

FY 2010 WaterSMART Advanced Water Treatment Pilot and Demonstration Project Grants

Sanitation Districts of Los Angeles County, Joint Water Purification Pilot Program

Reclamation Funding: \$334,208

Total Project Cost: \$831,907

The Sanitation Districts of Los Angeles County and the Metropolitan Water District of Southern California will collaborate on the proposed project that will evaluate the feasibility of a regional indirect potable reuse program to purify treated wastewater, which is currently discharged to the Pacific Ocean. Specifically, the project will look at the ability of membranes to resist fouling and will characterize the microfiltration/membrane bioreactor effluent (reverse osmosis influent) with respect to organics, which are often a key component of fouling. The main objective of the pilot program is to evaluate the ability of the proposed AWT process trains to produce recycled water from secondary effluent of a quality surpassing State of California drinking water standards. The full scale utilization of the technology could result in a new annual water supply to the area of approximately 220,000 acre-feet. This new annual water supply could result in reducing Metropolitan Water District's projected future (year 2035) water supply imbalance of 555,000 acre-feet per year by 40 percent.

Los Angeles Department of Water and Power, Los Angeles Department of Water and Power Groundwater Replenishment Treatment Pilot Study

Reclamation Funding: \$600,000

Total Project Cost: \$2,274,099

The Los Angeles Department of Water and Power will conduct the Groundwater Replenishment Treatment Pilot Study to address the technical and economic viability of groundwater replenishment in the City of Los Angeles (City). Groundwater replenishment sends advanced treated recycled water to spreading basins to percolate underground and become part of the groundwater supply for future use. The project will evaluate the proposed advanced water treatment plant processes to be employed for treatment of the groundwater replenishment supply in the City. At full capacity, the advanced water treatment plant for groundwater replenishment could produce 15,000 acre-feet a year of new, sustainable water. The City estimates its potential water supply imbalance will be approximately 110,000 acre-feet annually by 2030, thus, this project represents approximately 14 percent of this imbalance.

West Basin Municipal Water District, Ocean Water Desalination Demonstration Project

Reclamation Funding: \$600,000

Total Project Cost: \$10,600,526

This Ocean Water Desalination Demonstration Project (Project) will evaluate various alternative technologies for ocean water desalination along the Pacific Ocean. The demonstration facility will utilize approximately 580,000 gallons per day of ocean water to test intake technologies, pre-treatment systems, reverse osmosis technology, and post-treatment options. The primary objectives of the Project are to determine the marine life protection of the various intake technologies, determine optimal operational protocols, evaluate energy recover devices to minimize energy consumption, and ensure compliance with finished water quality goals. It is expected that the Project will lead to the generation of approximately 22,265 acre-feet of water a year at full scale capacity. Between 2010 and 2030, the basin is projected to experience an annual water supply shortage of approximately 20,650 acre-foot annual water supply imbalance. The Project follows a pilot study for determining the feasibility and planning of a desalination facility.

Municipal Water District of Orange County, Pilot Plant Testing of Slant Well Seawater Intakes and Advanced Water Treatment Pretreatment Technologies for Control and Removal of Low Levels of Iron and Manganese

Reclamation Funding: \$500,000

Total Project Cost: \$1,250,000

The Project will develop pilot tests for a new operational pilot seawater desalination test facility. The facility will implement a slant well intake, which is meant to avoid environmental concerns associated with open-intake facilities by utilizing natural filtration through the ocean floor and underlying alluvial deposits. The Project tests will be focused on generating data supporting the determination of the physical and economic suitability of the slant well approach, including confirmation of the suitability of the water quality from the slant well for processing by reverse osmosis, and assessing the pretreatment processes for removal of potential membrane foulants.