

APPROVED
by the Board of Directors of
The Metropolitan Water District
of Southern California
at its meeting held

MWD

Metropolitan Water District of Southern California

DEC 13 1994

David E. Hoff
EXECUTIVE SECRETARY

November 22, 1994

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

From: General Manager

Subject: Appropriation No. 700 for \$ 454,500 to Purchase Communications Equipment for the Robert A. Skinner and Henry J. Mills Filtration Plants

RECOMMENDATION:

It is recommended that your Board authorize Appropriation No. 700 in the amount of \$454,500 from the Pay-As-You-Go Fund to have all work performed, other than contracts in the amount of \$250,000 or more, to finance all estimated costs for design, purchase of equipment, and installation of replacement telephone systems at the Lake Skinner and Mills filtration plants.

APPROVAL OF REQUEST

John R. Wodraska
General Manager

Submitted by:

for Janet Marott
Janet Marott
Director, Information Systems

Concur:

John R. Wodraska
John R. Wodraska
General Manager

CAPITAL FUNDING REQUEST					
PROJECT NAME: ROLM TELEPHONE SYSTEM PHASE OUT					
APPROPRIATION No.: 700		FUNDING REQUEST No.: 1		AMOUNT: \$ 454,500	
SOURCE OF FUNDS: PAY-AS-YOU-GO FUND					
BUDGET: NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>		@ \$ 490,000		CAPITAL PROGRAM 5-0311-42	
PAGE NO. REFERENCE: PAGE 60 94/95 BUDGET					
PROJECT JUSTIFICATION AND TYPE: (CHECK ALL APPLICABLE)					
<input type="checkbox"/> MEET WATER DEMANDS <input type="checkbox"/> MANDATED BY LAW <input type="checkbox"/> ASSET PROTECTION/RISK MGT. <input type="checkbox"/> COST AVOIDANCE <input type="checkbox"/> OTHER _____					
<input type="checkbox"/> NEW FACILITY <input checked="" type="checkbox"/> IMPROVEMENT <input checked="" type="checkbox"/> REPLACEMENT <input checked="" type="checkbox"/> EXPANSION					

PROJECT DESCRIPTION (INCLUDE CLASSIFICATION AND PURPOSE): Four-year program at an estimated cost of \$2.0 million. Initially, replace the Skinner and Mills ROLM telephone systems with new, digital systems to accommodate the facilities growth plans. Prepare an extensive Request for Bid (RFB) for the replacement systems that will be used for future replacements as well. Develop a project plan to encompass the remaining facilities which will be upgraded at the rate of two per year.

CLASS: THREE - PROJECT NOT DIRECTLY RELATED TO THE DELIVERY OF WATER. (SEE ATTACHMENT)

BENEFIT (NARRATIVE FOR DIRECT AND OTHER BENEFITS): The Lake Skinner system has reached capacity on digital telephone ports. Expansion of the existing switch would require adding a third cabinet to the system to house additional cards and other components. The footprint for this cabinet and ancillary equipment is such that extensive construction of the telephone room would be required to accommodate it. Further, the Lake Skinner switch will provide telephone service for the Domenigoni Valley Reservoir project; this service cannot be provided by the existing CBXII 8000. Replacement with the latest technology is the best solution for additional capacity.

The Mills system is the proposed site for a secondary hub for Metropolitan's telephone system and will provide service to the Eastern Branch field facilities, as well as aggregate long distance calls over a telephone common carrier. Again, the currently installed CBXII architecture does not support the software or hardware for this type of switching arrangement.

Except for Mills, which was installed in 1989, the telephone systems at each District facility were installed in 1983-1984. The systems were configured to accommodate an estimated five year growth in port capacity, with a life span of seven years. In 1989, ROLM stopped manufacturing CBXII components. While refurbished parts from after-market vendors have been readily available, telecommunications services anticipates this supply of parts will diminish as the CBXII product line continues to age and deteriorate. A capital project was established to begin the process of phasing out, through competitive bid, the aging telecommunications systems installed at Metropolitan's field facilities, beginning with Skinner and Mills.

PROJECT PLAN:			
PHASE	COST	1995	1996
PRE. DESIGN	\$20,000	0% COMPLETE; \$0 SPENT	
FINAL DESIGN	\$ 8,000	0% COMPLETE; \$0 SPENT	
CONT. ADMIN.	\$ 8,000	0% COMPLETE; \$0 SPENT	
CONTRACT	\$414,000	0% COMPLETE; \$0 SPENT	
CONTINGENCY	\$ 4,500		
TOTAL	\$454,500	0% COMPLETE; \$0 SPENT	
*NOTE:			

ALTERNATIVES TO PROPOSED ACTION: DEFERRING THE PHASE-OUT OF THE AGING TELEPHONE SYSTEMS IMPACTS OUR ABILITY TO BRING THE CHEMICAL UNLOADING FACILITY AND DOMENIGONI VALLEY RESERVOIR PROJECT ON LINE WITH THE DISTRICT NETWORK. THE SYSTEMS WILL REQUIRE REPLACEMENTS AS THEY CONTINUE TO AGE; ROLM HAS CEASED MANUFACTURING PARTS. BY PHASING THE SYSTEMS OUT, TWO PER FISCAL YEAR, WE ARE ABLE TO TAKE ADVANTAGE OF VOLUME PRICING AND MINIMIZE THE IMPACT OF PURCHASING NINE SYSTEMS IN ONE FISCAL YEAR. PER THE PROJECT PLAN, THE LAST SYSTEMS TO BE REPLACED - DIEMER AND JENSEN WILL BE FOURTEEN YEARS OLD AT THE TIME OF PHASE-OUT.

POLICY CONSIDERATIONS: BECAUSE OUR NETWORK CURRENTLY CONSISTS OF ROLM TELEPHONE SYSTEMS ONLY, THE DISTRICT IS RESTRICTED TO A SINGLE VENDOR SOURCE FOR PARTS AND SOFTWARE UPGRADES. BY SOLICITING BIDDERS THROUGH THE RFB PROCESS, TELECOMMUNICATIONS SERVICES HOPES TO DIVERSIFY THE PRODUCTS WE USE FOR VOICE COMMUNICATIONS AND TAKE ADVANTAGE OF MULTIPLE VENDOR PRICING.

FINANCIAL ANALYSIS (NEW PROJECTS ONLY)

EVALUATION PERIOD: 7 YEARS

A. PROJECTED COSTS (CAPITAL AND O&M):

	YEAR 1	YEAR 2	YEAR 3	OUT YEARS	TOTAL
LABOR/ADDITIVES	\$ 36,000	\$ 36,000	\$54,000	\$ 36,000	\$162,000
PROFESSIONAL SERVICES	414,000	414,000	484,500	414,000	\$1,726,500
OTHER	4,500	4,500	6,750	4,500	\$20,250
TOTAL	\$454,500	\$454,500	\$545,250	\$454,500	\$1,908,750

NOTE: CONTINGENCIES OF \$50,000 NOT INCLUDED

B. PROJECTED SAVINGS:

	YEAR 1	YEAR 2	YEAR 3	OUT YEARS	TOTAL
LABOR/ADDITIVES	\$	\$	\$	\$	\$
PROFESSIONAL SERVICES	0	0	0	0	0
OTHER					
TOTAL	\$	\$	\$	\$	\$

C. DIFFERENCE (B-A) \$ \$ \$ \$ \$

D. CUMULATIVE DIFFERENCE \$ \$ \$ \$ \$

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PLAYBACK PERIOD:

ESTIMATED LIFE OF PROJECT: FOUR (4) YEARS

ASSUMPTIONS:

Attachment**APPROPRIATION NO. 700 FOR \$454,500
TO PURCHASE COMMUNICATIONS EQUIPMENT
FOR THE ROBERT A. SKINNER AND HENRY J. MILLS
FILTRATION PLANTS****Project Scope**

Information regarding expansion plans, capital projects and requested or required capacity information was researched with various field personnel, including Field Office Administrators, Electronic Technicians and Area Superintendents.

1995 The Lake Skinner ROLM CBXII 8000 telephone system was installed in 1984, and Mills in 1989. The systems were configured to accommodate an estimated five year growth in capacity, with an estimated life span of seven years. Both systems have been reconfigured several times to increase capacity and add software functionality. The central processing unit (CPU) has remained unchanged from the original design as ROLM has not supported architecture upgrades in the CBXII product line. In 1989, ROLM stopped manufacturing CBXII components, in deference to their newer, state-of-the-art products. Refurbished parts from after-market vendors have been readily available, and Metropolitan has taken advantage of this to keep its CBXII systems operational. It is estimated this supply of parts will continue to decrease as the CBXII product line continues to age and deteriorate.

The Lake Skinner system has reached capacity on digital telephone ports. Future growth requires adding a third cabinet to the system to house additional cards and other components. The footprint for this cabinet and ancillary equipment is such that extensive reconstruction of the telephone room would be required to accommodate it. Further, the Lake Skinner site is positioned to become the "master switch" of a multi-node system, with the Domenigoni Reservoir attaching to it as a remote unit or "slave"; a function not supported by the CBXII architecture.

The Mills system is the proposed site for a secondary hub for Metropolitan's switching matrix. It will carry on-net and off-net traffic for the eastern branch field facilities, as well as aggregate long distance calls over a telephone common carrier. Again, the CBXII architecture does not accommodate the software or hardware for this type of switching arrangement.

- 1996 Lake Mathews supports telecommunications at the Chemical Unloading Facility (C.U.F.) by supplying dial tone through off-premise stations. These are analog lines that are shared among the staff at C.U.F. They do not have button access to ROLM features or visual indication of PhoneMail messages. The R.F.P. for Lake Mathews will specify a "remote shelf" feature for C.U.F. Lake Mathews has reached capacity on digital voice-only ports, and can add only 16 ports before reaching capacity on analog ports. In its current configuration, the telephone system will not support Direct-Inward-Dialing.
- Iron Mountain's switchroom is located away from the main facility, in a metal stand-alone room. The cable connecting the two sites is filled to capacity, and will not support additional telephone service at the Iron Mountain compound. A capital project to relocate the switchroom to the main facility and add cable to the new plant is planned for this fiscal year. Moving the aging CBX is risky, and would require significant downtime. Installing a new system in the new switchroom while supporting the existing requirements with the old CBX would benefit Iron Mountain by providing a smooth transition, time to train on new features, and fallback during the cutover.
- 1997 The remaining desert facilities, Gene Camp, Eagle Mountain and Hinds, will all be over twelve years old by this fiscal year. By requesting proposals for all three sites at the same time, Communications hopes to benefit from economies of scale, and locate a single vendor who can easily provide first year maintenance at these remote locations.
- 1998 Both Diemer and Jensen were reconfigured during the 1993 - 1994 fiscal year to increase capacity. Capital projects to enlarge the plants do not require a significant increase in digital or analog ports. However, by 1996 both systems will be thirteen years old, and Communications predicts a shortage of CBX 8000 parts and diminished vendor support by then.
- 1999 Replacing the system at Cal. Plaza will be part of the Headquarter's relocation capitol project. The CBX 9751 at Weymouth/LaVerne, installed in 1989, should be reviewed at this time for possible replacement to newer technology.

YEAR	LOCATION	EXISTING CAPACITY	REQUIRED CAPACITY
1995	Mills	232	290
1995	Skinner	368	460
1996	Iron	228	285
1996	Mathews	240	300
1997	Eagle	308	385
1997	Gene Camp	568	710
1997	Hinds	228	285
1998	Diemer	516	516
1998	Jensen	676	676