



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

7-1

September 29, 1992

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

From: General Manager

Subject: Appropriation No. 653 for \$110,000 to Finance the Estimated Cost of a Study for Retrofitting the Diemer, Weymouth, and Skinner Filtration Plants with Ferric Chloride

Report

Metropolitan's filtration plants have experienced periods of elevated pH in their source waters, limiting the effectiveness of alum, the primary coagulant, and causing operational difficulties at the plants. Plant operational costs increase when pH values require higher alum doses and the higher alum doses increase sludge production. Costs also increase because more caustic soda is required and polymer (coagulant aid) dosages frequently increase when the alum dose is increased. Ferric chloride, as a primary coagulant, is more productive over a broader pH range and is currently being used effectively at the Los Angeles Aqueduct Filtration Plant and several plants in San Diego County. It is also important to note that pending future regulations may preclude Metropolitan from continual use of alum.

A year-long test conducted at the Mills filtration plant demonstrated ferric chloride to be a suitable alternative primary coagulant for high pH source water. However, it is necessary to conduct a more extensive study to determine if ferric chloride will have deleterious effects on Metropolitan's treatment plant facilities. This additional study work is required due to initial findings of the effects of ferric chloride at the Mills filtration plant and the possibility of using higher dosages than were tested. These higher dosages may be required for disinfection by-product precursor removal. The study will focus on the chemical effects on elastomers and metals to confirm earlier findings that differed from industry literature and/or practices, effects of higher dosages on certain materials, survey of problems encountered at other plants currently using or having used ferric chloride, chemical analysis and environmental assessment of plant sludge and its disposal, and evaluation of cost and operational impacts on

plant retrofit for ferric chloride feed systems. The total estimated cost for this study is \$110,000.

The proposed project is exempt from the provisions of the California Environmental Quality Act because it would consist of studies for possible future actions your Board has not yet approved.

Board Committee Assignments

This letter is referred for action to:

The Engineering and Operations 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 responsibility to study, advise, and make recommendations with regard to authorization of appropriations pursuant to Administrative Code Section 2441(d).

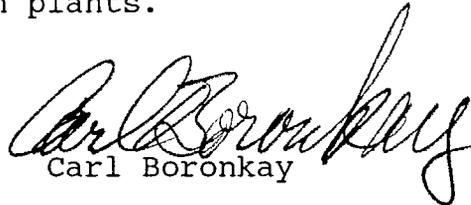
Recommendations

ENGINEERING AND OPERATIONS COMMITTEE FOR ACTION.

It is recommended that your Board authorize the General Manager to have a study performed for use of ferric chloride at the Diemer, Weymouth, and Skinner filtration plants.

FINANCE AND INSURANCE COMMITTEE FOR ACTION.

It is recommended that your Board authorize Appropriation No. 653, in the amount of \$110,000 from the Pay-As-You-Go Fund, to finance the estimated costs for performing a study for ferric chloride use at the Diemer, Weymouth, and Skinner filtration plants.



Carl Boronkay

FISCAL STATEMENT

(Program No. 5-0203-31)

A breakdown of the costs for a chloride retrofit study at the Diemer, Weymouth, and Skinner filtration plants is as follows:

Labor:	
Engineering	\$ 32,000
Water Quality	5,000
Field Fabrication	5,000
Total Labor	\$ 42,000
Incidental Expenses	2,000
Materials and Supplies	12,000
Operating Equipment	
Use & Rental	2,000
Professional Technical	15,000
Administrative Overhead	23,000
Contingencies	<u>14,000</u>
Project Total	<u>\$ 110,000</u>

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

Projected Expenditure of Funds:

Through Fiscal Year 1992/93	\$ 110,000
Fiscal Year 1992/1993 Capital Project Program:	
Estimated Program Cost	\$ 3,650,000
Program Estimate For Fiscal Year 1992/93 . . .	\$ 181,700

Class: One--Project directly related
to the delivery of water.

Project Benefit: Will allow more efficient
and cost effective processing
of high pH source water at
District filtration plants.