shared their opinions about the water and the future of these projects.

“We were proud to be a part of this educational outreach effort where staff and board members went out to established events to reach California masses such as the general public, students, water industry personnel, business and civic leaders, and legislators,” said OCSD Board Chairman Greg Sebourn. “OCSD and OCWD were the first in the Western Hemisphere to bottle advanced purified water for educational purposes and we were happy to share it with the community to demonstrate that the water is safe and reliable. We are committed to recycling every drop possible and Californians are seeing that recycling is the future of water.”

Whether it is research or outreach, the Orange County Water District is dedicated to ensuring a safe, reliable and adequate water supply and to helping educate the public about how it accomplishes just that.

About Orange County Water District (OCWD)

The Orange County Water District is committed to enhancing Orange County’s groundwater quality and reliability in an environmentally friendly and economical manner. The following cities rely on the groundwater basin, managed by OCWD, to provide 75 percent of their water demands: Anaheim, Buena Park, Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Palma, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster and Yorba Linda.

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