



NEWS RELEASE

Alternative water supply expansion for Southern California earns top industry honor

Black & Veatch design provides water security, added supply and sustainability for Orange County

OVERLAND PARK, Kansas (22 September 2016) – The Orange County Water District’s Groundwater Replenishment System (GWRS) Initial Expansion project, a [Black & Veatch-designed alternative water supply system](#) that bolsters water security for a large portion of Southern California, has been chosen to receive the prestigious Water Environment Federation (WEF) Project Excellence Award.

The award will be presented during WEF’s Annual Technical Exhibition and Conference (WEFTEC 2016), the world’s largest annual water quality conference and exhibition, Sept. 24-28 in New Orleans. WEF’s annual Project Excellence Award recognizes outstanding programs and product execution in the water sector. Among other criteria, projects are evaluated on innovation, sustainability and community benefit.

The \$142 million expansion, completed in 2015, adds 30 million gallons per day (MGD) of capacity to Orange County’s Advanced Water Purification Facility (AWPF), the world’s largest planned indirect potable reuse system. The AWPF takes wastewater treated to secondary levels from the Orange County Sanitation District’s neighboring Fountain Valley Plant No. 1 and uses a state-of-the-art process to produce ultra-pure water that meets or exceeds state and federal drinking water standards. The system now produces enough new water for about 850,000 people at significantly lower costs than water supplies imported from the Colorado River Aqueduct and the California State Water Project.

“The GWRS Initial Expansion is a prime example of resilient and holistic water planning,” said Cindy Wallis-Lage, President of Black & Veatch’s water business. “This is a locally controlled, essentially drought-proof system that brings reliability and supply security to the Orange County region. To expand this facility’s production while other sources of supply around the state were being restricted due to extreme, prolonged drought truly shows the power of alternative water supply solutions such as water reclamation and water reuse.”

In addition to raising capacity from 70 to 100 MGD, the project presented opportunities to reduce operating costs by optimizing system performance. Flow equalization, energy recovery devices and a new corrosion-minimizing lime system were implemented to help the GWRS operate more efficiently.

Construction of the original GWRS was jointly funded by both the Orange County Water District and the Orange County Sanitation District.

Editor’s Notes:

- The expansion project features twin 7.5-million-gallon flow equalization tanks that “scalp” excess flow during the day and hold it for treatment at night, allowing for all-out, around the clock running of the GWRS. The consistent flow allows the system to operate more efficiently

and treat the full capacity. Without the flow equalization system, GWRS would only be able to treat approximately 86 MGD.

- Aided by the expansion completed in 2015, the GWRS has now produced more than 200 billion gallons of new water since coming online in January 2008.
- Energy recovery devices were implemented in the expanded reverse osmosis system to capture energy lost during the process. They are projected to save 14 million kilowatt-hours and \$1.3 million annually for the life of the system while reducing greenhouse gas emissions by an estimated 14 million pounds each year.
- A new Tekkem lime system was also installed to provide a greater level of flexibility and reliability in meeting water quality targets to minimize corrosion and enhance groundwater recharge operation.
- Approximately 65 percent of GWRS's product water is pumped to recharge basins where it naturally percolates the Orange County Groundwater Basin and supplements Orange County's drinking water supplies. The remaining 35 percent of GWRS-produced water is injected into coastal barrier wells to keep seawater out of the basin.
- GWRS now produces 103,000 acre-feet of water each year, enough water to fill more than 150 Olympic-sized swimming pools every day.
- OCWD provides groundwater to 19 retail water agencies, serving more than 2.4 million people, which pump approximately 72 percent of their water supply as groundwater.

About WEF

The Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 36,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. Since 1928, WEF and its members have protected public health and the environment. As a global water sector leader, our mission is to connect water professionals; enrich the expertise of water professionals; increase the awareness of the impact and value of water; and provide a platform for water sector innovation. To learn more, visit www.wef.org.

About Black & Veatch

Black & Veatch is an employee-owned, global leader in building critical human infrastructure in Energy, Water, Telecommunications and Government Services. Since 1915, we have helped our clients improve the lives of people in over 100 countries through consulting, engineering, construction, operations and program management. Our revenues in 2015 were US\$3 billion. Follow us on www.bv.com and in social media.

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