

● **Information Technology Strategic Plan (ITSP) – Quarterly Report for the period ending March 2007**

Summary

This report provides a quarterly update of the Information Technology Strategic Plan (ITSP) and information technology (IT) activities in general for the period ending March 2007. There were a number of important milestones achieved during the period that are summarized in this report.

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 is updated periodically in light of changing business needs and technologies. The goal of the plan is to leverage information technology investments to increase long-term reliability, while improving 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.

Attachments

Attachment 1 provides a summary of Board actions and the appropriations for the ITSP programs through March 31, 2007.

Attachment 2 provides a summary of the appropriations and expenditures through March 31, 2007.

Attachment 3 provides a summary list of IT capital projects and their status.

Detailed Report

Below are highlights of progress and major milestones reached for IT projects / initiatives during the period of January 1st through March 31, 2007. The projects are categorized by business driver as follows:



IT STRATEGIC PLAN
<p>Enhanced Reliability – Enhance system reliability</p> <p>Improved Water Quality – Ensure water quality excellence</p> <p>Enhanced Cyber Security – Effectively manage and safeguard assets</p> <p>Productivity / Cost Efficiency – Improve process efficiency and effectiveness</p>

<p align="center">Enhanced Reliability:</p>	<p align="center">Fiscal Year 2006-07 to date Budget: \$ 4.37 M Expended: \$ 3.53 M</p>
<p>Key accomplishments included:</p> <p>Completed Phase I of the Automated Meter Reading System (Pilot Phase)</p> <ul style="list-style-type: none"> ■ The Automated Meter Reading (AMR) System is the primary source of data for water billing, providing information on the amount of water delivered to each member agency. There are approximately 480 water meters located throughout Metropolitan’s distribution system. The current AMR system is based on outdated technology that needs to be upgraded to continue functioning properly. ■ To date, the design and development of the pilot phase, and deployment of the system, have been completed. The pilot system (Phase I) consisted of 31 AMR units. ■ Phase II of the AMR Upgrade project will replace equipment and implement the new AMR system at the remaining approximately 450 meter sites. Phase II is targeted to be completed in the 3rd quarter of 2008. <p>Installed Programmable Logic Controller (PLC) for traveling bridge at the Jensen Treatment Plant</p> <ul style="list-style-type: none"> ■ Programmable Logic Controllers (PLCs) are industrial process control devices that are typically tied into Metropolitan’s Supervisory Control and Data Acquisition (SCADA) system to control and monitor a variety of important water system-related processes such as filtration, chemical feed, and washwater reclamation. ■ This initiative is intended to proactively replace the oldest PLC units before they fail. The criterion is to replace standard PLCs that are older than 10 years. Replacement of the PLCs is important as these devices are reaching the end of their normal life cycle. Also, these are field devices that are typically exposed to environmental extremes such as temperature, moisture, and dust. 	<div data-bbox="883 491 1469 928" data-label="Image"> </div> <p align="center">AMR Control Hardware</p> <div data-bbox="854 1249 1451 1696" data-label="Image"> </div> <p align="center">Programmable Logic Controller</p>

- During the period, a new PLC unit was installed on a traveling bridge at the Jensen Treatment Plant. Traveling bridges are mechanical carriage devices that scour the bottom of the sedimentation basins.
- Planning is underway to replace the remaining seven PLC units for the traveling bridges at the Jensen Treatment Plant.

Completed initial pilot deployment of the hydraulic modeling system for the Rialto Feeder

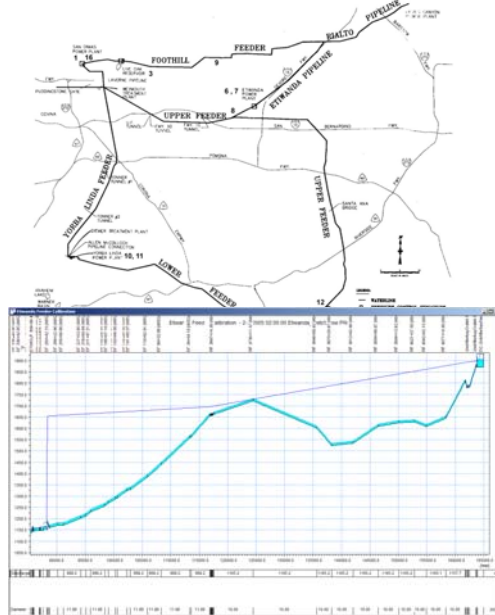
- The objective of the SMART Operations (SMART Ops) project, formerly named the Real Time Operating System (RTOS), is to develop and implement a hydraulic model that simulates the behavior of Metropolitan’s water distribution system, including the Colorado River Aqueduct (CRA). SMART Ops will be used for planning the re-routing of water during shutdowns and analyzing distribution system control options.
- The pilot phase served as a “proof of concept” by developing a working hydraulic model that simulates water grade, flows and levels for the Rialto Feeder portion of Metropolitan’s distribution system.
- During the period, staff successfully completed the initial pilot deployment of the hydraulic model for the Rialto Feeder region and rollout of the pilot system to users. Staff anticipates evaluation of the pilot system will be completed in the 3rd quarter of 2007.

Performed Additional IT Disaster Recovery Tabletop Exercise

- As part of ongoing efforts to regularly test and exercise IT recovery procedures, staff continued to conduct Information Technology disaster recovery exercises.
- During the period, a tabletop exercise was conducted to ensure key IT staff members were familiar with the procedures to follow during an emergency/disaster situation in mobilizing recovery efforts for critical IT systems.



Jensen Traveling Bridge



SMART Ops



IT Disaster Recovery Exercise

Implemented software patches to Metropolitan computer systems impacted by the change in Daylight Savings Time

- The *Energy Policy Act of 2005* altered the time-change dates for Daylight Savings Time (DST) in the U.S. As a result, daylight saving time was extended by four weeks starting in 2007. As a result, DST began on the second Sunday in March and will end the first Sunday in November.
- During the period, IT staff deployed software patches to address the change in the effective dates for daylight savings time. In addition to updates to Metropolitan desktops and laptops, patches were made to other hardware and software (i.e. BlackBerry devices, Servers, and the email/calendaring system).

Continued the PC Replacement Initiative

- A project is underway to replace the desktop and laptop PCs for board members and Metropolitan employees. The current equipment is more than five years old. During this period, a number of accomplishments were achieved including:
 - Completed evaluation and selection of desktop and laptop hardware brand and models. For desktop PCs, the Hewlett Packard model xw4400 was selected. For laptops, the Hewlett Packard model nw8440 was chosen.
 - Established a three-year enterprise software licensing agreement for Microsoft products. This agreement is estimated to save Metropolitan approximately \$900,000 in software licensing costs over a three-year period.
 - Continued testing Metropolitan’s applications to determine their compatibility with Microsoft’s new Vista operating system.
 - Initiated procurement of the laptops and desktops, and received initial shipment.

Expenditures in the Enhanced Reliability category are below target for the third quarter. A variance in this category is expected to remain for this fiscal year, as the schedules of the Video Conferencing and Automated Testing initiatives were deferred to coincide with other related projects.






Daylight Savings Time



i n v e n t



Windows Vista™

<p align="center">Improved Water Quality:</p>	<p align="center">Fiscal Year 2006-07 to date Budget: \$ 0.07 M Expended: \$ 0.01 M</p>
<p>Key accomplishments included:</p> <p>Oxidation Retrofit Programs</p> <ul style="list-style-type: none"> ■ The Skinner, Weymouth and Diemer Oxidation Retrofit Programs (ORP) are capital programs to add ozonation to Metropolitan’s treatment plants. A major component of these programs include design, programming, and installation of hardware and software to control the ozone process. ■ For the Skinner ORP, IT staff continued to review contractor submittals for compliance with Metropolitan construction specifications. ■ For the Weymouth ORP, IT staff completed review of the 99% consultant design documents for SCADA controls and instrumentation, and initiated the 100% consultant design review. ■ As part of the Diemer ORP chemical system upgrade, SCADA for the acid tank farm was completed during this period and is now fully functional. This included completion of automated process control programming and all hardware installation and testing. Completion of this milestone was critical to the start of construction of the fluoridation project. <p>Continued support for Skinner Treatment Plant Expansion</p> <ul style="list-style-type: none"> ■ The Module No. 7 fiber optic cable installations and testing were completed to enable new remote terminal units to report data to the control room. ■ During the period, the Module No. 7 potable water automated process control programming was completed and is ready for testing. ■ For Wastewater Reclamation Plant No. 2, staff completely rewired the remote terminal unit in conjunction with replacement of the motor control center. ■ Wastewater Reclamation No. 3 – SCADA support for start-up of the coal removal facility was completed and the facility is fully functional. This included automated process control programming, hardware installation and testing. 	   <p align="center">Motor Control Center</p>

Other Key Accomplishments included:

- On the Diemer Solids Handling Control System, staff continued support of solids handling construction by providing wiring information for all SCADA signals.
- In support of Metropolitan’s initiative to add fluoridation at the five treatment plants, IT staff continued development of the fluoride process graphic screens for the Jensen, Weymouth and Diemer facilities during this period.
- In support of Metropolitan’s initiative to design and construct a new pilot-scale treatment plant, during this period staff reviewed and provided feedback on the initial design by consultants for the new pilot plant at Weymouth.

Expenditures in the Improved Water Quality category were lower than projected for the third quarter of fiscal year 2006-07. A variance in this category is expected to remain until the Electronic System Log (ESL) project is initiated. The ESL project was delayed because internal resources were working on higher priority projects.



Solids Collection Installation

<p align="center">Enhanced Cyber Security:</p>	<p align="center">Fiscal Year 2006-07 to date Budget: \$ 0.25 M Expended: \$ 0.14 M</p>
<p>Key accomplishments included:</p> <p>Continued Cyber Security Enhancements</p> <ul style="list-style-type: none"> ■ IT staff continued to implement recommendations to strengthen Metropolitan’s cyber security based on an assessment by the consulting firm KEMA. During the period, additional features were deployed to strengthen the security of Metropolitan’s SCADA system. <p>Planned and held SCADA / IT Cyber Security Forum in Burbank</p> <ul style="list-style-type: none"> ■ Staff worked with Santa Clara Valley Water District, ACWA, the California Department of Health Services and others to plan the SCADA cyber security forum. The forum was specifically designed for the water sector to increase education and collaboration in properly securing SCADA systems, given their importance in controlling the flow and treatment of water. ■ The forum was held on March 29, 2007. Director John Morris made opening remarks to kick off the event. In all, more than 90 people attended the event representing over 35 water utilities from throughout California. <p>Other key accomplishments during the period</p> <ul style="list-style-type: none"> ■ Continued to monitor and protect Metropolitan assets by intercepting potentially harmful email messages (“SPAM”). The anti-SPAM software filters incoming email messages and quarantines potentially harmful emails. During a one-month period (March 2007) alone, approximately 1.5 million SPAM email messages were intercepted. ■ As part of the on-going security awareness effort, staff published monthly cyber security tips on Metropolitan’s internal website and staff continued to provide IT security orientation for all Metropolitan new hires. <p>Expenditures in the Enhanced Cyber Security area were slightly lower than projected for the third quarter of fiscal year 2006-07. The variance is expected to decrease as a result of ongoing security initiatives including Phase 2 of the Information Security Assessment / Remediation initiative currently underway.</p>	<div data-bbox="875 369 1430 726" data-label="Image"> </div> <p align="center">Enhanced Security Software</p> <div data-bbox="863 789 1442 1192" data-label="Image"> </div> <p align="center">Cyber Security Enhancement</p> <div data-bbox="889 1306 1430 1843" data-label="Image"> </div> <p align="center">SPAM email</p>

<p>Productivity / Cost Efficiency:</p>	<p>Fiscal Year 2006-07 to date Budget: \$ 3.42 M Expended: \$ 2.44 M</p>
<p>Completed On-line Job Application Software Testing and Deployment Planning as part of Phase I of the Human Resource (HR) Technology Improvement project</p> <ul style="list-style-type: none"> ■ One of the initiatives to improve HR services is to implement a tool for self-service on-line job applications. When fully deployed, this will allow both internal and external applicants to submit job applications on-line over the Internet. The self-service capabilities will lead to increased productivity by reducing the data entry time, thus freeing Human Resources staff to concentrate more effort on recruitment activities. ■ During the period, staff completed testing and initiated planning steps to make the on-line job application capability available on the Internet. <p>Held Member Agency Information Technology Manager’s Forum</p> <ul style="list-style-type: none"> ■ As part of continued development of Information Technology “best practices,” a forum was held on January 26, with IT managers from the member agencies to discuss IT disaster recovery, emergency communications and techniques for consolidating servers. <p>Expenditures in the Productivity / Cost Efficiency area were lower than projected for the third quarter of fiscal year 2006-07.</p>	<div data-bbox="868 367 1437 739" data-label="Image"> </div> <p data-bbox="971 751 1333 783" style="text-align: center;">On-line Job Application Software</p> <div data-bbox="891 835 1421 1232" data-label="Image"> </div> <p data-bbox="1003 1247 1295 1278" style="text-align: center;">Member Agency IT Forum</p>

Board Report (Information Technology Strategic Plan (ITSP) –
Quarterly Report for the period ending March 2007

Attachment 1

Summary of Board actions:

The following table provides a sequential listing of ITSP Board appropriations through March 31, 2007:

Board Action Date	Appropriation No.	Description	Amount Appropriated
September-01	15376	Telecommunication Infrastructure Program	\$ 1,334,000
November-01	15378	IT Security Related Improvements	\$ 879,000
September-02	15378	Peoplesoft Upgrade	\$ 472,000
October-02	15397	Control System Enhancement Program (CSEP)	\$ 11,000,000
February-03	15406	Laboratory Information Management System (LIMS)	\$ 1,175,000
May-03	15408	Maintenance Management System (MMS) Upgrade	\$ 605,000
July-03	15411	Oracle E-Business Suite & Grants Management	\$ 4,038,230
September-03	15376	Enterprise GIS Project	\$ 4,377,000
October-03	15411	Peoplesoft Self Service Modules	\$ 1,850,000
April-04	15376	IT Infrastructure Program	\$ 5,603,000
July-04	15378	IT Security Program	\$ 925,000
February-06	15376	IT Network Upgrade - Phase I	\$ 3,340,000
February-06	15397	Energy Management System (EMS) - Phase II	\$ 963,000
March-06	15397	Programmable Logic Controller (PLC) - Phase II	\$ 1,160,000
July-06	15411	Water Billing System Upgrade	\$ 3,480,000
July-06	15376	Two Way Radio - Phase I	\$ 557,000
October-06	15411	Integrated Budget Management System	\$ 4,440,000
October-06	15378	IT Security Remediation Initiative	\$ 2,160,000
November-06	15376	IT Network Upgrade - Phase II	\$ 3,950,000
March-07	15411	Human Resources Improvement - Phase II	\$ 2,500,000
March-07	15376	Union Station Headquarters Technology Upgrade	\$ 1,910,000
			\$ 56,718,230

Details of Board Actions during this period:

- On March 13, 2007, the Board appropriated \$2.5 million; and authorized (1) Phase II of the Human Resources Improvement project; and (2) an agreement with Ciber, Inc. in an amount not to exceed \$1.45 million (Approp. 15411)
- On March 13, 2007, the Board appropriated \$1.91 million and authorized the Union Station Headquarters Technology Upgrade project (Approp. 15376)

Board Report (Information Technology Strategic Plan (ITSP) –
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Attachment 2

Summary of Board Actions:

The following table provides a summary of ITSP Board appropriations and expenditures through March 31, 2007:

Appropriation No.	Program Description	Total Amount Appropriated	Expenditures (Through March 31, 2007)
15397	Control System Enhancement Program (CSEP)	\$ 13,123,000	\$ 6,676,066
15406	Laboratory Information Management System (LIMS) Program	\$ 1,175,000	\$ 1,013,956
15408	Maintenance Management System (MMS) Upgrade Program	\$ 605,000	\$ 493,798
15411	Business, Finance & Human Resource (B,F&HR) Program	\$ 16,308,230	\$ 7,097,298
15376	Information Technology Infrastructure Program	\$ 21,071,000	\$ 13,114,796
15411	Information Technology Security Program	\$ 4,436,000	\$ 2,063,168
		\$ 56,718,230	\$ 30,459,082

Board Report (Information Technology Strategic Plan (ITSP) –
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Attachment 3

Summary list of IT capital projects:

Enhanced Reliability	
Email System Upgrade	Completed
IT Business Systems / Data Recovery	Completed
Energy Management System (Phase I)	Completed
Programmable Logic Controller Standardization (Phase 1)	Completed
Maintenance Management System Software Version Upgrade	Completed
Control System Data Storage and Reporting	Completed
Telecommunication Infrastructure Upgrade Program	Completed
Automatic Meter Reading / Remote Terminal Unit Upgrade	In Progress
SMART Operations - formerly Real Time Operating System (RTOS)	In Progress
Control System Enhancement Program Implementation	In Progress
Automation Communication Upgrade	In Progress
Energy Management System (Phase II)	In Progress
Programmable Logic Controller - Lifecycle Replacement (Phase II)	In Progress
IT Network Upgrade (Phase I)	In Progress
IT Network Upgrade (Phase II)	In Progress
Field Emergency Generator Upgrade	In Progress
Phonemail Replacement	In Progress
Two Way Radio Upgrade (Phase I)	In Progress
Union Station Headquarters Technology Upgrade	In Progress
Human Resources (Peoplesoft) Improvement Plan (Phase II)	In Progress
Enhanced Distribution System Control	On Hold (*1)
Colorado River Aqueduct (CRA) Control Integration	On Hold (*1)
Improved Water Quality	
Oxidation Demonstration Plant (ODP) Control System Replacement	Completed
Laboratory Information Management System Upgrade	Completed
Plant Influent Flow Metering Upgrade	In Progress
Enhanced Cyber Security	
Information Security Administration Software	Completed
SCADA Operator Authentication	Completed
IT Security Monitoring Improvement	Completed
SCADA Security Improvements	Completed
Information Security Assessment/Remediation (Phase I)	In Progress
Information Security Assessment/Remediation (Phase II)	In Progress
Productivity / Cost Efficiency	
Peoplesoft Software Version Upgrade (from 7.5 to 8.3)	Completed
E-Business Suite	Completed
Project Accounting and Grants Management	Completed
Human Resources (Peoplesoft) Improvement Plan (Phase I)	In Progress
Water Billing System Upgrade	In Progress
Integrated Corporate Budgeting System	In Progress
Enterprise Geographic Information System (Phase I)	In Progress
Strategic Operations and Maintenance Management System (SOMMS)	In Progress

Footnote*

- (1.) The Enhanced Distribution System Control and Colorado River Aqueduct (CRA) Control Integration projects are on-hold pending completion of predecessor projects.