



● Information Technology Strategic Plan (ITSP) – Quarterly Report for the period ending December 2011 Summary

Summary

This report provides a quarterly update on progress to implement Metropolitan’s Information Technology Strategic Plan (ITSP) and on information technology (IT) activities for the period ending December 31, 2011. There were a number of important milestones achieved during the period that are summarized in this report. Key milestones for the upcoming quarter ending March 31, 2012 include initiating deployment of the Hazardous Waste Module as part of the Environmental and Safety Management Information System; completing the 100% design for the Wide-Area-Network upgrade, initiating a Workforce Technology Assessment as part of the PC Replacement Program, and the roll-out of a new web-viewer to display Metropolitan’s GPS equipped assets and MWD facilities on GIS maps for Water System Operations.



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 updated in 2010 based on 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.

Detailed Report

Attached are highlights of progress and major milestones reached on IT projects / initiatives during the period of October 1 through December 31, 2011. 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

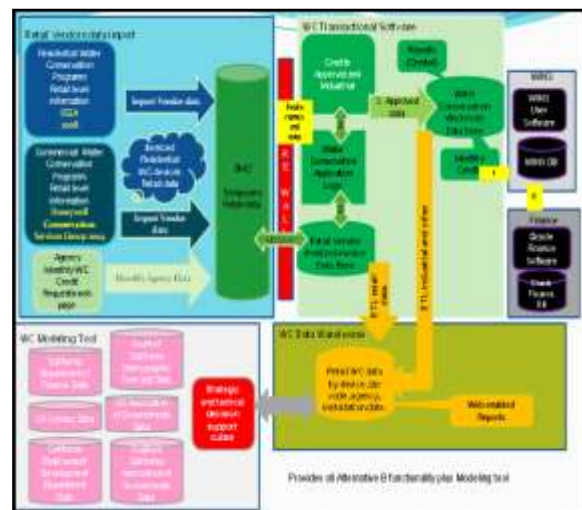
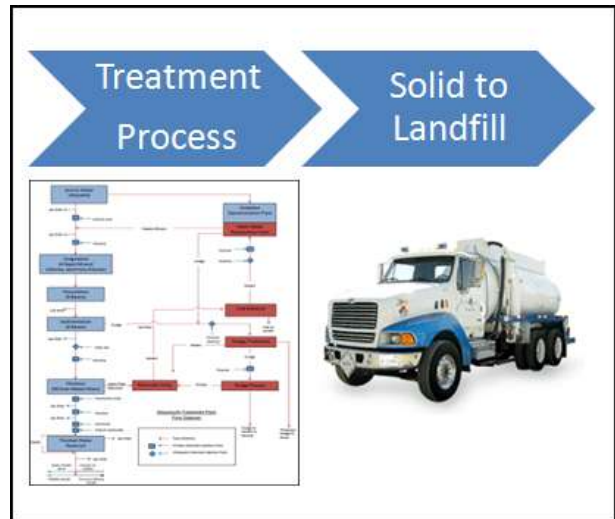
<p style="text-align: center;">Enhanced Reliability:</p>	<p style="text-align: center;">Through 2nd Quarter FY Budget: \$4.85 M FY Expended: \$0.56 M</p>
<p>Key Accomplishments Included:</p> <p>Completed 100% Design for the Wide-Area-Network Upgrade</p> <ul style="list-style-type: none"> ▪ The Wide-Area-Network (WAN) project is geared to provide alternate communication paths to/from selected Metropolitan sites to improve reliability by eliminating potential single points of failure. The scope of this project is to enhance the WAN infrastructure by adding new microwave links and upgrades at key microwave towers used for facility communications. These enhancements will improve dependability by adding alternate routes to the sites in the event that primary network paths are out of service. ▪ During the period, staff completed 100% design as part of the Wide-Area-Network upgrade project. Based on the completed design, an RFP solicitation bid package for the construction phase is being prepared and is scheduled to be issued next quarter. <p>Initiated the Environmental and Safety Management Information System (EMIS)</p> <ul style="list-style-type: none"> ▪ During the period (October), staff received Board authorization to proceed with the EMIS project. This project will implement a cloud-based system for Water System Operations' Safety and Environmental Section (SES) to enhance the tracking and monitoring of compliance related activities. EMIS replaces multiple systems consisting of stand-alone databases, spreadsheets, 14-year-old applications and will assist SES with handling over 800 permits for equipment and processes in the areas of air quality, wastewater, hazardous materials and waste, fuel and chemical storage tanks, and safety requirements. SES staff manages these permits under the purview of numerous regulatory agencies, including South Coast Air Quality Management District, California Air Resources Board, State Water Resources Control Board, regional water quality control boards, Department of Toxic Substance Control, and California Occupational Safety and Health Administration. 	 

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- During this period, staff completed the consultant agreement, negotiated the final agreement with the software provider, conducted the project kickoff and business requirements sessions for all functional areas and initiated the design of the first module (Hazardous Waste Management). Based on customer needs, staff is proceeding expeditiously to complete the first of five modules next quarter and the work is proceeding according to plan.
- The Hazardous Waste module will be used by WSO's Safety and Environmental Services Section to manage the tracking of hazardous waste manifest information such as waste profile, generator, volume and cost, and transportation to the Treatment Storage & Disposal Facilities in compliance with the Resource Conservation and Recovery Act. The five modules to be implemented as part of the EMIS system include Hazardous Waste, Incident Management, Corrective Actions & Compliance Management, Industrial Hygiene and Audit/Inspection.

Initiated Upgrade for the Water Conservation System

- Water Conservation software is an in-house developed software that captures MWD approved water conservation programs, water conservation devices (such as volume of water saved and price per unit), conservation programs funding identities, member agencies commitment to participate to specific water program and monthly rebates requests and credit transactions. The Water Conservation software validates the rebates request versus the approved water conservation programs, devices, member agency total agreement and calculates the rebate amount. The rebate transactions are summarized and included in monthly member agency water bill and automatically exported to Oracle Finance.
- In support of Water Resource Management Group (WRM), IT staff is developing a new database (data-warehouse) providing a central repository for the large volume of retail level information (e.g. device, zip code, agency, dates, etc.). This new repository will enable WRM staff to efficiently and effectively query, validate and report on selected water conservation information, thus streamlining the administration of the Water Conservation Program.



Key WRM requested features include:

- Allows MWD or/and water conservation contractual vendors to search legacy data for potential duplicate rebate requests (same address, same owner).
- Ability to perform zip code area conservation devices saturation and water conservation impact on water demands.
- To date, IT staff completed user requirements and the design of the database (data warehouse). Next steps include programming, hardware setup and configuration, data migration, and system testing. The work is proceeding according to plan and the upgrade is scheduled to deploy in the fourth quarter of this fiscal year.

Conducted Disaster Recovery and Business Continuity Exercise

- During October, staff completed an information technology disaster recovery / business continuity exercise involving key business users from Engineering, Finance, Water Quality, Legal, Human Resources and Information Technology. The exercise provided live simulation of staff accessing critical applications via servers/databases located at Metropolitan's remote disaster recovery facility. The test was successfully completed and met all the objectives of the exercise, including hands-on training, validation of recovery procedures, and identifying opportunity for enhancements to the IT Disaster Recovery Plan and Procedures Guide.

Continued Oracle Financial System Upgrade

- The Oracle financial system is comprised of software modules, many of which are critical in supporting Metropolitan's business/operation. The purpose of this software version upgrade to version 11.5.10 is to ensure reliability as support for the existing Oracle is set to expire. Oracle may not provide the necessary support required should a problem occur in the existing version. By conducting this upgrade, Metropolitan will be able to maintain the level of vendor support services required.
- During the period, IT staff completed the setup and configuration of the test environment (hardware/software), and completed initial IT testing. The next step is to begin comprehensive



end-user functional test phase involving the Chief Financial Officer's Office. Testing of the modules and workflow within the Oracle Financial system will be conducted over the next several months. Final user-acceptance testing and deployment is currently scheduled for the first quarter of next fiscal year.

Other Key Activities and Accomplishments




- **Continued Electronic Discovery Project** - IT staff continued with migration efforts to move (ingest) emails/files from Metropolitan's email system into a new storage area. The moving of existing personal folders and email is scheduled to continue through the third quarter of the fiscal year. Once the first phase of this project is completed (moving all email to central storage devices), this will enable efficient and effective management, search, and retrieval of electronic records.
- Continued efforts to replace the Asset Information Management System with a new Lease Management System. This project is replacing existing in-house developed software comprised of modules that range in age from 10 to 17 years old. A new system is needed as the existing system no longer meets all of Metropolitan's business needs and a newer off-the-shelf software is available, providing more cost-effective solution than modifying/enhancing the outdated existing system. During the period, staff began the set up, configuration and initial installation of a test system comprised of hardware and software. Development of a test system allows staff to begin data migration and initial testing of the system and interfaces to other dependent systems and applications.

The fiscal year variance between budgeted and expended dollars is primarily due to projects being deferred to allow additional time to investigate alternative approaches and other cost-effective options. A variance in this category is expected to remain pending final recommendations and Board authorization for these reliability initiatives.



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<p style="text-align: center;">Enhanced Cyber Security:</p>	<p style="text-align: center;">Through 2nd Quarter FY Budget: \$0.31 M FY Expended: \$0.11 M</p>
<p>Key Accomplishments Included:</p> <ul style="list-style-type: none"> ▪ During the period, the Information Technology Section substantially completed the competitive selection process to hire a cyber-security firm to perform an independent assessment of Metropolitan's Supervisory Control and Data Acquisition (SCADA) security environment. The SCADA system, comprised of instrumentation, hardware and software, is used by Water System Operations to monitor and control important water system-related processes. The security assessment is scheduled to kickoff next quarter. <p>On-going Cyber Security Monitoring and Controls</p> <ul style="list-style-type: none"> ▪ Information Technology Security utilizes a complement of security software tools and related methods to proactively protect Metropolitan's cyber assets including: <ul style="list-style-type: none"> ➢ Constantly monitoring network traffic for suspicious activities ➢ Continuously monitoring and protecting against potentially harmful emails (SPAM) ➢ Regularly deploy security patches to protect Metropolitan's network, infrastructure and data <p>Other Key Activities and Accomplishments</p> <ul style="list-style-type: none"> ▪ IT Staff continued to monitor and participate in local and national efforts aimed at enhancing security capability for the water sector to help identify prudent steps and best practices. As a member of the Information Systems Audit and Control Association (ISACA), staff participated in the Los Angeles Spring Conference Planning Session. ISACA is an international professional association that deals with IT Governance. ▪ Published monthly cyber security tips on Metropolitan's internal website providing practical information on current security issues ▪ Provided IT security orientation for all Metropolitan new hires. <p>Expenditures for the category were lower than plan. This variance is expected to decrease once the SCADA cyber security assessment is completed and remediation actions are underway. Total expenditure for the fiscal year is scheduled to be on-target.</p>	<div data-bbox="847 443 1446 789" data-label="Image"> </div> <div data-bbox="836 932 1455 1167" data-label="Image"> </div> <div data-bbox="847 1308 1446 1598" data-label="Image"> </div>

Improved Water Quality:	Through 2 nd Quarter FY Budget: \$0.09 M FY Expended: \$0.15 M
<p>Key Accomplishments Included:</p> <ul style="list-style-type: none"> ▪ Programming upgrades for software applications that support Metropolitan’s water quality treatment, monitoring, and compliance reporting are required on an on-going basis. Modifications are typically needed as a result of changing regulatory compliance requirement, and other treatment process modifications. ▪ During the period, IT staff working closely with key stakeholders from the Water Quality Section achieved key milestones including: <ul style="list-style-type: none"> ▪ Completed final user acceptance testing as a part of the Interim Enhanced Surface Water Treatment Rule (IESWTR) Application Upgrade. The upgrades were implemented to the IESWTR application to align with the new processes at Weymouth. The software application is used by Metropolitan for California surface water filtration and disinfection treatment regulations compliance reporting. ▪ Water Quality Lab sheet upgrades for fluoride treatment process have been completed and implemented at all treatment plants. Labsheet upgrades for ozone are completed at Mills, Skinner and Jensen. Diemer is scheduled to begin in January 2012 once construction is complete. ▪ During the period, staff provided on-going support for key water quality projects and initiatives related to the areas of IT security, communications, hardware and software requirements, and programming support. <p>Expenditures for the Improve Water Quality category were slightly higher than plan through the second quarter of the fiscal year. A slight variance is expected to remaining based on final acceptance and payment for the completion of the Water Quality Monitoring and Rapid Event Detection system as some planned expenditures for fiscal 2010/11 were carried into fiscal year 2011/12. All projects are projected to complete within Board approved budgets.</p>	  

<p>Productivity / Cost Efficiency:</p>	<p>Through 2nd Quarter FY Budget: \$0.12 M FY Expended: \$0.01 M</p>
<p>Key Accomplishments Included:</p> <p>Developed a Prototype Web-Viewer for Water System Operations (WSO)</p> <ul style="list-style-type: none"> ▪ The purpose of developing a web-viewer is to integrate EGIS maps for WSO to enhance viewing capabilities by displaying GPS equipped assets on GIS mapping relative to Metropolitan facilities and property. Per Water System Operation's request, the IT Geographic Information System Team developed a pilot “web-viewer” to display Global Positioning System equipped assets on GIS maps. The new viewer will provide for improved viewing capabilities, ease-of-use, and supports increased organizational efficiency as authorized-users can quickly and effectively locate GPS equipped assets in relation to Metropolitan owned properties and facilities. ▪ During the period, a prototype was developed for user evaluation and the initial performance of the pilot system has been positive. The pilot phase is scheduled to continue through January followed by rollout of the new web-viewer to WSO in February. <p>Initiate preliminary planning for PC Replacement Project (PCRP)</p> <ul style="list-style-type: none"> ▪ In preparation for the upcoming PCRP, IT staff began preliminary project planning and conducted briefings to senior management and IT technical resources to outline key objectives, scope and strategy as part of the initial planning process. ▪ As part of the preparatory process, IT staff will continue to monitor and evaluate technology advancements to determine its appropriateness for Metropolitan, and conduct alternative solution analysis to provide maximum flexibility at the lowest possible cost. The PCRP will commence subject to Board approval as part of the adoption of the fiscal year 2012/13 budget. <p>Deployed PeopleSoft/CalPERS Interface</p> <ul style="list-style-type: none"> ▪ During the period, staff successfully completed the CalPers interface for reporting payroll contribution. This interface was requested by CalPers to improve the method for data transfer using current technology. In the old method, 	<div data-bbox="850 516 1446 940" data-label="Image"> </div> <div data-bbox="938 1129 1321 1663" data-label="Image"> </div>

electronic files were submitted to CalPers which required additional processing. With the new interface, Metropolitan may now directly submit the data into the CalPers system, which greatly streamlines the process.

Completed Technical Implementation of Self-Service Modules

- As a part of on-going efforts to implement business improvements and promote self-service to increase organizational efficiency, the IT Section completed the technical implementation of two new modules for the Human Resources (HR) Group.
 - e-Compensation Manager
 - e-Profile Manager
- The new modules provide self-service functionalities and capabilities that support HR in streamlining administrative processes in the management of employee data and workforce compensation. With the completion of the technical implementation, HR is proceeding with rollouts of these new modules, scheduled for later this year.

Other Key Activities and Accomplishments

- As part of IT Sections continued effort to deliver cost-effective services, staff successfully renegotiated seven software agreements resulting in \$41,838 in savings to Metropolitan. This is part of an on-going effort to effectively manage software maintenance costs by renegotiating as well as seeking alternative solutions while ensuring reliability and security of Metropolitan’s assets.

Completed assessment of Wake-On-Lan Technology for potential PC power savings

- The Wake-On-Lan technology allows the PC's attached to the network to be shut down during off hours and automatically wakes up the devices long enough to apply security patches and software updates. Previously, staff had been advised to leave their devices powered on at night to receive and apply the patches/updates electronically. The completion of the assessment allows IT staff to proceed with the official deployment, which may potentially save Metropolitan an estimated \$70,000 per year in energy savings. Announcement of the Wake-On-Lan to Metropolitan’s user community is planned for the next period.



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Fiscal year 2011-12 (to-date), Metropolitan’s Business Technology Group received two Information Technology (IT) Awards

- Recognized by Municipal Information Systems Association of California (MISAC) and was presented the 2011 Award for Excellence in IT Practices. MISAC is comprised of a professional group of California IT leaders from municipal and special government districts. Metropolitan was rated Excellent based on its practices in IT strategic planning and budget, purchasing, operations, customer satisfaction, project management, training, disaster preparation and recovery, policies and procedures. This is the second year that Metropolitan's has been recognized.
- Recipient of a 2011 PMI Distinguish Project Award by the Project Management Institute (PMI). The purpose of this award is to recognize and honor successful projects that have promoted project management concepts, techniques, practices, or theories through the effective application of project management principles. Metropolitan was selected based on an entry submitted for the Transportation and Fuel Management Project.

Expenditures for the Productivity / Cost Efficiency category were under-budget through the second quarter of the fiscal year. A variance is expected to remain in this category based on revised plans which include: the deferral of the Ozone capital project, a slight deferral of selected new capital projects to investigate alternative approaches and other cost-effective options, and the Lease Management project which was revised from a capital project to an O&M project utilizing a cloud-based solution.

