



Advanced Water Purification Facility - Initial Expansion of the Groundwater Replenishment System (GWRS) Project



Owner: Orange County Water District

Owner's Engineer: Black & Veatch

Client: McCarthy Building Companies, Inc.

Location: Fountain Valley, CA -USA

Capacity: 30.0 MGD (6 x 5 MGD)

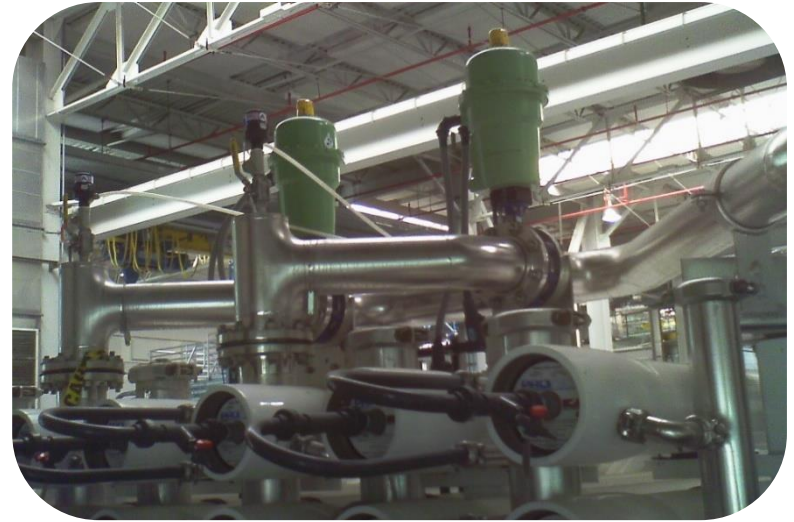
Start-up: 2015

Application: Municipal water reuse, indirect potable

“The Orange County Ground Water Replenishment System is the largest water purification project of it's kind in the world”. The overall plant produces 100 MGD of high quality, purified water.



SWT was contracted by the owner's general contractor to design, fabricate, deliver and supervise installation of the 30 MGD reverse osmosis system required for this project. The six RO trains are fed MF product water and RO permeate is further treated with UV and hydrogen peroxide to produce water that meets drinking water standards.



The RO system incorporated six FEDCO energy recovery turbines with VFD's and PLC. As the RO system ages, the ERT will allow for extended membrane life. SWT supplied all RO train local controls, valves, panels and Dow XFRLE-400/340i membrane elements. We provided system testing, start-up and owner training.



Operational Data:

- Feed water TDS: 936 ppm
- Permeate TDS: 33 ppm
- Permeate flow: 3,471 gpm/train
- RO Recovery: 85%
- Array: 77:49:24