MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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August 5, 1997

To: Board of Directors (Budget and Finance Committee--Information) (Engineering and ~~Operations~~ Committee--Information)

From: for General Manager

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Planning and Resources Division

Subject: Status Report on Department of Water Resources Administrative and Operations and Maintenance Activities

RECOMMENDATION

For information only.

EXECUTIVE SUMMARY

Metropolitan's State Water Project (SWP) expenditures represent a significant element of Metropolitan's annual budget; therefore, efforts to contain SWP costs are integral to Metropolitan's ability to provide a cost effective source of water. To achieve this goal, staff, in cooperation with other SWP contractors, follows a strategy of constructively engaging the Department of Water Resources (DWR) staff on several areas of concern. Our current efforts focus on the following areas: (1) monitoring and influencing DWR's administrative and management activities; (2) coordinating with and supporting DWR's transition to a restructured electric utility industry; and (3) monitoring and influencing DWR's operation and maintenance activities. Past efforts have resulted in substantial cost savings, and Metropolitan believes ongoing efforts will continue to produce both economic and efficiency benefits.

DETAILED REPORT

State Water Project (SWP) cost containment efforts are integral to Metropolitan's efforts to provide a cost effective source of water. Annual SWP costs paid by Metropolitan to the Department of Water Resources (DWR) can account for a significant portion of Metropolitan's annual budget. As an example, Metropolitan's budget for fiscal year 1997-98 is $1.5 billion which includes $288.3 million in SWP costs.

The objective of Metropolitan's SWP cost containment efforts is to minimize Metropolitan's long-term SWP costs while maintaining adequate water supply reliability and water quality. Given the interdependence of DWR, Metropolitan, and the other SWP contractors, staff employs a strategy of cooperating with other SWP contractors in constructively engaging DWR on various areas of concern. This letter highlights several of these areas.

Monitoring and Influencing DWR's Administrative and Management Activities

Metropolitan and other SWP contractor efforts to monitor and influence DWR's administrative and management activities have recently focused on reviews of staffing levels and development of management information systems. These efforts have resulted in a 38 percent reduction from a 400 person staff in DWR's Division of Engineering, the downgrading of the Division of Planning to the Office of Planning, and the initiation of a staffing and organization study of the Division of Operations and Maintenance.

Metropolitan also believes it is critical for DWR to develop adequate information systems to better manage its business and maintenance activities. Many of the existing hardware and software systems were developed in the 1960s, and DWR's efficiency should be enhanced with replacement of both.

DWR is currently developing several computer software system applications to improve the management of various cost collection functions and financial systems functions, including a Management Information System (MIS), a Maintenance Management Information System (MMIS), and a Business Information System (BIS). Metropolitan, in cooperation with other SWP contractors, is reviewing the development of these systems. Metropolitan staff and other SWP contractors have expressed concerns to DWR regarding the progress made to date on the development of these systems. In response, DWR has reorganized the development programs to emphasize customer acceptance and has agreed to retain a consultant to identify the means of completing these programs in a timely and cost effective manner.

Coordinating with and Supporting DWR's Transition to a Restructured Electric Utility Industry

To minimize the SWP power costs, Metropolitan coordinates its electric utility industry restructuring activities with DWR and the other SWP contractors. Metropolitan has taken a leadership role in the drafting and review of electric restructuring filings with the Federal Energy Regulatory Commission (FERC), the California Public Utilities Commission (CPUC), and other parties in order to protect Metropolitan's and DWR's interests and to avoid cost shifting onto the water users of the state. Furthermore, Metropolitan actively participates on the Power Exchange Board of Governors, through which Metropolitan represents other governmental entities which include DWR and the SWP contractors. Metropolitan's participation in the Power Exchange Board of Governors ensures additional coordination on policies related to the

protection of governmental entities' interests and influence on the establishment of a competitive power exchange.

Metropolitan also participated in the development of principles adopted by the State Water Contractors' (SWC) Board of Directors to maximize the economic use of excess SWP power supplies. In addition, Metropolitan and DWR recently set up a task group to target methods to minimize SWP and Metropolitan power costs by better coordinating and communicating water and power schedules.

Monitoring and Influencing DWR Operations and Maintenance Activities

Metropolitan's operations and maintenance cost containment activities are focused on two areas: (1) review of several significant proposed projects; and (2) increasing efficiency through exchange of maintenance information between DWR, Metropolitan, and other agencies.

Review of DWR Proposed Projects

In concert with the SWP contractors, Metropolitan staff has been meeting with DWR to review significant proposed projects and their associated costs. Examples of these major projects include the A. D. Edmonston Pumping Plant unit refurbishment/replacement, the Hyatt Powerplant turbine replacement, and the Warne Powerplant bypass, as discussed below. Such reviews have first examined the purpose and necessity of the proposed project. If agreement on the basic purpose of the proposed project is reached, then Metropolitan staff and other SWP contractors will focus on recommendations to optimize the proposed project and reduce the associated costs while ensuring water supply reliability.

Proposed Replacement of Four Pumps at the Edmonston Pumping Plant. The Edmonston Pumping Plant is located in the southern San Joaquin Valley, at the base of the Tehachapi Mountains and its 2,000 foot pump lift is one of the highest pumping lifts in the world. In 1995, DWR proposed replacing four of the 14 pumping units at the Edmonston Pumping Plant due to damage from pitting corrosion, cavitation, and stress corrosion cracking. The current estimated cost to replace the four pumps is $40 million. Metropolitan would be responsible for repayment of about 80 percent of the costs.

At the request of Metropolitan and the other SWP contractors, DWR prepared a feasibility report on the proposed replacement program. The report recommends replacing the four units as the most cost effective alternative. In this feasibility report, a refurbishment alternative evaluated by DWR was more extensive than Metropolitan and other SWP contractor staff considered necessary. To ensure that the most cost effective and supportable option is selected, DWR and the SWP contractors have agreed this project will be reviewed by a value engineering team. DWR will contract for the team and DWR, SWC staff, and Metropolitan staff will form the selection panel for the team. Staff has placed a high priority on this report reaching

a sound conclusion because the basis for moving forward on these four pumps could easily be applied to the remaining 10 pumps at the plant.

Proposed Replacement of Six Turbines/Pump-Turbines at the Hyatt Powerplant. The Hyatt Powerplant is a pump/generation facility, which has the ability to both generate power through water releases from Lake Oroville to the Feather River and to pumpback water from the Feather River to Lake Oroville during off-peak power periods. DWR has proposed replacing the six carbon steel turbine runners at the Hyatt Powerplant with stainless steel turbine runners due to a decline in the efficiency of the units. The current estimated cost for this project is about $23.4 million. DWR consulted with Metropolitan and the other SWP contractors in an effort to reach a joint consensus on their recommendation for the Hyatt Powerplant. Metropolitan staff and the other SWP contractors concur that the replacement of the runners is economically justified, however concerns exist regarding the appurtenant work proposed by DWR. In the past, Metropolitan has also been concerned with the adequacy of DWR's specification for similar equipment.

DWR has agreed that Metropolitan, on behalf of the other SWP contractors, should be represented on DWR's Hyatt Powerplant Refurbishment Project Team. Metropolitan's representative is Senior Engineer Dr. Dimitri Chamieh of the Mechanical Engineering Branch of the Engineering Division, an expert in pump/turbine design and operations, with industry experience in pump manufacturing. Dr. Chamieh's participation on this team should help to assure cost effective refurbishment of the units.

Proposed Warne Powerplant Bypass. DWR had proposed a $6.9 million bypass around the existing Warne Powerplant on the West Branch of the California Aqueduct. Such a bypass would primarily be used in case of prolonged outages at Warne Powerplant. Metropolitan requested DWR analyze other alternatives, and ultimately recommended DWR proceed with a restoration of the existing Gorman Creek Improvement Channel to a serviceable condition. DWR has accepted this recommendation. DWR recently received a low bid of $1.8 million to complete the work. Thus, savings will be about $5.1 million ($6.9 million-$1.8 million). The project should be completed by December 1997.

Increased Cooperation Between Agencies/Development of User Groups

Metropolitan's strategy in this area includes increasing the efficiency of maintenance activities by facilitating the transfer of successful maintenance practices and techniques between DWR, Metropolitan, the Los Angeles Department of Water and Power, the Central Arizona Project, the Santa Clara Valley Water District, the United States Bureau of Reclamation, and the San Luis-Delta Mendota Water Authority. Metropolitan has undertaken the first steps in developing "user groups" between these agencies through sponsoring facilities tours where the interest in such groups was assessed. Participants agreed that "user groups" could enhance the implementation of cost effective solutions for common problems.

Summary

Metropolitan staff, in cooperation with other SWP contractors, have been constructively engaging DWR on monitoring and influencing DWR's administrative and management activities and operation and maintenance activities, and coordinating with and supporting DWR's transition to a restructured electric utility industry. A major element of this effort has been SWP cost containment. The objective of Metropolitan's cost containment efforts has been to minimize Metropolitan's long-term SWP costs while maintaining adequate water supply reliability and water quality.

As an example, these cost containment efforts have currently reduced the $70.3 million combined costs for the identified operations and maintenance activities by about $5.1 million -- to about $65.2 million. It is anticipated that there will be further cost savings achieved through the planned value engineering process for the replacement/refurbishment of the four pumps at the Edmonston Pumping Plant and through Metropolitan staff representation on the Hyatt Powerplant Refurbishment Project Team. Also, Metropolitan staff believe that there will be additional potential cost savings through Metropolitan's continued direct interaction with DWR on DWR's administrative and management activities and on DWR's transition to a restructured electric utility industry.

In summary, Metropolitan believes that the past efforts and ongoing efforts of Metropolitan staff and other SWP contractors will continue to produce both economic and efficiency benefits on the SWP.