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

DEC 13 1994

EXECUTIVE SECRETARY

7-6

November 29, 1994

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

From: General Manager

Subject: Appropriation No. 699 in the Amount of $430,000 to Finance all Costs for Design, Procurement and Installation of Upgraded Flocculator Drives at the Diemer Filtration Plant

RECOMMENDATION:

That the General Manager be authorized to have all work performed for design, purchase of equipment, and installation of variable frequency drives and super efficiency motors for 24 flocculator drives at the Diemer Filtration Plant.

Authorize Appropriation No. 699 in the amount of $430,000 from the Pay-As-You-Go Fund to finance all estimated costs for design, purchase of equipment and installation of upgrades to the flocculator drives at the Diemer Filtration Plant.

APPROVAL OF REQUEST

John R. Wodraska
General Manager

Submitted by:

Gary M. Snyder
Chief Engineer

Concur:

John R. Wodraska
General Manager

GDB:aj/hk
(bdap:apr-699.wp5)

CAPITAL FUNDING REQUEST

PROJECT NAME:	DIEMER FILTRATION PLANT FLOCCULATOR DRIVE REPLACEMENT				
APPROPRIATION NO.:	699	**FUNDING REQUEST NO.:**	NEW	**AMOUNT:**	$430,000
SOURCE OF FUNDS:	PAY-AS-YOU-GO FUND				
BUDGET: NO ☒ YES ☐		CAPITAL PROGRAM	PAGE NO. REFERENCE:		

PROJECT JUSTIFICATION AND TYPE: (CHECK ALL APPLICABLE)

- ☐ MEET WATER DEMANDS
- ☐ MANDATED BY LAW
- ☐ ASSET PROTECTION/RISK MGT.
- ☒ COST AVOIDANCE
- ☐ OTHER_____

- ☐ NEW FACILITY
- ☒ IMPROVEMENT

- ☒ REPLACEMENT
- ☐ EXPANSION

PROJECT DESCRIPTION (INCLUDE CLASSIFICATION AND PURPOSE):

It is proposed that District forces design, purchase and install variable frequency drives and super efficiency motors on 24 flocculator drives at the Diemer Filtration Plant to replace obsolete, inefficient drives and motors.

Class: Three--Project not directly related to the delivery of water but demonstrates economic savings outweighing program costs due to reduced labor and energy costs during operations and unscheduled maintenance.

STRATEGIC PLAN PRINCIPLE: **2.4** -- Corrective Maintenance

BENEFIT (NARRATIVE FOR DIRECT AND OTHER BENEFITS):

The current motors and drives are old, expensive to maintain, and extremely inefficent in their operation. The new high efficiency motors and variable frequency drives utilize the latest technology with high energy efficiency and advanced features such as self-diagnostics, alarm display, and remote operation. Savings on parts and labor would reduce maintenance by $6,000 per month, while lower energy costs would save another $2,400 per month. The combined savings in operational and maintenance costs will be $8,400 per month. The payback period is six years.

Although this project wasn't included in the Capital Program for 1994-95, it is proposed for immediate implementation for two reasons: replacement parts for the motors and drives currently in use are no longer available; a test unit installed in December of 1993 has proven the cost savings and operational benefits which would contribute to Operations Division's goal of reducing costs by 15 percent.

PROJECT PLAN:

PHASE	COST	1992	1993	1994	1995	1996
PRE. DESIGN	$ 27,000	0% COMPLETE;	$0 SPENT			
FINAL DESIGN	$206,000	0% COMPLETE;	$0 SPENT			
CONSTRUCTION	$121,000	0% COMPLETE;	$0 SPENT			
ACCEPTANCE TESTING	$0	0% COMPLETE;	$0 SPENT			
TOTAL	**$354,000***	**0%** COMPLETE; **$0** SPENT				

*Note: Contingencies of $76,000 not included

ALTERNATIVES TO PROPOSED ACTION:

The alternative to this proposed project is to attempt to maintain the present unreliable equipment. This equipment is subject to frequent breakdowns, and replacement parts are difficult to find. Also, the rate of energy use, approximately two and one-half times that of the proposed new equipment, would remain high.

After the six-year payback period, the District would be expending $8400 per month more to operate an outdated, outmoded system than it would spend for the proposed new system.

POLICY CONSIDERATIONS:

Upgrading existing equipment; no policy issues.

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION

The proposed project is exempt from the provisions of the California Environmental Quality Act as it consists of modifications of existing facilities, involving no expansion of use beyond that previously existing.

FINANCIAL ANALYSIS (NEW PROJECTS ONLY)

EVALUATION PERIOD: 6 YEARS

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

	YEAR 1	YEAR 2	YEAR 3	OUT YEARS	TOTAL
LABOR/ADDITIVES	$ 81,000	71,000	0	0	$152,000
PROFESSIONAL SERVICES	0	0	0	0	0
OTHER	152,000	50,000	0	0	202,000
TOTAL	$233,000	121,000	0	0	$354,000

NOTE: CONTINGENCIES OF $76,000 NOT INCLUDED

B. PROJECTED SAVINGS:

	YEAR 1	YEAR 2	YEAR 3	OUT YEARS	TOTAL
LABOR/ADDITIVES	$0	$0	$79,000	$263,000	$342,000
PROFESSIONAL SERVICES	0	0	0	0	0
OTHER	0	0	32,000	105,000	137,000
TOTAL	$0	$0	$111,000	$368,000	$479,000

C. DIFFERENCE (B-A)	$(233,000)	$(121,000)	$111,000	$368,000	$125,000
D. CUMULATIVE DIFFERENCE	$(233,000)	$(354,000)	$(243,000)	$125,000	$125,000

PAYBACK PERIOD: 6 YEARS ESTIMATED LIFE OF PROJECT: 20 YEARS

ASSUMPTIONS:

5% AVERAGE INFLATION RATE PER YEAR

FINANCIAL STATEMENT

A breakdown of the costs for design, purchase of equipment and installation of variable speed drives and super efficiency motors on flocculators at the Diemer Filtration Plant is as follows:

Labor:	
Engineering	
Design	$ 76,000
Contract Administration	35,000
Operations District Forces Installation	40,000
Environmental Review	1,000
Total Labor	$ 152,000
Materials and Supplies	$ 109,000
Incidental Expenses	1,000
Operating Equipment	10,000
Administrative Overhead	82,000
Contingencies	76,000
Project Total	$ 430,000

Source of Funds: Pay-As-You-Go Fund

Projected Expenditure of Funds:

Through Fiscal Year 1994/95	$ 283,000
Fiscal Year 1995/96	$ 147,000
Total	$ 430,000

Capital Program: Funds were not included in the Fiscal Year 1994/95 Capital Program. However, this work is required because replacement parts have been unavailable, and to help meet Operations Division's goal of 15 percent reduction in operating costs.

Class: Three--Project not directly related to the delivery of water but demonstrate economic savings outweighing program's costs due to reduced labor and energy costs during operations and unscheduled maintenance.

Project Benefit: Will provide for more cost-efficient and reliable operations of the treatment plant by reducing unscheduled maintenance and lost revenues to Metropolitan.

GDB:aj/hk
(bdap:apr-699.att)