MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

8-2

June 22, 1993

To: Board of Directors (Engineering and Operations Committee--Action) (Finance and Insurance Committee--Action)

From: General Manager

Subject: Appropriation No. 662 for $3,700,000 to Finance All Estimated Costs for the Replacement of 45 Gate Valves at the Lake Mathews Outlet Tower

Report

Lake Mathews is the terminal reservoir for the Colorado River Aqueduct and the origin of the distribution system's Upper and Lower feeders which serve the central section of the District. The lake and its outlet tower are essential facilities in the overall operation of the distribution system.

The Lake Mathews outlet tower was constructed in the late 1930s, and its height was increased during the expansion of Lake Mathews in the early 1960s. There are 59 thirty-inch diameter, hydraulically operated, gate valves in the outlet tower. The valves are located on seven separate tiers, 17 feet apart vertically; six of the tiers contain nine valves and the lowest tier contains five valves. Six tiers of valves were installed during the original construction and one tier was added during the expansion. The valves installed during the original construction have been in service for over 50 years and consequently are in poor operating condition. The 14 valves on the sixth and seventh tiers cannot be used and will not be replaced because their inlets are now buried in silt. Valves at various levels above the silt line must be operable to obtain the optimum quality of water available and ensure reliable water deliveries

In December 1975, the Board approved Appropriation No. 335 for $1,700,000 to finance all estimated costs for the replacement of 45 gate valves with butterfly valves at the Lake Mathews outlet tower. The valves were purchased and delivered under Phase I of the project. At that time, the work strategy involved replacing all the valves and control piping during an extended outage. Subsequently, because of increasing operating constraints, a prolonged tower outage could not be made, the

work was repeatedly deferred, and the appropriation was closed. As a result, the existing valves have progressively failed to the point that system reliability is in jeapardy.

A new installation strategy has been developed that involves modular installation of preassembled valves and their control systems during four short tower outages while still maintaining operation of the old valves. This new strategy minimizes the amount of work during a shutdown but requires a complete redesign of the valve control system as well as the installation methodology.

It is proposed to replace 45 existing 30-inch gate valves on the first through fifth tiers with the 30-inch butterfly valves previously purchased under Appropriation No. 335. Design, fabrication, and installation will be accomplished by District forces. The total estimated cost of the project is $3,700,000. A breakdown of the estimated costs is attached.

The proposed project is exempt from the provisions of the California Environmetal Quality Act as it entails a minor alteration of an existing facility and would involve negligible or no expansion of use beyond that previously existing (State CEQA Guildlines, Section 15301)

Board Committee Assignments

This letter is referred for action to:

The Engineering and Operation Committee for consideration because of its jurisdiction over the initiation, scheduling, contracting, and performance of construction programs pursuant to Administrative Code Section 2431(b); and

The Finance and Insurance Committee for consideration because of its jurisdiction over appropriations pursuant to Administrative Code Section 2441(d).

RECOMMENDATIONS

ENGINEERING AND OPERATIONS COMMITTEE FOR ACTION.

It is recommended that your Board authorize the General Manager to have all work performed, other than work to be performed under competitively bid contracts involving an expenditure of $250,000 or more, for the replacement of 45 gate valves at the Lake Mathews Outlet Tower.

FINANCE AND INSURANCE COMMITTEE FOR ACTION.

It is recommended that your Board authorize the appropriation of $3,700,000 from the 1992 Revenue Bond Construction Fund to finance all estimated costs for the replacement of 45 gate valves at the Lake Mathews Outlet Tower. This appropriation will be designated No. 662.

for General Manager

DRW/ks
(bdap:apr-662/6083)
Attachment

Attachment

Fiscal Statement

The total estimated cost breakdown is shown below:

	Cost Estimate
Labor:	
Engineering Design	$ 490,000
District Forces Construction	950,000
Total Labor	$ 1,440,000
Materials and Supplies	$ 890,000
Operating Equipment	6,000
Incidental Expenses	6,000
Professional and Technical	85,000
Administrative Overhead	790,000
Contingencies	483,000
Total	$ 3,700,000

Source of Funds:

1992 Revenue Bond Construction Fund

Class One:

Projects directly related to delivery of water

Projected Expenditure of Funds:

Through Fiscal Year 1993-94	$ 2,110,000
Fiscal Year 1994-95	480,000
Fiscal Year 1995-96	550,000
Fiscal Year 1996-97	560,000
Total	$ 3,700,000

Project Benefit:

The valve replacement will improve operational reliability and reduce maintenance costs.