August 4, 1992

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

From: General Manager

Subject: Appropriation No. 648 for $310,000 to Finance All Estimated Costs for Construction of Permanent Electrolysis Test Stations

Report

The Metro Blue Line (Blue Line) is a direct current (DC) electric-powered, light-rail system which extends from Long Beach to Los Angeles. The Blue Line began revenue service in July 1990. The Blue Line crosses Metropolitan's Palos Verdes Feeder, Middle Cross Feeder, and the Middle Feeder.

DC-powered transit systems are commonly identified by the corrosion industry as potential sources of stray currents. Stray currents can potentially 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 does the soil as the current attempts to return to its source.

The Blue Line was designed to minimize generation of stray currents. However, Santa Fe Pacific Pipeline Company has detected Blue Line induced stray current on its pipeline, which closely parallels the light-rail route, indicating the Blue Line's potential for generating stray unexpected current. Additionally, the performance history of other DC transit systems indicates that as the system ages, the potential for stray currents increases. Therefore, it is imperative that regular monitoring of Metropolitan's pipelines be conducted in areas near the Blue Line to detect any future stray current from the light-rail system.

It is proposed that electrolysis monitoring stations be installed adjacent to and on either side of the Blue Line tracks on the Palos Verdes Feeder, the Middle Cross Feeder, and the Middle Feeder. The design of the electrolysis monitoring stations will be accomplished by District personnel.

Fabrication and installation will be accomplished by contract. The total estimated cost of the project is $310,000. A breakdown of the estimated costs is attached.

The proposed action is exempt from the provisions of the California Environmental Quality Act because it entails only 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 Administrative 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 your 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 permanent electrolysis test stations.

**FINANCE AND INSURANCE COMMITTEE FOR ACTION.**

It is recommended that your Board authorize the appropriation of $310,000 from the 1991 Revenue Bond Construction Fund to finance all estimated costs for the design and construction of permanent electrolysis test stations. This appropriation will be designated No. 648.

Carl Boronkay

DRW:atr
(apr648-7272)
Attachment

Attachment

**Fiscal Statement**
(Program No. 5-0114-22)

The total estimated cost breakdown is shown below:

| | Cost Estimate | |
|---|---|---|
| Labor: | | |
| Engineering Design | $ 103,000 | |
| Contract Administration | 1,000 | |
| Field Inspection | 17,000 | |
| Survey | 4,000 | $ 125,000 |
| Materials and Supplies | $ 2,000 | |
| Incidental Expenses | 4,000 | |
| Operation Equipment | 3,000 | |
| Administrative Overhead | 69,000 | |
| Contract | 66,000 | |
| Contingencies | 41,000 | 185,000 |
| TOTAL . . . . . | | $ 310,000 |

Source of Funds:

1991 Revenue Bond Construction Fund

Class Two:

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

Projected Expenditure of Funds:

| | | |
|---|---|---|
| Through Fiscal Year 1991/92 | $ 10,000 | |
| Fiscal Year 1992/93 | 170,000 | |
| Fiscal Year 1993/94 | 130,000 | |
| TOTAL . . . . . | | $ 310,000 |

Project Benefit:

Provides accurate corrosion monitoring of the pipelines at regular intervals in areas near the Metro Blue Line.