

February 22, 1999

**To:** Board of Directors (Water Planning and Resources Committee--Action)

**From:** General Manager \_\_\_\_\_

**Submitted by:** Mark D. Beuhler  
Director of Water Quality \_\_\_\_\_

**Subject:** Legislative Initiative—Desalination of Brackish Waters

**RECOMMENDATION**

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It is recommended that the Board:

1. support language developed for MWD-sponsored state legislation on brackish water desalination consistent with Board-adopted legislative policy principles; and
2. authorize Metropolitan’s Washington, D.C. Legislative Office to pursue federal funds “earmarked” for brackish water desalination research.

**EXECUTIVE SUMMARY**

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At the direction given by the Communications and Legislation Committee, staff requested that Senator Joe Dunn (Garden Grove) seek a “spot bill” on the desalination of brackish water. A copy of the spot bill as prepared by Legislative Counsel is attached as Attachment No. 1. A “spot bill” is a legislative proposal introduced in outline form which would be amended at a later date with more specific language.

This legislation potentially offers Metropolitan, its member agencies, and the water community a valuable opportunity to advance the development of additional sources of water for the region. The Board’s authorization to seek amendments to this spot bill (see Attachment No. 2) will enable Metropolitan to lend support and direction as the bill moves through the legislative process. In addition, staff will pursue funds at the federal level potentially through “earmarking” funds for brackish water desalination research.

**DETAILED REPORT**

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The Desalination Research and Innovation Partnership (DRIP) was established by Metropolitan to conduct comprehensive research on desalination of brackish (high salinity) water sources, including Colorado River water, groundwater supplies, reclaimed water, and agricultural drainage water. Brackish water desalination represents a potentially viable alternative to reduce reliance on

imported water supplies and minimize the economic impact associated with high salinity water. Breakthroughs in desalination technologies will offer potential benefits to water utilities with sources impaired by high salinity levels.

Staff presented legislative proposals to the Communications and Legislation Committee for possible Board sponsorship during the 106<sup>th</sup> Congress and the 1999-2000 state legislative session. The pursuit of state and federal funding for the development of new and innovative technologies for desalting brackish waters was identified as a potential sponsorship item for Metropolitan (see Attachment No. 3). This issue is consistent with the legislative policy principles developed by the Board in the areas of desalination and source water quality protection.

Senator Joe Dunn (Garden Grove), at Metropolitan's urging, requested that Legislative Counsel draft a "spot bill" on the desalination of brackish water (see Attachment No. 1). The Board's approval of further amendments to the bill creates a unique opportunity to pursue state funding for the development of new and innovative technologies for desalination of brackish waters.

In addition, Metropolitan staff will pursue funds for the DRIP program at the federal level potentially through "earmarking" funds for brackish water desalination research.

These efforts at the federal and state levels would re-enforce Metropolitan's commitment to water quality, its role in regional water resource management and would leverage Metropolitan's investment in desalination research and development. In addition, potential benefits derived from these legislative efforts would have direct positive impacts on Metropolitan, its member agencies, and the water industry.

EGD/JTD/KMC/mi

**Attachment 8-12A**

**Attachment 8-12B**

**Attachment 8-12C**

**Attachment 8-12A**

Attachment No. 1

**LEGISLATIVE COUNSEL'S DIGEST**

Bill No.

as introduced, Dunn.

General Subject: Water quality: desalination research.

Existing law appropriates state funds for various projects to improve water quality in the state.

This bill would appropriate an unspecified amount of money from the General Fund to the University of California at Riverside to perform research relating to the development of innovative, cost-effective technologies that would provide for the desalination of brackish water.

Vote: 2/3. Appropriation: yes. Fiscal committee: yes. State-mandated local program: no.

An act relating to water, and making an appropriation therefor.

**THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:**

SECTION 1. The sum of \_\_\_\_\_ dollars (\$\_\_\_\_) is hereby appropriated from the General Fund to the University of California at Riverside to perform research relating to the development of innovative, cost-effective technologies that would provide for the desalination of brackish water.

**Attachment 8-12B**

Attachment No. 2

**SUGGESTED AMENDMENT TO DESALINATION SPOT BILL**

The sum of one million dollars (\$1,000,000.00) is hereby appropriated from the General Fund to the Department of Water Resources for the purposes of developing new and innovative technologies to reduce the cost of desalinating water from the Colorado River and other brackish water sources. This sum will be dispersed to local projects for development of specific technologies and applications.

This expenditure will be leveraged with other sources of state and federal funding in order to maximize the projects.

The following amounts are hereby transferred from the account:

- (a) two hundred thousand dollars (\$200,000) to the Orange County Water District to aid in the construction or implementation of eligible reclamation projects that treat brackish water and wastewater;
- (b) two hundred thousand dollars (\$200,000) to the San Diego County Water Authority for investigation and implementation of desalination projects in the areas of electrodialysis reversal and reverse osmosis membrane research;
- (c) two hundred thousand dollars (\$200,000) to the University of California at Riverside to investigate new and innovative technologies to cost-effectively treat agricultural drainage water;
- (d) two hundred thousand dollars (\$200,000) to the West Basin Municipal Water District for the investigation, construction and testing of desalination facilities designed to utilize membranes for water and wastewater reclamation; and
- (e) two hundred thousand dollars (\$200,000) to the Metropolitan Water District of Southern California for the investigation, construction, and testing of desalination facilities for the treatment of Colorado River water.

Grant recipients shall submit to the Department a detailed report upon completion of the demonstration project or activity funded under this article. The report shall summarize the completed and/or ongoing activities and indicate whether the purposes of the project have been met. The Department shall make the report available to interested federal, state, and local agencies and other interested parties.

The Department shall make annual reports to the Legislature regarding this program. The annual report shall include, at a minimum, qualitative comments on the program in achieving the program objectives.

The Department may adopt regulations to implement this article.

Not more than three percent of the total amount deposited in the account may be used to pay the costs incurred in connection with the administration of this article.

**Attachment to 8-12C**Attachment No. 3

**Issue:** Desalination of Brackish Waters.

**Applicable Legislative Policy Principle:** Colorado River; Colorado River Basin Management; Desalination; Implementation of Farm Bill Conservation Program

**Legislative Proposal:** Obtain funding, both at the federal and state level, for developing new and innovative technologies for desalination of brackish waters (i.e. Colorado River water, groundwater, reclaimed water and agricultural drainage water).

**Background and Legislative History:** Salinity in Southern California surface and groundwater supplies has been slowly increasing, due in part to the use of imported Colorado River water. High concentrations of total dissolved solids (TDS) cause problems for residences, industrial processes and utility infrastructure due to corrosion and scaling of plumbing fixtures and appliances and can reduce agricultural productivity. Elevated TDS levels also limit the ability to implement local water recycling and groundwater programs.

Additionally, much of Southern California's water supply is imported from Northern California through the Sacramento-San Joaquin Bay-Delta (Delta). Obtaining additional water supplies from the Delta in the future may be constrained by the need to balance ecosystem restoration needs with water supply needs.

Due to the projected population growth in Southern California, new water supplies will be necessary to meet the increasing water demand. Currently, nontraditional water sources exist in Southern California that can significantly offset the projected water shortage. However, those water sources are not fully utilized in part due to their high salt content and because traditional methods of salinity removal are currently too expensive to make large scale salinity reduction feasible.

**Background and Legislative History (continued):** To address these serious potable water supply concerns, the Desalination Research and Innovation Partnership (DRIP) has been established. DRIP is a historic research partnership between the water industry, electric utility industry and state and federal agencies to develop new and innovative technologies to substantially reduce the cost of desalinating Colorado River water and other brackish water supplies such as municipal wastewater, agricultural drainage water and brackish groundwater.

There is no previously enacted legislation which specifically addresses the DRIP, or Metropolitan's desalination research program. There are numerous pieces of legislation at both the federal and state level which support desalination research.

**Arguments for:** As potable water supply sources for Southern California become increasingly constrained and water demand continues to grow, development of non-traditional water sources becomes more critical to the economic health of the region. Development of breakthrough technologies through desalination research may allow large-scale treatment of brackish water supplies. These supplies, although abundant, are currently costly to develop.

**Arguments against:** There are no known arguments against supporting funding for desalination research, development and demonstration although it may come down to funding budget priorities. Opposition may also come from fiscal conservatives if the cost of such programs are judged to be too expensive.

**Potential Supporters:** U.S. Bureau of Reclamation; U.S. Department of Agriculture; California Energy Commission; California Department of Water Resources; several Metropolitan Member Agencies; States of Arizona, Nevada and Florida.

**Potential Opponents:** Unknown.