



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

7-1

November 18, 1993

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

From: General Manager

Subject: Appropriation No. 672 for \$360,000 to Finance all Estimated Costs  
for Construction of Electrolysis Monitoring Stations on Five of  
Metropolitan's Distribution System Pipelines

Report

The Metro Green Line is a direct current (DC) electric-powered, light-rail system within the median of the newly completed Century Freeway. It extends from Downey near the intersection of Imperial Highway and the 605 Freeway to near the Los Angeles International Airport.

The Green Line crosses Metropolitan's South Coast, Middle, West Coast, Palos Verdes, and Sepulveda feeders. All of these feeders are potentially subject to stray current corrosion from the operation of the Green Line.

Stray currents can induce rapid and severe corrosion in buried metallic pipelines at points of current discharge. Electrically continuous pipelines, which have metal-to-metal contact between pipe lengths, are especially susceptible to stray current corrosion because they provide a lower resistance path for the stray current than the surrounding soil as the current attempts to return to its source. Because the trains will be powered by high voltage DC electricity, stray current corrosion could occur on pipelines which cross or closely parallel the rail system.

It is proposed that a total of 12 electrolysis test stations be installed adjacent to and on either side of the Green Line tracks on the five feeders. This will provide for efficient and accurate monitoring of stray current on the affected pipelines. The design of the electrolysis test stations will be accomplished by District personnel and installation will be accomplished by contract. The total estimated cost of the project is \$360,000. A breakdown of the estimated cost is shown on the attached financial statement.

The proposed project is exempt from the provisions of the California Environmental Quality Act because it consists of minor modifications to existing facilities with no expansion of use.

Board Committee Assignments

This letter is referred for action to:

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

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

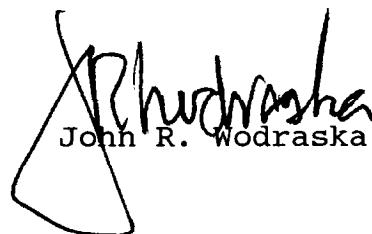
Recommendations

**ENGINEERING AND OPERATIONS COMMITTEE FOR ACTION.**

It is recommended that the 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 design and construction of the 12 permanent electrolysis test stations.

**FINANCE AND INSURANCE COMMITTEE FOR ACTION.**

It is recommended that the Board authorize Appropriation No. 672 in the amount of \$360,000 from the Pay-As-You-Go Fund to finance all estimated costs for the design and construction of 12 permanent electrolysis test stations.

  
John R. Wodraska

CHT:jj/rs  
(bdap:apr-672.cht-11103)

Attachments

ATTACHMENT

**Financial Statement**  
(Capital Program No. 5-0313-22)

The total estimated cost breakdown is shown below:

	<u>Cost Estimate</u>
Labor:	
Engineering Design	\$ 114,000
Post Design	20,000
Contract Administration & Field Inspection	10,000
Survey	<u>6,000</u>
TOTAL LABOR	\$ 150,000
Incidental Expenses	\$ 4,000
Administrative Overhead	82,000
Contracts	79,000
Contingencies	<u>45,000</u>
TOTAL	\$ 360,000

Projected Project Expenditure of Funds:

Through Fiscal Year 1993-94	\$ 148,000
Fiscal Year 1994-95	<u>212,000</u>
TOTAL	\$ 360,000

Source of Funds:

    Pay-As-You-Go Fund

Fiscal Year 1993-94 Capital Program:

Total Estimated Cost of Program	\$ 350,000
Cost Estimate for Fiscal Year 1993-94	\$ 52,900

Class Two:

    Projects directly related to the delivery of water but are of less urgent nature and, therefore, can be delayed for a year or more.

Project Benefit:

    Provides for efficient and accurate monitoring of stray current on the affected pipelines by the early detection of stray electrical currents that allow for action to mitigate corrosion, which will extend the useful life of the pipelines.