



ORANGE COUNTY WATER DISTRICT

NEWS



FOR IMMEDIATE RELEASE

FOR INFORMATION, CONTACT:

Gina DePinto (714) 378-3228, gdepinto@ocwd.com

**WORLD RENOWNED GROUNDWATER REPLENISHMENT SYSTEM TO INSTALL
MEMBRANES MANUFACTURED IN ANAHEIM
*\$414,299 Technology Investment Benefits Local Economy***

FOUNTAIN VALLEY, Calif. (Nov. 8, 2012) – It was only fitting that Orange County gained a manufacturing facility for membranes used in water recycling and desalination. The world's largest advanced water purification facility of its kind, the Groundwater Replenishment System (GWRS), is operated in Fountain Valley by the Orange County Water District (OCWD; District) and in part, relies on 15,750 reverse osmosis (RO) membranes to produce 70 million gallons per day of ultra-pure drinking water. (www.gwrsystem.com)

Woongjin Chemical America opened a manufacturing facility in Anaheim in 2011 to produce CSM reverse osmosis, ultrafiltration and nanofiltration membranes for municipal, industrial and residential markets. Reverse osmosis membranes are made of a semi-permeable polyamide polymer (plastic). During the RO process, water is forced through the molecular structure of the membranes under high pressure, removing dissolved chemicals, viruses and pharmaceuticals in the water. The end result is near-distilled quality water so pure that minerals have to be added back in to stabilize the water.

As membranes age, overall performance, including permeability and rejection, decline and the membranes need to be replaced. The expected lifespan of membranes is five years when operating in a municipal wastewater application like the GWRS, which came on-line in 2008. The GWRS RO treatment facility consists of 15 units, each capable of producing five million gallons of water per day with each containing 1,050 membranes.

Fourteen of the RO units in GWRS were loaded with new membranes purchased from Hydranautics of Oceanside, Calif., and installed for the start-up of the GWRS. However, the 15th unit contains membranes that were first in use in a pilot facility while the GWRS was under construction. These membranes have been in service for more than six years and need to be replaced.

-MORE-

OCWD PURCHASES MEMBRANES BEING MANUFACTURED IN ANAHEIM ADD 1-1-1

In 2009, OCWD staff began formulating a research program to evaluate RO membranes in response to the fast-approaching replacement projection of five years. The overall goal of this program was to qualify membrane products for procurement within a competitive bid process.

Since December 2009, a total of six RO membrane products have successfully passed comprehensive qualification trials. Quotes were solicited in March 2012 for 1,050 membranes for replacement of the oldest unit. Of the six that demonstrated acceptable performance, the CSM membrane came in at the lowest price. Ultimately, the OCWD Board of Directors authorized a purchase order of \$414,299 to CSM (Woongjin Chemical America, Inc.) for 1,050 membranes that are currently being rolled, assembled and tested at its facility in Anaheim.

The GWRS takes highly treated wastewater and purifies it through a three-step process of microfiltration, RO and ultraviolet light with hydrogen peroxide. The GWRS enhances existing water supplies by providing a reliable, high-quality source of water to recharge Orange County's groundwater basin and protect the basin from further degradation due to seawater intrusion. The GWRS has also provided peak wastewater disposal flow relief and indefinitely postponed the need for the Orange County Sanitation District to construct a new ocean outfall by recycling wastewater flows that would otherwise be discharged to the Pacific Ocean, thus preserving the country's vital coast with fewer greenhouse gas emissions than importing water.

For more information about the Groundwater Replenishment System, call the Orange County Water District at (714) 378-3200 or go to www.gwrsystem.com.

-30-

About Orange County Water District

Orange County Water District (OCWD) manages the large groundwater basin that underlies north and central Orange County that provides most of the water for about 2.4 million citizens. OCWD is committed to enhancing Orange County's groundwater quality and reliability in an environmentally friendly manner. With more than 75 years of prudent planning and careful investment, OCWD has doubled the sustainable yield of the groundwater basin. OCWD is a special district established by the California State Legislature in 1933 and governed by a 10-member board of directors. Separate from the County of Orange, OCWD supplies water to residents in the cities of 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. Go to www.ocwd.com for information.