

**• Information Technology Strategic Plan (ITSP) - Quarterly Report for the period ending September 2008**

**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 September 30, 2008. 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 September 30, 2008.

**Attachment 2** provides a summary of the appropriations and expenditures through September 30, 2008.

**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 July 1<sup>st</sup> through September 30, 2008. The projects are categorized by business driver as follows:



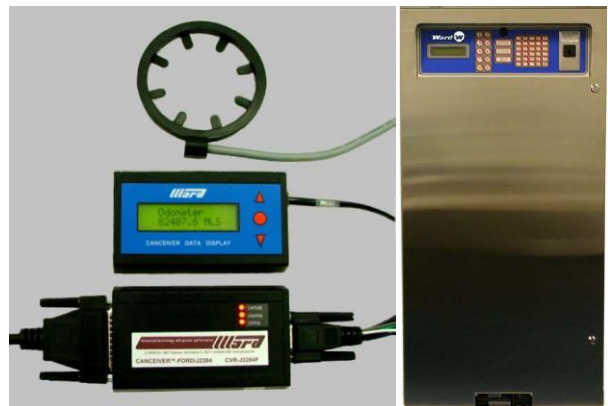
<b>IT STRATEGIC PLAN</b>
<b>Enhanced Reliability</b> – Enhance system reliability
<b>Improved Water Quality</b> – Ensure water quality excellence
<b>Enhanced Cyber Security</b> – Effectively manage and safeguard assets
<b>Productivity / Cost Efficiency</b> – Improve process efficiency and effectiveness




<b>Productivity / Cost Efficiency:</b>	<b>Fiscal Year 2008-09 to date</b> <b>Budget: \$ 1.03 M      Expended: \$ 0.74 M</b>
<p><b>Key accomplishments included:</b></p> <p><b>Rolled out the New Integrated Budget Management System</b></p> <ul style="list-style-type: none"> <li>■ The Integrated Budget Management System (IBMS) will provide a single integrated system by replacing five separate, existing budgeting systems. The new IBMS will ensure complete and consistent budget development, analysis, and reporting to budget and financial staff, budget coordinators, management and staff at all levels of the organization.</li> <li>■ Staff anticipates that the payback period for IBMS will be approximately five years through increased staff productivity.</li> <li>■ During the period, IBMS was made available for use as part of the fiscal year 2009/10 budgeting process. The system is currently being used by budget coordinators to develop the O&amp;M and capital budgets.</li> </ul> <p><b>Continued Deployment of Servers for Phase One of the Information Technology Infrastructure Upgrade</b></p> <ul style="list-style-type: none"> <li>■ Phase One of the Information Technology Infrastructure Upgrade will improve reliability and avoid future capital expenditures by implementing special “virtualization” software that allows separate servers to be consolidated into a single physical server. This project will enable Metropolitan to significantly reduce the forecasted number of servers to be purchased over the next five years.</li> <li>■ During the period, staff continued virtualization of servers. To date, approximately sixteen additional “virtual” servers have been created on existing hardware using the virtualization software. The result was a cost avoidance of approximately \$240,000 by eliminating the need to purchase additional physical servers.</li> </ul>	  

**Initiated installation of the Fuel Management System**

- The Fuel Management System will allow Metropolitan to more effectively and efficiently manage fuel inventory. Metropolitan currently tracks fuel usage and fuel inventory information manually. The Fuel Management System will automate the capture of this information and address an associated audit finding. The automated system is expected to reduce costs by eliminating the manual data entry of fueling information by automatically capturing relevant data (vehicle number, amount of fuel dispensed, etc.) at the fuel island and automatically adjusting fuel inventory. The result is an estimated productivity savings of approximately \$180,000 annually with a payback period of approximately six years, once the system is fully implemented.
- In the prior period, staff successfully completed a pilot of the new fuel management system at the Weymouth facility. During this period, staff initiated the deployment of the new fuel management system at the remaining field locations. To date, six of the twelve sites have been equipped with the Fuel Management System. Installation and staff training are scheduled to continue through the second quarter of the fiscal year.

Expenditures in the Productivity/Cost Efficiency category were lower than forecasted for the first quarter of fiscal year 2008/09. Expenditures in this category are projected to remain under budget for the fiscal year as projects in this category, such as the Water Conservation Information System and Water Treatment Process optimization, have been delayed as internal resources were assigned to higher priority projects.



<p style="text-align: center;"><b>Enhanced Reliability:</b></p>	<p style="text-align: center;"><b>Fiscal Year 2008-09 to date</b>  <b>Budget: \$ 4.38 M    Expended: \$ 2.04 M</b></p>
<p><b>Key accomplishments included:</b></p> <p><b>Deployed Energy Management System Enhancements for Users Evaluation</b></p> <ul style="list-style-type: none"> <li>■ Phase II of the Energy Management System assists Metropolitan staff with scheduling, contracting, execution, tracking and auditing of energy purchases related to the Colorado River Aqueduct.</li> <li>■ During the period, the enhancements were completed and released for evaluation and user acceptance testing. Key enhancements include creating and posting of invoices to the Oracle financial system.</li> </ul> <p><b>Implemented Employee Relations Module</b></p> <ul style="list-style-type: none"> <li>■ The Human Resources Improvement Project focused on the upgrade to the PeopleSoft HR/Payroll system and implementation of the Employee Relations and Learning Management modules; eliminating the need to maintain separate parallel systems previously used to maintain HR data. The PeopleSoft 8.9 Upgrade was successfully completed last fiscal year.</li> <li>■ The Employee Relations module provides assistance in monitoring grievance deadlines by generating due dates and reminders automatically, which was previously performed manually by Employee Relations staff. This system reduces the potential for error, helps ensure that deadlines are not overlooked, and provides a reporting capability.</li> <li>■ During the period, the Employee Relations module was implemented, providing a new tool to assist Human Resources staff. The Learning Management module will be used to maintain all training records for Metropolitan staff. The schedule calls for a phased rollout of the new software beginning in December 2008.</li> </ul> <p><b>Conducted Disaster Recovery Exercises</b></p> <ul style="list-style-type: none"> <li>■ Staff continued to conduct on-going disaster recovery exercises as part of efforts to refine Metropolitan’s ability to recover critical IT systems in the event of a disaster. During the period, a number of workshops and exercises were conducted involving IT disaster recovery personnel. Exercise objectives include the use of emergency notification system, validating procedures and recovery of key applications supported at the District’s disaster recovery facility.</li> </ul>	  

**Installed Programmable Logic Controllers (PLCs) at Jensen and Weymouth Treatment Plants**

- PLCs are industrial process control devices that are tied into Metropolitan’s SCADA system to control and monitor a variety of important water system-related processes. During the period, three PLCs that had reached the end of their useful life were replaced with new units at the Jensen and Weymouth treatment plants. These PLC units are used to monitor and control emergency generator and washwater reclamation processes.
- To date, staff has completed installation of 16 of the 20 units. The remaining four units located at the Jensen, Mills and Diemer treatment plants are scheduled for installation in the second quarter of this fiscal year.



**Began Main Deployment Phase for the Automatic Meter Reading (AMR) Project**

- This project involves upgrading the AMR meter sites that support Metropolitan’s billing and monitoring of water delivery through service connections to member agencies. The current AMR system is based on outdated technology that is no longer supported by the telecommunications industry and must be replaced to continue functioning properly. There are approximately 480 water meters located throughout Metropolitan’s distribution system. During the period, staff started the main deployment of the AMR units. To date, approximately 279 new AMR units have been installed. Installation is scheduled to continue through the second quarter of the fiscal year.



**Obtained Board Authorization to Enter Into Agreement for the Union Station Headquarters Technology Upgrade**

- During the period, the Board authorized an agreement with Cibola Systems Corporation for final design and installation of replacements and improvements to audio, video and information technology-related equipment in the main board room and board committee rooms in Metropolitan’s Headquarters Building.

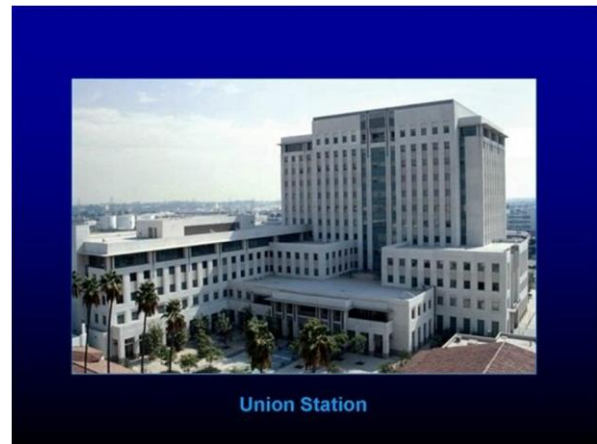


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**Other key accomplishments during the period:**

- Staff began preparations for Metropolitan’s district-wide functional drill, as part of the statewide Golden Guardian 2008 emergency exercise sponsored by the California Office of Homeland Security.
- Staff supported the annual maintenance of power systems at Union Station headquarters. In preparation for the power shutdown at headquarters, staff executed procedures to back-up important business systems; coordinated with Operations staff to ensure critical applications requiring 24/7 operation continue to function, and took proactive steps to mitigate disruption of related services to Metropolitan.

Expenditures in the Enhanced Reliability category were lower than projected for the first quarter of fiscal year 2008/09. A variance in this category is expected to remain as projects were deferred to focus available resources on the highest priority efforts. The deferred projects include the Diamond Valley Lake Control System Replacement, Water Planning Application, Computer Aided Design (CAD) Drawing Management System, and the Electronic Records Retention System.



Union Station

**Enhanced Cyber Security:**

**Fiscal Year 2008-09 to date**  
**Budget: \$ 0.21 M      Expended: \$ 0.16 M**

**Key accomplishments included:**

**Continued Phase II of the Information Security Remediation Initiative**

- As part of Phase II of the Information Security Remediation initiative, staff continued efforts to enhance and upgrade Metropolitan’s IT security infrastructure. Activities included proactively implementing measures to secure the computing environment against cyber threats associated with newly evolving technologies. This included installing new software and hardware to ensure that Metropolitan’s computing environment remains secure.
- To date, four of the eight initiatives have been completed. The completed initiatives include:
  1. Strengthening the security of Metropolitan’s SCADA system by better segregating it from the business network.
  2. Deploying secure wireless networks at Metropolitan’s field sites and headquarters facility.



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- 3. Implementing a new security monitoring capability for Metropolitan’s network.
- 4. Deploying vulnerability assessment software as a tool for Metropolitan staff to use in checking for cyber security weaknesses.

- The four remaining initiatives involve: installing new database monitoring and scanning software; evaluating and testing laptop encryption software; installing a security software product for monitoring servers, and evaluating email encryption capabilities.

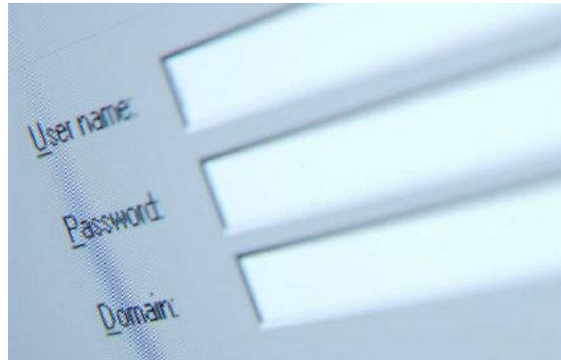
**Accomplishments during the period include:**

- Staff initiated testing of database security monitoring software. This software will identify potential vulnerabilities and provide real-time security monitoring for critical databases.
- Staff completed the evaluation and recommendation for the server security monitoring product.

**Other key accomplishments during the period:**

- As part of the on-going security awareness effort, staff published monthly cyber security tips on Metropolitan’s internal website and continued to provide IT security orientation for all Metropolitan new hires.

Expenditures in the Enhanced Cyber Security category are slightly below budget for the first quarter of fiscal year 2007/08. The forecast for this category is expected to be on target for the fiscal year.



**Improved Water Quality:**

**Fiscal Year 2008-09 to date**  
**Budget: \$ 0.01 M      Expended: \$ 0.02 M**

**Key accomplishments included:**

**Skinner Oxidation Retrofit Program**

- During the period, staff continued support of the construction effort at the Skinner plant, by responding to technical questions and requests for information; and ensured compliance with Metropolitan specifications related to the design, programming, and installation of hardware and software to control the ozone treatment processes at the Skinner facility.



### Treatment Plant Inlet Flow Metering Upgrade

- The purpose of the Plant Inlet Flow Metering Upgrade project is to ensure WSO operators and the SCADA system receive accurate inlet flow readings. Accurate inlet flow readings are critical for determining proper chemical feed dosages. This project involves modifying SCADA Automated Process Control (APC) programs to calculate plant inlet flow using multiple methods to help ensure the inlet flow figures provided to the WSO treatment plant operators are correct even when one of the meters is not providing accurate readings.
- To date, redundant flow metering calculations have been rolled-out for the Mills, Weymouth and Jensen Treatment Plants. During the period, testing for the Jensen Treatment plant was completed and was rolled out. Development work is currently underway at the Skinner facility.

### Other key accomplishments during the period:

- IT continued to provide SCADA-related support such as design reviews and programming for a variety of water quality programs and projects at Metropolitan. Some of the activities during the period include:
  - **Chlorine Facility Upgrades - Jensen Treatment Plant:** IT staff assisted with start-up testing of the Jensen chlorine facility, as a predecessor to the acceptance testing.
  - **Mills Chemical System Modification:** During the period, staff reviewed the 99% design submittals.
  - **Interim Hypochlorite Feed at Cooper Basin:** Staff assisted in start-up, troubleshooting and conducted training for operators and technicians related to the Copper Basin hypochlorite feed system. Sodium hypochlorite is in use as an interim measure to help control quagga mussels.

Overall, expenditures in the Improved Water Quality category were higher than planned for the first quarter of fiscal year 2008/09. A fiscal year variance is expected to remain based on revised expenditure





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forecast for the Plant Inlet Flow Metering project.	
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**Attachment 1**

**Summary of Board Actions:**

The following table provides a sequential listing of ITSP Board appropriations through September 30, 2008:

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
April-07	15397	Phase II of the Automatic Meter Reading Upgrade Project	\$ 4,410,000
June-07	15411	Transportation Management System	\$ 846,000
June-07	15376	Phase One of the Information Technology Infrastructure Upgrade	\$ 1,590,000
August-07	15411	Inventory Bar-Coding System	\$ 1,235,000
September-07	15376	IT Disaster Recovery Facility Upgrades	\$ 1,010,000
February-08	15376	Telephone System Replacement	\$ 10,200,000
			<b>\$ 76,009,230</b>

**Details of Board Items during this period:**

- On July 8, 2008, the Board authorized an agreement with Cibola Systems Corporation in an amount not to exceed \$1.71 million for the Union Station Headquarters Technology Upgrade project (Approp. 15376).
- On September 8, 2008, staff provided quarterly updates on the Information Technology Strategic Plan (ITSP), and information technology (IT) activities in general, for the period ending June 30, 2008.

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**Attachment 2**

**Summary of Board Actions:**

The following table provides a summary of ITSP Board appropriations and expenditures through September 30, 2008:

<b>Appropriation No.</b>	<b>Program Description</b>	<b>Total Amount Appropriated</b>	<b>Expenditures (Through September 30, 2008)</b>
15397	Control System Enhancement Program (CSEP)	\$ 17,533,000	\$ 11,372,762
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 (BF&HR) Program	\$ 18,389,230	\$ 13,514,294
15376	Information Technology Infrastructure Program	\$ 33,871,000	\$ 17,531,234
15378	Information Technology Security Program	\$ 4,436,000	\$ 3,283,782
		<b>\$ 76,009,230</b>	<b>\$ 47,209,826</b>

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**Attachment 3**

**Summary list of IT capital projects:**

<b>Enhanced Reliability</b>	
Control System Data Storage and Reporting	Completed
Email System Upgrade	Completed
Energy Management System (Phase I)	Completed
IT Business Systems / Data Recovery	Completed
Maintenance Management System Software Version Upgrade	Completed
Peoplesoft Software Version Upgrade (from 7.5 to 8.3)	Completed
Peoplesoft Software Version Upgrade (v8.9) as part of HMRS Phase II	Completed
Programmable Logic Controller Standardization (Phase 1)	Completed
Telecommunication Infrastructure Upgrade Program	Completed
Phonemail Replacement	Completed
Field Emergency Generator Upgrade	Completed
IT Network Upgrade (Phase I)	Completed
Control System Enhancement Program Implementation	In Progress
Automatic Meter Reading / Remote Terminal Unit Upgrade	In Progress
Control Systems Communications Upgrade	In Progress
Employee Relations Module and Learning Management Module Implementation	In Progress
Energy Management System (Phase II)	In Progress
Inventory Bar-Coding System	In Progress
IT Disaster Recovery Facility Upgrades	In Progress
IT Network Upgrade (Phase II)	In Progress
Programmable Logic Controller - Lifecycle Replacement (Phase II)	In Progress
SMART Operations - formerly Real Time Operating System (RTOS)	In Progress
Telephone System Replacement	In Progress
Two Way Radio Upgrade (Phase I)	In Progress
Union Station Headquarters Technology Upgrade	In Progress
Water Billing System Upgrade	In Progress
Colorado River Aqueduct (CRA) Control Integration	On Hold (*1)
Enhanced Distribution System Control	On Hold (*1)
<b>Improved Water Quality</b>	
Laboratory Information Management System Upgrade	Completed
Oxidation Demonstration Plant (ODP) Control System Replacement	Completed
Plant Influent Flow Metering Upgrade	In Progress
<b>Enhanced Cyber Security</b>	
Information Security Administration Software	Completed
Information Security Assessment/Remediation (Phase I)	Completed
IT Security Monitoring Improvement	Completed
SCADA Operator Authentication	Completed
SCADA Security Improvements	Completed
Information Security Assessment/Remediation (Phase II)	In Progress
<b>Productivity / Cost Efficiency</b>	
E-Business Suite	Completed
Enterprise Geographic Information System (Phase I)	Completed
Human Resources (Peoplesoft) Improvement Plan (Phase I)	Completed
Project Accounting and Grants Management	Completed
Transportation Management System	In Progress
Fuel Management System	In Progress
Integrated Budgeting Management System	In Progress
IT Infrastructure Upgrade (Phase I)	In Progress
IT Testing Tools	In Progress
Mobile Technology and Materials Interface	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.