THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Report

Corporate Resources

- **Information Technology Strategic Plan (ITSP) - Quarterly Report for the period ending June 2010**

Summary

This report provides a quarterly update on progress implementing Metropolitan's Information Technology Strategic Plan (ITSP) and on information technology (IT) activities in general for the period ending June 30, 2010. There were a number of important milestones achieved during the period that are summarized in this report. Key activities for the upcoming quarter ending September 30, 2010 include continuing the first phase (email archiving) of the new Electronic Discovery Management System; development of a prototype model as part of the Water Quality Monitoring and Rapid Event Detection system; and completion of pilot testing for the Computer-Aided Design Management System.

The ITSP provides a roadmap to guide the investment and deployment of information technology at Metropolitan over the next three to five years. The plan was recently updated based on changing business needs and technologies. The goal of the plan is to leverage information technology investments to increase long-term reliability and improve Metropolitan's overall efficiency and effectiveness. Oversight of IT investments is provided by the IT Guidance Committee consisting of senior management and the Capital Investment Plan (CIP) Evaluation Team as part of the annual CIP planning process.

Detailed Report

Attached are highlights of progress and major milestones reached on IT projects / initiatives during the period of March 31 through June 30, 2010. The projects are categorized by business driver as follows:

IT STRATEGIC PLAN

Enhanced Reliability – Enhance system reliability

Improved Water Quality – Ensure water quality excellence

Enhanced Cyber Security – Effectively manage and safeguard assets

Productivity / Cost Efficiency – Improve process efficiency and effectiveness

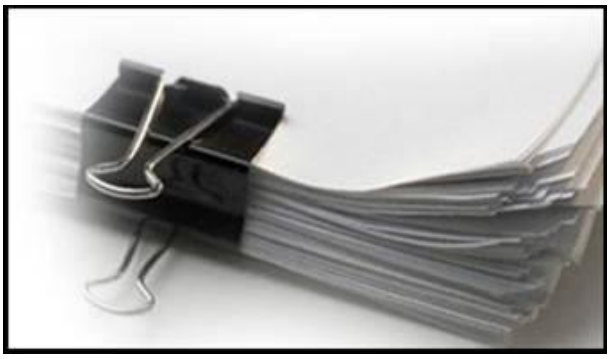
Date of Report: 9/14/2010

Enhanced Reliability:	**Fiscal Year 2009-10** **Budget: $ 10.23 M Expended: $ 5.63 M**

Key Accomplishments Included:

Continued Development of the Electronic Discovery Management System Project

- The Electronic Discovery (E-Discovery) Management System project will deploy a software package to manage, catalog, store and retrieve electronic documents in the context of litigation and for Public Records Act requests. This project provides a comprehensive system for E-Discovery and reduces the risk to Metropolitan as a result of new legal requirements. These requirements stem from the Federal Rules of Civil Procedure that were amended in December 2006, and recent 2009 legislation changing California's civil discovery rules concerning electronically stored information (ESI). Implementation of the new E-Discovery system will be a phased approach. The first phase will focus on Metropolitan's email system since most E-Discovery involves emails. The focus of the initial phase is to archive all emails into a new central electronic storage area.
- During the period, staff completed the set-up of hardware (e.g. servers), configured the email archiving software; conducted testing; and established procedures and parameters required to implement email archiving. Final preparations are currently underway to begin the migration of older email messages into the centralized archive storage area. Migration of existing emails is scheduled to begin in September.



Other Key Accomplishments During the Period:

Conducted IT Disaster Recovery Exercise and Training

As part of an ongoing effort to refine Metropolitan's ability to recover critical IT systems in the event of a disaster, staff conducted an IT disaster recovery exercise from June 29 through July 1, 2010. The exercise involved executing recovery strategies to bring up Metropolitan's PeopleSoft-based human resources system as well as the Oracle Financial system, using computers located at Metropolitan's disaster recovery facility. The test was successfully

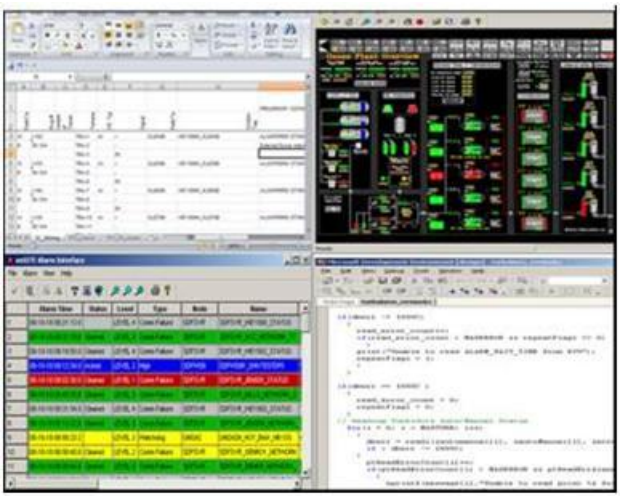
completed and achieved the following objectives:

- Tested enhancements to recovery procedures
- Validated recovery capabilities
- Provided on-going training to IT staff

The scope of the exercise involved activating various IT recovery teams and the testing of key recovery procedures for these critical applications.

Completed the Perris Hydroelectric Plant Programming

- The automated process control (APC) software program that controls the Perris hydroelectric plant (HEP), and keeps the Lakeview Pipeline at a constant flow when the HEP fails, has been installed and tested. This software supports Water System Operations staff by automating functions that were previously performed manually, and enhances system reliability.



Completed Design and Development of a Water Planning Module

- Staff completed the design and development of a new water planning software module that allows Water System Operations to easily import water delivery data from the water billing system (WINS) into the water planning application. The module replaces the time-consuming manual process of extracting information from one system, re-formatting the data, and uploading the data into a different system for analysis each month.
- Implementation of the module is scheduled to be completed by the first quarter of fiscal year 2010/11. The module will improve data accuracy and enhance organizational productivity. Staff conducting monthly analyses on important water planning activities will be able to get the required data more quickly and efficiently.

Expenditures in the Enhanced Reliability category were lower than planned for fiscal year 2009/10. The variance in this category primarily stems from projects that were deferred to focus on the highest priority efforts. The deferred projects include the Water Planning Application and the Water Conservation Application. In addition, the schedule for Phase II of the IT Network Upgrade was extended to allow sufficient time to complete the public works procurement process.

Enhanced Cyber Security:	Fiscal Year 2009-10 Budget: $ 0.61 M Expended: $ 0.39 M

Key Accomplishments Included:

Substantially Completed Phase II of the Information Security Remediation Initiative

- Staff substantially completed efforts to enhance and upgrade Metropolitan's IT security infrastructure as part of Phase II of the Information Security Remediation initiative. In this project, proactive measures were implemented to better secure Metropolitan's network environment against emerging cyber threats.
- Key accomplishments include:
  - Physical migration of six Supervisory Control and Data Acquisition (SCADA) related applications to better segregate and secure the SCADA network;
  - Deployment of Metropolitan's wireless network and associated security infrastructure;
  - Deployment of a Security Information Management system to provide a dashboard summarizing security monitoring data and highlighting any suspicious activity;
  - Deployment of a security vulnerability assessment tool;
  - Deployment of a Wireless Local Area Network (LAN) security analyzer;
  - Deployment of a new database security monitoring and assessment system to better safeguard the information stored in Metropolitan's production databases.

- During the period, staff completed a laptop disk encryption pilot as part of the IT Strategic Plan to effectively manage and safeguard Metropolitan's assets. The laptop disk encryption pilot tested security software to better protect sensitive data stored on hard drives in the event the devices are lost or stolen. The pilot involved users from various business units (e.g., Legal, Audit, Human Resources, and Information Technology) to evaluate the requirements of deploying this technology at Metropolitan. The disk encryption pilot was successfully completed and a formal

assessment was prepared. A presentation was given to the IT Security Steering Committee on June 30 to determine the scope of future deployment across the enterprise for users in areas requiring greater data confidentiality and security.

Other Key Accomplishments During the Period:

- Staff continued to monitor and participate in national efforts aimed at enhancing security capabilities for water utilities to ensure that Metropolitan meets or exceeds national standards.
- In April, staff participated in the Industrial Control Systems Joint Working Group (ICSJWG) Spring meeting. The Department of Homeland Security (DHS) Control Systems Security Program (CSSP) established the ICSJWG to facilitate information sharing and reduce the risk to the nation's industrial control systems. Industrial control systems include SCADA systems. The ICSJWG provides a vehicle for communicating and partnering across all critical infrastructure and key resources sectors (e.g. oil & gas, electric, water, transportation, chemical, etc.).
- Participation in the ICSJWG forum is important to Metropolitan as SCADA is a critical part of the infrastructure that controls key processes within the conveyance, treatment and distribution systems.

Expenditures in the Enhanced Cyber Security category were lower than planned for fiscal year 2009/10. The variance stems from Phase III of the Information Security Remediation Initiative, which will be recommended to the Board for approval following the completion of Phase II. The Phase III project is currently in the definition phase.

Improved Water Quality:	**Fiscal Year 2009-10** **Budget: $ 0.31 M Expended: $ 0.17 M**

Key Accomplishments Included:

Oxidation Retrofit Programs

- During the period, IT staff continued to support the startup phase of the Oxidation Retrofit Program (ORP) at the Skinner plant. APC programming to control the Skinner ozone cooling water system has been installed and tested, which allows overall ozone system acceptance testing and commissioning to proceed. These programs operate the pumps, valves, heat exchangers, and chillers that are necessary to circulate cooling

water to the ozone equipment.

- For the Diemer ORP, IT staff continued review of contractor submittals for compliance with Metropolitan's control system/software specifications.
- For the Weymouth ORP, IT staff continued review of preliminary design documents, specifications, hardware, and software requirements as it relates to control systems.

Initiated the Water Quality Monitoring and Rapid Event Detection System

- The Water Quality Monitoring and Rapid Event Detection System (WQMRED) project was authorized by the Board in December 2009. When complete, the new event detection system will provide real-time analysis of water quality information and notification to staff in the case of potential water quality contamination.
- During the period, staff began detailed planning for the design phase of the project. A major milestone will be the development of a prototype system to allow key Water Quality/Water System Operations stakeholders to evaluate requirements and capabilities prior to final system development.

Provided IT Services to Key Water Quality-Related Projects and Programs

- During the period, IT staff provided control system design review, programming, technical support, system start-up support, and participated on a number of water quality-related capital projects that included:
  - Jensen Filter Outlet Conduit Modification
  - Jensen Mod. 1 Filter Valve Replacement
  - Weymouth Inlet Conduit Relocation and Rapid Mix System

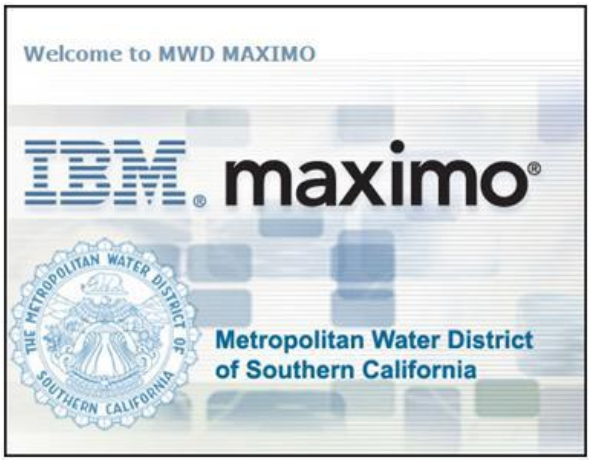
Expenditures in the Improved Water Quality category were lower than planned. The single water quality-related IT project for fiscal year 2009/10 (Water Quality Monitoring and Rapid Event Detection System) was authorized by the Board in December 2009. After protracted negotiations, a consultant agreement was executed by Metropolitan in March 2010. As a result, the project began later than planned. IT expenditures associated with other capital projects (e.g., the ORPs) are reported under those CIP programs and therefore are not reflected in this report.

Productivity / Cost Efficiency:	**Fiscal Year 2009-10** **Budget: $ 1.11 M Expended: $ 0.85 M**

Key Accomplishments Included:

Implemented a Materials Interface between the Maximo and Oracle systems

- Water System Operations uses a software package called Maximo to manage maintenance activities on the water conveyance, treatment and distribution system. Maximo organizes the planning and recording of maintenance activities such as preventive and corrective maintenance work orders.
- During the period, staff completed implementation of a software interface between the Maximo system and the Oracle Financial system (Inventory Module). This interface supports Water System Operations' goal to improve material planning/usage reporting capabilities. Key benefits of the new interface include enhanced tracking and reporting of stocked material used for work orders.



Rolled out Automated Inventory Management System at La Verne

- During the period, the new automated inventory management system (bar-coding) was placed into production and rolled out to Metropolitan's La Verne warehouse location. The new system allows storekeepers to scan products quickly

during receipt and issuance of goods, replacing manual data entry tasks.

Other Key Accomplishments During the Period:

Participated in 2010 Water and Wastewater CIO Forum

- Staff participated in the 2010 Water and Wastewater CIO Forum that brings together information technology leaders throughout the United States to discuss IT leadership challenges specific to water and waste water utilities. Topics covered during the forum included: IT best practices, cloud computing, social networking software, virtualization, cyber security and geographic information system advances.

Expenditures in the Productivity/Cost Efficiency category were lower than planned for fiscal year 2009/10. Based on decisions related to the fiscal year 2010/11 budgeting process, the Ozone Optimization project was deferred, resulting in a variance.