



- Board of Directors
Engineering and Operations Committee

7/11/2017 Board Meeting

7-4

Subject

Adopt CEQA determination and appropriate \$840,000; and authorize upgrades to the computerized maintenance management system (Appropriation No. 15501)

Executive Summary

This action authorizes upgrades to the computerized maintenance management system (CMMS). The CMMS is an enterprise-wide asset management program that is used for planning, scheduling, and reporting required maintenance of equipment throughout the conveyance system, treatment plants, and distribution system.

Timing and Urgency

The CMMS is an asset management program for equipment in use throughout Metropolitan's conveyance system, water treatment plants, and distribution system. The CMMS is used to plan, schedule, and report required maintenance for this equipment. Metropolitan uses IBM Maximo as its CMMS, and the current system was commissioned in 1997. Software and hardware upgrades are necessary to continue to operate the CMMS reliably for planning, scheduling, and reporting of required maintenance and to provide system enhancements available in newer software versions (e.g., dashboards), which will assure continued support from IBM. The current Maximo software version in use at Metropolitan is no longer supported by IBM and may start to fail over time, causing interruption in the daily operation of the CMMS. Staff recommends upgrades to the CMMS at this time to maintain equipment reliability and ensure regulatory compliance.

This project has been reviewed with Metropolitan's Capital Investment Plan (CIP) prioritization criteria and is included in the System Reliability Program. Funds for this action are available within Metropolitan's capital expenditure plan for fiscal year 2017/18.

Details

Background

Metropolitan has been using a CMMS since the 1980's. The CMMS is used to plan, schedule, and report maintenance for over 130,000 pieces of equipment (e.g., valves, pumps, and vehicles). The IBM Maximo CMMS was purchased and commissioned in 1997 to better manage the performance of equipment and personnel, provide for continuous improvement, and implement "Best Practices" in operations and maintenance activities.

Metropolitan pays an annual software license fee which includes new versions of the Maximo software when they are available. Without a CMMS, the maintenance program would have to be managed manually. This would include planning, scheduling, and reporting preventive maintenance on each piece of equipment under various frequencies (e.g., monthly and annually) and incorporating corrective maintenance as it is identified. Under manual operations, there would be no centralized database and all maintenance activities would be tracked and managed using log books and spreadsheets.

The CMMS is used by approximately 500 staff. The system is used to manage equipment maintenance at the treatment plants, desert pump facilities, conveyance and distribution pipelines and feeders, reservoirs, and hydroelectric plants. It is also used to support maintenance on all fleet assets. All equipment maintenance work

is identified in the CMMS, which allows for tracking of staff work time, as well as compliance with regulatory required maintenance (e.g., on-line water quality instrumentation) and inspections (e.g., emergency generators).

The CMMS is integrated (i.e., communicates and shares data) with several other corporate applications including PeopleSoft, Worktech timekeeping, Oracle Project Accounting, Oracle Assets, Oracle Inventory, and Metropolitan's fuel management system. This allows the CMMS to accurately track staff work assignments, verify appropriate project charges, monitor and track Metropolitan assets, and track fuel inventory and fuel costs.

The software for the CMMS was last updated in 2009, is no longer supported by IBM, and needs to be replaced to maintain reliability. As part of Metropolitan's annual license fee, IBM will provide a new, fully supported version of the Maximo software. However, Metropolitan is responsible for the software installation, configuration, and integration, as well as for migrating the maintenance data from the old software version to the new one.

Computerized Maintenance Management System Upgrades – (\$840,000)

This project includes software upgrades, as well as new hardware to accommodate this upgrade. The software upgrades include installation, configuration, integration, and data migration. The software will be upgraded to the latest version of Maximo and will comply with software industry standards for integration with external applications and programs. The new software will be installed on computer servers and will be accessed by over 300 office and field computers. Configuration activities will be performed to develop new user/machine interfaces (or screen displays), and set up the new, and expanded database. The new software will be integrated with other corporate applications (e.g., Oracle and PeopleSoft) by setting up communication links that allow for data exchange. Finally, over 20 years of equipment maintenance data will be migrated to the new software database. The procurement of three new computer servers (two at Union Station Headquarters and one at Lake Mathews) is necessary to facilitate the installation of the new Maximo software.

Metropolitan staff will perform hardware and software installations, develop new screen displays, integrate the new Maximo software with other applications, and conduct overall system testing. Staff will configure the new system to increase functionality and ensure preventive and corrective maintenance are optimally scheduled and performed based on work priority, resources availability, and cost.

Professional services consultants will be responsible for setting up the new database and migrating the historical equipment maintenance data. The consultants will also assist with system validation and testing to ensure proper operation. The professional services consultants will be awarded under the General Manager's contracting authority.

This action appropriates \$840,000 for the upgrades to the CMMS. The requested funds include: \$376,000 for software installation, configuration, and integration; \$77,000 for three new computer servers; \$79,000 for project management; \$230,000 for professional and technical services; and \$78,000 for remaining budget.

Summary

This action appropriates \$840,000 and authorizes upgrades to Metropolitan's CMMS. This work is included within capital Appropriation No. 15501, Infrastructure Reliability Information System. The total estimated cost to complete the CMMS upgrades is \$840,000.

This project has been evaluated and recommended by Metropolitan's CIP Evaluation Team, and funds are available within the fiscal year 2017/18 capital expenditure plan. See [Attachment 1](#) for the Financial Statement.

Project Milestone

February 2019 – Complete upgrades to the CMMS.

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriations

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment and involves continuing administrative or maintenance activities (Section 15378(b)(2) of the State CEQA Guidelines). In addition, where it can be seen with certainty that there is no possibility that the proposed action in question may have a significant effect on the environment, the proposed action is not subject to CEQA (Section 15061(b)(3) of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed action is not defined as a project under Public Resources Code Section 21065 and Sections 15378 and 15378(b)(2) of the State CEQA Guidelines and is not subject to CEQA pursuant to Section 15061(b)(3) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Board Options

Option #1

Adopt the CEQA determination that the proposed action is not defined as a project and is not subject to CEQA, and

- a. Appropriate \$840,000;
- b. Authorize upgrades to the computerized maintenance management system

Fiscal Impact: \$840,000 of capital funds under Appropriation No. 15501

Business Analysis: This option will upgrade the computerized maintenance management system to maintain equipment reliability and ensure regulatory compliance.

Option #2

Do not proceed with the project at this time.

Fiscal Impact: Unknown expenses associated with equipment failures and reduced reliability

Business Analysis: This option would forgo an opportunity to upgrade the computerized maintenance management system. The system may start to fail over time, which would interrupt planning, scheduling and reporting of required maintenance and inspection activities, and reduce equipment reliability.

Financial Statement for Infrastructure Reliability Information System Appropriation¹

A breakdown of Board Action No. 1 for Appropriation No. 15501 for the upgrades to the computerized maintenance management system is as follows:

	Previous Total Appropriated Amount	Current Board Action No. 1 (July 2017)	New Total Appropriated Amount
Labor			-
Owner Costs (Project mgmt., contract admin.)		79,000	79,000
Installation, configuration, & integration		376,000	376,000
Materials & Supplies		77,000	77,000
Professional/Technical Services		230,000	230,000
Equipment Use	-	-	-
Contracts		-	-
Remaining Budget		78,000	78,000
Total	\$ -	\$ 840,000	\$ 840,000

Funding Request

Appropriation Name:	Infrastructure Reliability Information System		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15501	Board Action No.:	1
Requested Amount:	\$ 840,000	Budget Page No.:	N/A
Total Appropriated Amount:	\$ 840,000	Total Appropriation Estimate:	\$ 840,000

¹ This is the initial action for the Infrastructure Reliability Information System. The total cost to complete these upgrades is \$840,000.