- **Internal Audit Report for June 2007**

Summary

Three reports were issued during the month:
- **Audit Department Quality Assurance Review – General Conformance**
- **Supervisory Control and Data Acquisition Application Audit Report – Generally Satisfactory**
- **ORSA Consulting Engineers Agreement Audit Report – Generally Satisfactory**

Discussion Section

This report highlights the significant activities of the Internal Audit Department during June 2007. In addition to presenting background information and the opinions expressed in the audit reports, a discussion of findings noted during the examination are also provided.

Audit Department Quality Assurance Review

Background

Today's Internal Auditor is expected to profess a high degree of professionalism, independence, and integrity. In order to ensure that the Audit Department exhibits these qualities, we adhere to the Code of Ethics and the *International Standards for the Professional Practice of Internal Auditing (Standards)* set forth by the Institute of Internal Auditors (IIA). The *Standards* present mandatory guidance for the professional practice of internal auditing, establish a framework for performing value-added internal audit activities, provide the basis for evaluating internal audit performance, and foster improved audit operations. In addition to adhering to the *Standards,* we promote continuous improvement in the Audit Department by encouraging professional certifications (Certified Public Accountant, Certified Internal Auditor, etc.), providing internal and external training, performing feedback surveys, and by enhancing audit operations and processes.

An integral requirement of the S*tandards* involves periodic internal assessments of the Audit Department. Additionally, every five years external quality assurance reviews must be performed by qualified, independent reviewers external to the organization. Accordingly, we conducted a quality assurance self-assessment of the Audit Department in order to examine our conformity to the Standards, to evaluate our effectiveness in carrying out our mission, to identify opportunities to enhance management and work processes, and to enhance the Audit Department's value to Metropolitan. The self-assessment included a review of the risk assessment and audit planning processes; evaluation of audit policies, procedures, and practices; assessment of audit management methods and Board/Management communication effectiveness; completion of anonymous client and audit staff satisfaction surveys; and a thorough examination of selected audit working papers. We completed the documentation of this self-assessment in December 2006.

Accordingly, we then contracted for an external quality assurance review with the IIA. The objectives of this review were twofold. First, the IIA verified the assertions made in the self-assessment report concerning adequate fulfillment of the District's expectations of the Audit Department. Secondly, the external review verified the Audit Department's conformity to The IIA's *Standards*. This external review consisted of Board and Management interviews, along with a detailed review of our self-assessment report and exhibits (including client and auditor surveys, work papers, Policies and Procedures Manual and Audit Plan documents).

Quality Evaluation

In February 2007, we were pleased to be notified that the Audit Department passed the external quality assurance review with an over-all evaluation of "General Conformance" to the *Standards,* which is the highest ranking awarded. According to the IIA, "General Conformance" means the Audit Department has a charter, policies, and processes that are judged to be in accordance with the *Standards*. However, there were opportunities for improvement. Specifically, the report noted the Audit Department partially conformed to four *Standards*, and also noted several recommendations related to Practice Advisories, or best practices. We concur with all the observations and recommendations (detailed below), which we believe will further strengthen the professionalism of the Audit Department. We have prepared a Management Response and Action Plan and are in process of implementing these enhancements.

Comments and Recommendations

Part I – Matters for Consideration of the Board and/or Management

These findings present recommendations for Board and/or Management consideration. We believe these "best practices" recommendations could enhance the effectiveness and added value of the Audit Department.

MATTERS FOR THE CONSIDERATION OF THE BOARD

The Board's independent and direct oversight of the Audit Department promotes effective governance and control within Metropolitan. The Executive Committee's current Charter, as set forth in the Administrative Code, generally contains adequate authority to effectively oversee its Audit Department responsibilities. However, two recommendations emerged during the self-assessment. First, consider re-establishing an Audit Subcommittee to provide additional time and focus on Audit Department activities. Second, consider revising the Executive Committee Charter to expand some responsibilities, such as considering the effectiveness of Metropolitan's internal control system and reassessing the Audit Department Charter annually.

Our response to the first recommendation is that discussions with the Chairman revealed that the responsibilities of the former Audit Subcommittee have been assigned to the Executive Committee. We agree that Executive Committee oversight is appropriate, as it is comprised of the leadership of the Board. The Executive Committee is in a position to provide effective oversight of the Audit Department priorities and activities. With regard to the second recommendation, we will review the Executive Committee Charter as it relates to Audit Department activities and identify potential enhancements for the Executive Committee's consideration. We will present

any recommendations that result from this review to the Executive Committee at the August 2007 meeting.

MATTERS FOR THE CONSIDERATION OF THE BOARD AND MANAGEMENT

Management is responsible for establishing a network of processes to manage risks and control operations. The IIA has developed a Model Management Control Policy for review and adoption. This policy defines for the Board the responsibilities of Management at all levels, the Audit Department, and the Executive Committee with regard to risk management, control, and governance processes. While Metropolitan has adopted numerous policies and procedures to control District operations, these policies could be enhanced by assigning to Management certain responsibilities.

We concur with this "Best Practice" and will engage Management in discussions on this topic. We will present Management with a draft Management Control Policy for their review and consideration.

Part II – Issues Specific to Audit Department Activities

These observations are specific to the Audit Department's impact on corporate governance, compliance with policies and procedures and similar matters that should be implemented within the Audit Department, with support from the Board.

STRENGTHEN CORPORATE GOVERNANCE

Audit groups contribute to the governance of an organization by providing independent and objective assurance to the Board and Management. The Board reviews and approves the annual Audit Department Business Plan to ensure appropriate deployment of Audit Department resources. Following completion of audits, auditors are responsible for performing ongoing monitoring and follow-up to ensure implementation of recommendations by Management.

Our self-assessment revealed that due to changes in risk profiles or other factors, adjustments to the 2006/07 Audit Plan were made, however, they were not always formally communicated to the Executive Committee for review and concurrence. In addition, we noted that the process to ensure timely and effective implementation of Management actions following issuance of audit reports could be enhanced.

We concur with these observations and plan to provide the Executive Committee with quarterly assessments of our progress vs. the Audit Plan beginning September 2007. Further, we have developed processes in our automated audit system, TeamMate, to better track audit report recommendations, and Management responses. Finally, we will inform the Executive Committee of the status of Management's progress related to audit recommendations on a quarterly basis.

COMPLIANCE WITH POLICIES AND PROCEDURES

In order to ensure high quality and professional audit work consistent with the *Standards,* auditors should conform to established Audit Department policies and procedures. Established procedures in such areas as audit planning ensure that resources are properly allocated and audits are performed in an efficient and effective manner. Further, audit work should be properly supervised to ensure objectives are achieved, quality is assured, and staff is developed. Lastly, evidence of adherence to Audit Department standards should be indicated by proper auditor sign off on their work papers.

During the external validation phase of the Self-Assessment, it was noted that although the annual Audit Plan process is well documented in the Audit Department Policies and Procedures Manual, it was not consistently applied. Additionally, our detailed review of a sample of audit work papers indicated that evidence of audit supervision, such as initialing audit programs and work papers, could be improved. We also noted that auditors were not always following prescribed planning procedures (related to documenting client expectations and describing financial practices); adequately documenting conclusions in the work papers; and signing off on work papers thereby indicating that work papers met Audit Department standards.

We concur with these observations and have developed a plan to strengthen our compliance with Audit Department policies and procedures. First, we utilized the documented risk assessment process in the Policies and Procedures Manual while developing the 2007/08 Audit Plan. Next, we reminded auditors of the need to comply with established procedures in order to ensure quality work. We also have modified our internal training materials to emphasize these points and will be providing training during July 2007. Lastly, we will perform periodic internal assessments to ensure continuous improvement in these areas.

ENHANCE AUDIT DEPARTMENT EFFECTIVENESS

The purpose, authority and responsibility of an Audit Department should be formally defined in an Audit Department Charter, consistent with the *Standards* and approved by the Board. Further, Audit Departments should document internal practices in order to provide guidance to auditors and establish feedback loops to determine compliance with these practices. In this manner, Audit Departments should continuously improve their internal operations in order to increase their value added.

During our self-assessment, we noted that while the current Audit Department Charter generally includes the characteristics necessary to foster a quality Audit Department, the Charter requires updating to reflect the current reporting relationship to the Executive Committee and assign some additional responsibilities suggested by the IIA, such as expanding the internal quality assurance program of Audit Department activities. We also noted that while a comprehensive Audit Policies and Procedures Manual exists, the recent implementation of TeamMate automated work paper package requires that the Manual be updated to reflect current audit practices. Lastly, the external validator suggested that auditor time charging practices be reviewed against IIA benchmarks in order to identify "best practice" opportunities to enhance resource management.

We concur with these observations and recommendations and have developed a timetable for reviewing and updating the Audit Department Charter and the Policies and Procedures Manual. We have reviewed our auditor time charging practices and refined the definition of "applied time" to be more consistent with industry practices.

Supervisory Control and Data Acquisition Application Audit Report

Background
Metropolitan's Supervisory Control and Data Acquisition Application (SCADA) utilizes an array of instruments, equipment, computers, and programs to remotely monitor and control water system processes. The SCADA Operations Control Center (OCC) is located at the Eagle Rock Control Center. Frame Relay circuits, a wide area network technology, are used to connect the OCC to distribution remote terminal units (RTUs) and other water treatment plants. Each water treatment plant has a SCADA application and a number of distribution RTUs to monitor water flow, chemical components, temperature, ozone residual data, and other parameters. This information is captured in the live SCADA database at each plant and globally available to other treatment plants, as well as to the OCC at Eagle Rock. Operations staff at the plant facilities and the OCC performs actions in response to live data displayed on the SCADA consoles. The responsive actions include closing valves, opening valves, adjusting chemical components, and other manual actions.

Opinion
In our opinion, the operating and administrative procedures over the SCADA Application include those practices usually necessary to provide for a generally satisfactory internal control structure. The degree of compliance with such policies and procedures provided effective control for the period as of March 31, 2007.

Comments and Recommendations
Our audit revealed the following concerns.

SCADA APPLICATION SECURITY – USER ACCOUNT MANAGEMENT

Compliance with the Operating Policy I-01 Security of Computer Resources and End-user Computing Security Standards (Policies) is necessary to ensure that SCADA is not compromised by unauthorized access.

During our review of application security controls, we noted concerns over the administration of the biometric thumbprint scan device. Specifically, we noted that although the thumbprint scan devices were installed in 2006 to address user account and password concerns we noted instances where the scanners at the Weymouth and Mills Filtration Plants were not used. We also noted that the access-logging feature in the biometric devices was not activated to record operator access activities. Finally, we noted that four accounts of terminated employees were still active in SCADA.

We recommend that Information Technology Section work with the Water System Operations Group to:

1. Evaluate vitality and effectiveness of the biometric device to ensure adequate SCADA authentication and accountability.

2. Revoke the four terminated employee accounts.

OBSOLETE ORACLE VERSION – INADEQUATE SECURITY CONTROLS

Oracle Database Management System (DBMS) software should be maintained at a version that is supported by the vendor. Upgrading to a vendor-supported version is important to ensure security patches are applied so that security vulnerabilities and program bugs can be fixed on a timely manner. In addition, strong password management capabilities, including settings for password length, password expiration, and password reuse, are required to ensure adequate security controls in the DBMS.

During our review, we noted that the Oracle DBMS Version 7.3.4.3, which is no longer supported by the Oracle Corporation, is still used with SCADA. We also noted that this obsolete version does not have password management capabilities that include settings for password length, password expiration, and password reuse limitations.

We recommend that IT address these security concerns and consider upgrade the Oracle DBMS to a version that is supported by the vendor.

ORSA Consulting Engineers Agreement Audit Report

Background
In November 2004, Metropolitan entered into a $1.1 million agreement with ORSA Consulting Engineers (ORSA) to provide engineering services for final design of the Phase 3 Distribution System Treated Water Cross Connection Prevention Program (Program). The Agreement also required ORSA to prepare bid documents for construction of the proposed relocations and/or modifications at the site of the assigned structures identified with potential cross connection. The Program, which was conducted in three phases, was established in 1994 to comply with the State of California Code of Regulations (Regulations) administered by the California Department of Health Services (CDHS). The Regulations requires Metropolitan to eliminate all potential cross connections and sanitary hazards to its treated water supply and delivery systems. Initial surveys of Metropolitan's treated water distribution system identified approximately 1,280 potential cross connection hazards.

During Phase I of this Program, undertaken from 1994 to 2001, modifications have been made to about 160 of the highest priority sites. In Phase 2, undertaken from 2002 to 2003, Metropolitan prepared preliminary design and environmental documentation, and conducted additional assessment identifying an additional 150 potential cross connection sites. This resulted in reassessing the scope of final design and construction of identified cross connection sites. In

addition, during Phase 3 initiated in 2004, Metropolitan will relocate/modify 300 air-vacuum relief valves from underground to above ground locations. These valves are located along various feeders and are scattered over a wide area, principally within public roadways. As of February 2007, Metropolitan has paid ORSA approximately $923,000 under this Agreement, which will expire in October 2007.

Opinion
In our opinion, the operating and administrative procedures over ORSA Consulting Engineers Agreement include those practices usually necessary to provide for a generally satisfactory internal control structure. The degree of compliance with such policies and procedures provided effective control for the period November 2004 (inception of the agreement) through February 2007.

Comments and Recommendations
Our audit revealed minor instances of non-compliance with the terms and conditions of the agreement. Management concurs with these findings and has taken corrective action.

Continuous Audit Activities (monthly reviews)

Inland Feeder Project
Our review included agreeing actual costs reported to the Board to source documentation, including the general ledger, the Inland Feeder Project (IFP) Monthly Report, and selected contract payments; reviewing estimated costs at completion; analyzing changes in various cost components; and attending on-site meetings held to review actual costs and discuss current problems. Our review did not reveal any material differences between reported amounts and supporting documentation.

In addition, our ongoing review procedures for potential claims, liability exposures, and other pending issues have been designed to track such items in accordance with applicable reporting requirements under Financial Accounting Standards #5 (Accounting for Contingencies). Accordingly, for all pending legal claims, we consult with the Chief Financial Officer, IFP Management, or General Counsel's Office to evaluate the magnitude of potential losses to Metropolitan. It should be noted that the IFP Project Manager reports on contractors' claims currently in litigation and other potential claim issues to the Board monthly.

Center for Water Education
Participated with Management representing the General Manager, General Counsel, and Chief Financial Officer on assessing and payment of the Center's debts and on the transition process.