



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

7-2

August 18, 1998

To: Board of Directors (Budget and Finance Committee--Action)
(Engineering and Operations Committee--Action)
(Information Systems Ad Hoc Committee--Information)

From: *for* General Manager

Submitted by: David C. Edwards

Director of Information Technology

Edward J. Meert III
Karla Somerville
for Dave Edwards

Subject: Appropriate \$370,000 to Complete Connection of Digital Microwave

Reference: Increase in Funding for Appropriation No.15282

RECOMMENDATION(S)

It is recommended that the Board approve an increase in funding for Appropriation No. 15282 (formerly Appropriation No. 723), in the amount of \$370,000, to complete the connection of the digital microwave presently serving the desert pumping facilities to Weymouth filtration plant. This increases the funded amount from \$2,549,000 to \$2,919,000, from the Pay-As-You-Go-Fund. The Appropriation total of \$4,808,000 is unchanged by this request.

EXECUTIVE SUMMARY

The digital microwave upgrade project has successfully replaced the 13-year-old analog microwave system in the desert pumping facilities, with the exception of the final link to the Weymouth filtration plant. The completed portion is providing full digital connectivity from Gene headquarters to the Hinds, Iron, and Eagle pumping plants. As a result of unanticipated additional site construction and the associated labor at Iron Mountain and Weymouth, an increase in funding of \$370,000 is required to complete the final portion of this phase of the project. The increase will be used to construct the microwave radio facility at Weymouth, make minor technical modifications at the Pleasants Peak facility, and compensate for the additional construction costs.

JUSTIFICATION

Completion of the Weymouth portion of the digital microwave project is necessary in order to facilitate a permanent high capacity and reliable telecommunications infrastructure for improved voice communications, video conferencing, SCADA, and high-speed access to existing and future business applications from all desert facilities. Completion of a digital infrastructure has

been an important factor in the ability to extend improvements such as e-mail, financial applications, PeopleSoft, document management, and budgetary control programs throughout the District.

ALTERNATIVE(S) TO PROPOSED ACTION

Continue to use existing systems or delay completion of the microwave project. This will reduce capital expenditure; however, effective use of the microwave system by SCADA, video conferencing, business systems applications and security cannot be achieved. The value of the investment to date will not be realized without connecting the completed desert portion to the Weymouth filtration plant.

FUNDING REQUEST

Program Name: Upgrade of Desert Communications System			
Source of Funds: Pay-As-You-Go Fund			
Appropriation No.: 15282	Board Action No.: 3	FY 98/99 Budget: \$0	
Requested Amount:	\$ 370,000	Capital Program No.:	15282
Total Appropriated Amount:	\$ 2,919,000	Capital Program Page No.:	E-33
Total Program Estimate:	\$ 4,808,000	Program Category:	A-Asset/System Integrity

ACTIONS AND MILESTONES

- Completion of the Desert portion of the digital microwave May, 1998
- Construction of communications tower at Weymouth filtration plant - October, 1998
- Complete Modifications at Pleasants Peak - October 1998
- Cut-Over to Digital Microwave between Weymouth and Desert November, 1998

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION

The proposed project qualifies for a Class 1 or Class 3 categorical exemption under the California Environmental Quality Act (CEQA) because it consists of the repair or minor alteration of an existing public facilities involving negligible use beyond that previously existing or consists of construction and location of limited number of new, small facilities or structures or mechanical equipment (State CEQA Guidelines, Section 15301, 15303). No other environmental documentation is required for this project.

DETAILED REPORT

The first phase of Appropriation No. 15282 (previously No. 723) was approved by the Board in February, 1996 in the amount of \$4,808,000 with initial funding of \$2,549,000. Initial funding was to replace obsolete equipment and purchase new equipment to furnish adequate and reliable communications to the Desert Branch. The completed portion is providing full digital connectivity from Gene headquarters to the Hinds, Iron, and Eagle pumping plants. The increased capacity through this newly installed portion has provided the telecommunications infrastructure necessary for transmission of SCADA data between the desert pumping plants and Gene headquarters, improved voice communications, video conferencing, and access to business applications.

One of the key elements in realizing the full value of this system is the extension of the desert portion of the digital microwave to the Weymouth filtration plant. Presently, a limited capacity link between Weymouth and the desert system is providing minimum service for voice communications. Completion of the Weymouth portion of this system will facilitate a permanent high capacity link for improved voice communications, video conferencing, SCADA, and will provide high-speed access to existing and future business applications from all desert facilities.

In April 1997, the Board approved the award of a contract for microwave equipment necessary to extend the desert portion of the digital microwave system to the Weymouth filtration plant. As a result of unanticipated additional site construction and the associated labor at Iron Mountain and Weymouth, an increase of \$370,000 in funding is required to complete the final portion of this phase of the project. This increase will bring the funded amount to \$2,919,000. District costs for the first stage of the project are higher than originally forecasted due to three primary contributing factors. First, additional construction was required at the Iron Mountain pumping plant to add a second communications building to house the new equipment due to space constraints in the existing structure. Second, an additional microwave parabolic antenna is required at the Weymouth facility to meet the technical specifications and deliver a high quality service level. Given the requirement for two parabolic antennas, it was determined that the Weymouth administration building was no longer appropriate to serve as a communication tower. A new tower needs to be designed and constructed. The third contributing factor is modifications required at our Pleasants Peak communications hub site to provide an interface between the desert's digital system and the analog system serving the filtration plants and offices in the metropolitan Los Angeles area.

The \$1,889,000 of remaining budget for the second phase of the project will be used to complete replacement of the analog microwave serving the filtration plants and offices in the coastal plain. Work on the second phase has been deferred in fiscal 1998-99 as a result of staff requirements for the Union Station Project. This phase of the project is expected to resume in fiscal 1999-2000.

PROGRAM BUDGET REPORT

The program was started with 17 analog microwave paths to be replaced. Ten of the analog paths were included in the desert portion of the first phase. Of the remaining seven on the coastal plain, two paths are necessary to connect the desert to the Weymouth filtration plant. Work completed to date includes all ten desert paths and one of the coastal paths between Detention and Pleasants Peak.

The cost breakdown for Authorization No. 1 and the requested Authorization No. 2 is:

	Authorization No. 1	Authorization No. 2
MWD Labor	\$343,000	
Professional Technical	\$21,000	
Material and Supplies	\$198,000	
Contracts including SCE	\$1,740,000	
Administrative Overhead	\$195,000	
Operating Equip. and Incidentals	\$22,000	
Contingency/Other Credits	\$210,000	
Weymouth Tower Construction:		\$146,000
Contingency		\$14,000
Desert Construction and Modifications		\$144,000
Site Modifications at Pleasant Peak		\$66,000
Totals	\$2,549,000	\$370,000
Expenditures Through FY 97-98		\$2,338,000
Projected Expenditures FY 98-99 (Authorization No. 1)		\$210,000
Projected Expenditures FY 98-99 (Authorization No. 2)		\$370,000
Projected Expenditure FY 99-2000 (Authorization No. 3)		\$1,899,000
Total Program Appropriation:		\$4,808,000

RP/JLH

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