



FACT SHEET

TEMPORARY OCEAN-WATER DESALINATION DEMONSTRATION PROJECT

WEST BASIN'S APPROACH TO OCEAN-WATER DESALINATION

Diversified Water Reliability Portfolio: Most of our water (65%) comes from hundreds of miles away from Northern California or the Colorado River. This water is becoming increasingly less reliable due to droughts, environmental restrictions, population growth, and other factors. In light of increased challenges to our imported water, West Basin is planning to expand our supply of locally-controlled water:

- West Basin produces 30 million gallons a day of recycled water for civic, industrial and groundwater recharge uses—conserving drinking water for 60,000 South Bay households;
- By 2020, West Basin intends to produce approximately 20 million gallons a day of desalinated ocean-water as drinking water, constituting 9% of supply needs, adding to increased conservation (12%), recycled water (15%) and groundwater production by West Basin's retail agencies (21%); and
- Imported water will supply less than half of the region's water needs by 2020.

DID YOU KNOW?

West Basin already desalinates about 20 million gallons a day of treated sewage using micro-filtration and reverse osmosis membranes, the same technologies being used to desalt ocean water. Much of this purified water is used to replenish the local groundwater aquifer.

Existing Pilot Facility: Since 2002, West Basin has operated a pilot facility at El Segundo Generating Station, for research and water quality testing purposes. The facility produces 40 gallons per minute of desalinated ocean-water using micro-filtration and reverse osmosis technologies. The results of more than 500 water quality tests performed monthly indicate that the quality of the product water meets current state and federal drinking water standards set by the California Department of Public Health and the U.S. Environmental Protection Agency. This represents the first step in a research and testing based approach to the development of this new water source.

Temporary Demonstration Project: West Basin has now embarked on a temporary ocean-water desalination demonstration facility (a facility utilizing the same treatment processes and technology as a full-scale project, but on a reduced scale) in the City of Redondo Beach. This next step builds upon the research conducted in the pilot phase, but enables a variety of tests not possible at the pilot level by using full-scale equipment. The project is funded in part through a research grant from the State of California's Department of Water Resources, using Proposition 50 bond funds.



TEMPORARY OCEAN-WATER DESALINATION PROJECT SUMMARY

Project Goals/Objectives: Provide insight regarding the appropriate design of a potential desalinated ocean-water supply project in a manner that maximizes efficiency for construction and operation and minimizes environmental impacts.

Community Collaboration: The demonstration project will be located on site at the Science, Education & Adventure (SEA) Lab facility, which is operated by the Los Angeles Conservation Corps (LACC). The project will provide benefits to LACC and the local community through facility improvements, enhancement of SEALab's existing school programs, and public education regarding ocean-water desalination.

Ocean-water Intake: To minimize environmental impacts, the project will utilize existing underground tunnels for intake and discharge. Based on the most up-to-date research available, the intake tunnel will be modified with a "pipe-in-pipe" concept and fitted with passive wedgewire screening technology to minimize impact to marine life.

Utilization of Existing Structures: The project will be constructed within and adjacent to the existing pump house at the SEALab facility, formerly used by AES Corporation.

Alternative Intake Methodologies: The project will also include pilot testing of a Seabed filtration subsurface ocean-water intake, which will occur onshore.

Data Collection and Analysis: The temporary demonstration project will test:

- prescreening and pretreatment;
- reverse osmosis (RO);
- energy efficiency;
- product water quality and residuals management processes; and
- alternative intake methodologies.



Discharge Water: No desalinated product water will be distributed through local water distribution systems to the public. Product water (approximately 250,000 gallons per day) will be recombined with concentrated ocean water and then discharged through the existing AES tunnel.

For Additional Information, contact:

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Temporary Research Project: Upon completion of data collection and testing, the temporary project will be removed and the vacated pump house building will be available to SEA Lab for educational and public programs.