

June 18, 1999

To: Board of Directors (Engineering and Operations—Action)
Budget and Finance Committee—Action)

From: General Manager _____

Submitted by: Chief Engineer _____
Assistant Chief Engineer _____

Subject: Authorize Construction Change Orders for the P-1 Pumping Plant of the Eastside Reservoir Project

RECOMMENDATION(S)

It is recommended that the Board authorize the General Manager to expend an additional \$3,650,000 and to execute Change Orders to the Contract with Advanco Constructors at the P-1 Pumping Plant, not to exceed a total including previously approved change orders of \$13,450,000 (21.6 percent of the original contract amount), in a form approved by the General Counsel.

EXECUTIVE SUMMARY

The Eastside Reservoir Project (ESRP) P-1 Pumping Plant will supply up to 2100 cfs of water to the reservoir from the San Diego Canal and Eastside Pipeline. The Pumping Plant will include a Pressure-Control Structure that will release up to 1,700 cfs from the Eastside Reservoir to the San Diego Canal to meet customer demands. Piping facilities at the pumping plant will also divert releases via the Eastside Pipeline to the western portions of the service area. In November 1996, the Board authorized the amount of \$74,700,000 to fund all costs to construct the Pumping Plant for the ESRP. The Board has previously granted increased change authority not to exceed \$9,800,000, or 15.8 percent of the original contract amount. There have been additional changes of \$3,650,000 related to electrical equipment power and control systems, structural steel modifications, site conditions, and provisions for future Metropolitan Furnished Equipment (MFE) interface issues amounting to a total change authority of \$13,450,000 or 21.6 percent of the original contract value. The above amount provides for a global settlement of outstanding issues identified through February 1999, and includes a commitment by the contractor to have 4 of 12 pumps available for operational testing by Metropolitan's start-up team by September 21, 1999 (an interim milestone date). Funds for this increase authority are available within the current appropriation of \$1,972,100,000.

JUSTIFICATION

The P-1 Pumping Plant is the only means to deliver State Water Project and Colorado River Aqueduct water from the San Diego Canal into the Eastside Reservoir. The plant provides an essential function to the reservoir project, without which its overall operation would be impaired. This action provides a global settlement for all outstanding issues identified through February 1999. Taking this action includes a commitment by the contractor to have 4 of 12 pumps available for operational testing by Metropolitan by September 21, 1999, allowing time for Metropolitan to perform start-up testing prerequisite to initial reservoir filling in December 1999.

ALTERNATIVE TO PROPOSED ACTION

- Do not authorize the General Manager to award extra work orders.

Continuing with the construction of the P-1 Pumping Plant without the increased authorization would preclude Metropolitan's ability to address remaining issues and negotiate cost-effective remedies. The amount of change orders approved to date has remained within the Board's increased authorization limits; however, without increased authority, the remaining funds will be insufficient to settle the impacts associated with changes to date, and consequently would jeopardize completion of the facility. To withhold payment for this necessary work until after completion of construction would be more costly than resolving these cost issues as they occur. This could also result in significant time delays to Pumping Plant operations and the filling of the reservoir.

ACTIONS AND MILESTONES

- | | |
|---|---------------|
| <input type="checkbox"/> Completed Final Design of the P-1 Pumping Plant: | July 1996 |
| <input type="checkbox"/> Started Construction of the P-1 Pumping Plant: | February 1997 |
| <input type="checkbox"/> Complete Construction of the P-1 Pumping Plant: | January 2000 |

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION

All California Environmental Quality Act (CEQA) requirements have been satisfied for the proposed action. In October 1991, the Board certified the Final Environmental Impact Report for the ESRP. This action satisfied the provisions of CEQA, and no further environmental documentation or reviews are necessary for the Board to take action on these recommendations.

DETAILED REPORT

Design of the pumps experienced delays when a new pump configuration was pursued by the Metropolitan and consultant design team during the design stage to provide additional operational flexibility and improved maintenance characteristics. The time required for these modifications generated a longer time for pump design and fabrication resulting in the delivery of pump

equipment during construction of the main Pumping Plant. Plant configuration was modified to accommodate final pump designs at that time. Certain components were omitted from the Pumping Plant construction package until final pump configurations were known. An alternative would have been to wait until the pumps and motors had been completely designed before constructing the Pumping Plant. However, this alternative would have delayed completion of the pumping plant and reservoir filling by more than a year, resulting in extended construction management services and greater overall cost.

This approach was selected as the most cost-effective solution to maintaining the project schedule. The scope of the Pumping Plant contract required the contractor to integrate all of the separately procured equipment into a fully functional facility and calculate a bid based on incomplete design details. While working design assumptions were made prior to the release for bid of the Pumping Plant contract, portions of the design remained to be addressed during construction.

The equipment procured by Metropolitan consisted of large pumps, motors, their control systems; and water conveyance components including large diameter piping and valves. The majority of the design driven changes and additions relate to electrical equipment power and control systems, structural steel modifications, and changes related to actual site conditions encountered. Additionally, the State Division of Safety of Dams (DSOD) invoked jurisdiction over a portion of the piping system and mandated additional reinforcement requirements. The Board was advised of these modifications and requirements in a previous request for increased Pumping Plant funding authority on August 25, 1998.

To date, eleven revision packages have been issued. The number of conduits has increased by 571, the number of cables has increased by 2105, and the total length of cable has increased by 215,000 lineal feet. In addition, field modifications have been issued to account for equipment interfaces and interference's.

On February 2, 1999, the Contractor advised Metropolitan that the number and scope of design changes had affected performance of work and labor productivity resulting in an increase in the cost of work. On February 26, 1999, the Contractor suggested a global settlement combining 28 outstanding issues identified prior to February 1999. By letter dated March 15, 1999, the contractor submitted a global proposal, requesting the lump sum amount of \$9,680,000 which included the direct cost of outstanding issues, and the cost of delay damages, hindrances, and acceleration necessary to meet the project schedule requirements.

Of the Contractor's proposal of \$9,680,000, Metropolitan has reached a settlement value for the direct cost of the changed work of \$3,170,000 which is within current Board authority limits. Additionally, Metropolitan has arrived at a tentative value for impact and disruption costs of the changed work of \$4,100,000 for a total settlement of the Contractors global proposal of \$7,270,000. Included in such a settlement, the Contractor has agreed to guarantee delivery of 4 of 12 pumps to the Metropolitan start-up team to begin operational testing no later than September 21, 1999. Of the global settlement, funds would be progressively deducted from contract payments up to \$1,000,000 over a 5 day period if the September 21, 1999 milestone date is not met.

The Board has previously granted increased change authorization not to exceed \$9,800,000, or 15.8 percent of the original contract amount. The total of change orders issued to date is

\$8,648,725. The total cost of the global settlement plus outstanding and anticipated change orders will exceed the current \$9,800,000 authority by \$3,650,000 for a total change order amount of \$13,450,000 or 21.6 percent of the original contract amount of \$62,200,000. Funds for this increase authority are available within the current appropriation of \$1,972,100,000.

DGM/GKB/LLT/amb/hjg/rac