

WEST BASIN MUNICIPAL WATER DISTRICT**AUGUST 7, 2002 – Water Resources
McDonald, Little****AUGUST 26, 2002 – Board Meeting**

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ACTION CALENDAR**OCEAN WATER DESALINATION PROGRAM****SUMMARY:****Public Relations**

Staff conducted a Board Workshop as part of the August 2, 2002 Special Board Meeting to present the final draft of the "core messages", as well as the PowerPoint Presentation for the West Basin Ocean Water Desalination Program. Additional staff training will commence once this Document is final. Additionally, staff anticipates completion of the Project Brochure by late August.

Demonstration Plant NWRI and AwwaRF Research Programs

The Ocean Water Desalination Research Program Kickoff Workshop was conducted on July 23. The event was attended by 62 people representing 33 organizations including regional water districts, state and local governmental agencies, professional water associations, environmental organizations, and engineering firms. Field representatives for state assembly members Alan Lowenthal and Jenny Oropeza also attended.

Presentations were conducted throughout the day on the various aspects and components of West Basin's National Water Research Institute (NWRI) and American Water Works Association Research Foundation ocean-water desalination research projects. At the conclusion of these presentations, the workshop participants were given a tour of the Ocean Water Desalination Demonstration Plant.

Demonstration Plant Operation

Test equipment has been installed and started up. The pretreatment equipment and microfiltration unit have logged approximately 850 hours of operations, although with numerous interruptions which has in turn required increased effort by Separation Processes Inc. (SPI). These unforeseen operational challenges included:

- 1) Inlet line plugging problems resulting from the power plant ocean-water cooling system cleaning cycles;
- 2) Required repairs to the Microfiltration Unit including replacement of a holding tank and computer card;
- 3) Realignment of the high-pressure pumps and stiffening of the plant's frame to reduce excessive vibration; and

- 4) Significant noise required the installation of signal isolators to reduce "noise" to the pressure transmitter signal of the data collection unit.

The Plant's pretreatment chlorine dosing has been stabilized. The Microfiltration unit is making water suitable for reverse osmosis treatment (turbidity < 1.0), shows good stability, and has not yet required a cleaning.

Demonstration Plant Expenditure Update

The Ocean Water Desalination Demonstration Plant Development and Testing Budget is \$405,830 plus contingency. The Board has previously authorized expenditure of \$352,290 plus contingency for the design and construction of the Demonstration Plant and development of the NWRI testing protocols. Staff is now requesting the remaining \$53,540 of funds to complete the NWRI study. This amount is made up of \$40,540 plus 10% contingency for remaining testing and an increase of \$13,000 to the SPI budget to cover the operational difficulties encountered in the plant start-up as described above. This budget will be allocated as listed in Table 2.

Table 2
Demonstration Plant Testing Budget

Operation Requirements	Estimated Budget
Consultant (SPI-Testing Phase)	\$13,000
Chemicals	\$ 4,540
Operations Labor	\$20,000
Laboratory Services	\$ 6,000
West Basin Staff Time	\$10,000
TOTALS	\$53,540

Master Schedule Update

The Ocean Water Desalination Program Master Schedule developed in December 2001 targeted a full-scale ocean-water desalination plant early startup date at the end of 2005. As illustrated on the Master Schedule attached as Exhibit A, completion of the El Segundo Power Plant Repowering Project is one of the critical paths for this targeted startup date based on the El Segundo Power Plant site as being the preferred location for the full-scale desalination plant.

Staff met with El Segundo Power (NRG) on July 17, 2002 to discuss status of the proposed NRG Repowering Project at the El Segundo Site. NRG initially planned to repower generating units 1 and 2 within an 18-month construction window. However, given that the economics of the State's energy situation has changed dramatically over the last 12-months, NRG are now proposing a longer and more cost-effective construction

window of approximately four years. This new development will directly affect the Ocean Water Desalination Program Master Schedule by delaying the scheduled full-scale plant startup date from the end of 2005 to possibly mid 2008 should the El Segundo Power Plant remain the preferred site.

Full-Scale Desalination Plant Siting Analysis

The full-scale 20 mgd Ocean Water Desalination Plant siting and integration study is proceeding on schedule. Initially, the primary focus on the siting analysis was to further develop and analyze alternatives for locating the full-scale plant within the property ("within the fence") of either the Redondo Beach Power Plant or the El Segundo Power Plant. This "within the fence" siting criteria is integral to lowering the overall cost for a full scale plant by:

- Ensuring energy contracts can be negotiated directly with the power plant without incurring additional third party energy cost for transmission of the electrical power; and
- Utilization of the Power Plant's ocean-water cooling system thus reducing capital construction cost and possibly an involved permitting process for construction of a marine facility of this magnitude.

However, with the NRG El Segundo Repowering Project construction window now being extend to four years, the full-scale plant siting study will be expanded to assess alternative locations within the general proximity of the El Segundo Power Plant in an effort to minimize the scheduling impacts of the repowering project. The siting study will be expanded to investigate the feasibility of locating the full-scale plant within the DWP Scattergood Power Plant or the Chevron Refinery.

MWD Request for Proposals

Staff has received copies of each proposal sent in by the Member Agencies in response to MWD's request. The attached Exhibit B summarizes the responses. MWD received responses that total 117 mgd. The estimated costs of ocean-water desalination production ranged from \$850 per acre-foot (AF) to 1,400 AF.

Activities

Since the last Board update was prepared, staff has been active in pursuing ocean-water desalination efforts. The key activities are summarized below. The attached schedule update shows the overall Ocean Water Desalination Program schedule status:

- July 10 Staff gave a presentation of the Ocean Water Desalination Program to the Southern California Chapter of the American Water Resources Association.
- July 12 Staff met with Ron Gastelum and the MWD member agencies that have submitted ocean-water desalination proposals to discuss the

next steps.

- July 23 The Ocean Water Desalination Research Kickoff Workshop was held at the El Segundo Water Recycling Plant.
- July 23 Staff gave a presentation of the Ocean Water Desalination Program to the Honeywell Citizens Advisory Group.
- August 2 Staff conducted a workshop with the Directors during a special Board Meeting to further develop the core message points for the Ocean Water Desalination Program.
- August 6 Staff conducted a presentation of the Ocean Water Desalination Program to the City of Redondo Beach Public Works Department.
- August 20 The Demonstration Plant Dedication Ceremony will be held at the El Segundo Recycled Water Plant.

FISCAL IMPACTS:

Funds are budgeted in the FY 2002-03 CIP Budget.

ENVIRONMENTAL COMPLIANCE:

Staff held the kick-off meeting with Aspen Environmental Group to commence work on the environmental studies for the proposed construction and operation of the full-scale ocean-water desalination facility.

COMMITTEE STATUS:

This Item was reviewed at the Water Resources Committee meeting on August 7, 2002 and was recommended for approval at the August 26, 2002 Board meeting.

RECOMMENDED MOTION:

Authorize the General Manager to:

1. Expend an amount not-to-exceed \$40,540 for the Demonstration Plant testing phase plus 10% contingency to cover unforeseen conditions, for a total not-to-exceed amount of \$44,594; and
2. Amend the agreement with Separation Processes, Inc. for design and testing protocol development for the Ocean Water Desalination Demonstration Plant Project by \$13,000 increasing the not-to-exceed amount from \$99,290 to a not-to-exceed amount of \$112,290.

EXHIBITS:

Exhibit A – Ocean-water Desalination Program Schedule

Exhibit B – MWD Ocean-water Desalination RFP Proposals Summary

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