

[December 2011]

1.0 EXECUTIVE SUMMARY

INTRODUCTION

Metro Vancouver has recently adopted and is in the process of implementing on a **voluntary** basis a Quality Management System for Drinking Water (formerly known as Management System for Drinking Water or MSDW¹) based on Ontario's Ministry of Environment's Drinking Water Quality Management System (OMOE DWQMS) Standard. This initiative, which is an iterative process, is currently not a regulatory requirement in BC. However, its implementation clearly demonstrates Metro Vancouver's sincere commitment to continuous improvement of providing safe drinking water and ensures its sustainable use in the Metro Vancouver region.

BACKGROUND

Subsequent to the results of the Walkerton Inquiry in 2002, the Province of Ontario began sweeping changes to the legislation governing water systems in Ontario. As part of this change, the Province developed a Drinking Water Quality Management System (DWQMS) Standard, similar to management systems from the International Standards Organization and other international agencies, in cooperation with various stakeholders. This DWQMS Standard provides a framework for the operating authority to develop a quality management system that is relevant and appropriate for the drinking water system; and for the owner to endorse and accept. It is the foundation for establishing and documenting management procedures, achieving conformance with procedures and demonstrating conformity through an auditing process.

The DWQMS Standard became part of Ontario's Municipal Drinking Water Licensing regime and the accreditation of operating authorities for municipal drinking water systems. In order to obtain this license, among other licence application requirements, municipalities are required to have an operational plan (Quality Manual) prepared in accordance with the DWQMS Standard and an accredited operating authority. Having an accredited operating authority in place is an important step towards satisfying the owner's due diligence responsibilities and standard of care.

In conformance with the DWQMS Standard, Element 19 of the QMSDW Operational Plan states that once the QMSDW Operational Plan is implemented across the O&M Department, key sections of the QMSDW Operational Plan will be audited and that the QMSDW Manager will appoint the lead auditor and other auditors for each audit. As a result, the QMSDW Manager appointed and requested Risk Advisory & Audit Services ("RAAS") to conduct an internal audit of the QMSDW Operational Plan.

OBJECTIVES

Risk Advisory & Audit Services ("RAAS") conducted a Stage 1 audit, also known as the Document Review or Table-Top Review of Metro Vancouver's QMSDW Operational Plan with the following audit objectives:

- I. To evaluate the conformity of the documented QMSDW Operational Plan (Quality Manual) with the requirements of the Ontario's Ministry of Environment's Drinking Water Quality Management System Standard by comparing the information documented and described in the QMSDW Operational Plan (Quality Manual) against the 21 elements required by the OMOE's DWQMS Standard. (i.e. **How do we compare against the Standard - OMOE DWQMS?**); and
- II. To identify potential considerations for improvement that could enhance the current management system for drinking water that will assist in meeting the requirements of the OMOE DWQMS (i.e. **How can we improve the QMSDW Operational Plan?**).

PROJECT SCOPE

The scope of the audit work included a review of the information documented and described in the QMSDW Operational Plan (Quality Manual) including all attachments and references noted in the QMSDW Operational Plan (Quality Manual) to determine if the relevant requirements from the Ontario's DWQMS Standard have been properly addressed. RAAS used the internal audit checklist template provided by Ontario's Ministry of Environment (Implementing Quality Management: A Guide for Ontario's Drinking Water Systems, July 2007 pgs.229 - 240).

¹ The original title - Management System for Drinking Water (MSDW) was changed to Quality Management System for Drinking Water (QMSDW) to conform to the Standard.

[July 2011]

1.0 EXECUTIVE SUMMARY

As part of the 2011 Internal Audit Plan, Risk Advisory and Audit Services (RAAS) conducted an Information Technology (IT) Security Assessment to determine whether the system of internal controls is adequate to prevent, manage and protect against existing and emerging IT security threats and risks. The assessment was focused on risks to the IT security objectives related to (a) availability of the network, systems & information and (b) access, integrity & confidentiality of information. See Appendix 1 for the scope of this project.

The Metro Vancouver's IT security management practices was assessed against industry best practices including COBIT, ISO27002 and publications from the Institute of Internal Auditors (IIA) and the Information Systems Audit and Control Association (ISACA).

RESULTS OF THE IT SECURITY ASSESSMENT

AUDIT FOCUS AREAS	CONTROLS ASSESSMENT	# of OPPORTUNITIES FOR IMPROVEMENT
A. IT Security Management	BASIC	9
B. IT Security Policies and Processes	EFFECTIVE	2
C. Review of Access Rights	BASIC	1
D. Segregation of Duties	BASIC EFFECTIVE	5
E. Management of User Accounts (including Logical Access Controls and Network Security Controls)	BASIC	8
F. Physical Access Control	EFFECTIVE	-
G. Server Room Environmental Controls	EFFECTIVE	-
H. Private Branch Exchange (PBX ¹) Controls	BASIC	2
I. IT Disaster Recovery Planning	BASIC	3
TOTAL		30

OVER-ALL REVIEW OPINION

In our opinion, based on the test results and work performed by our contracted service provider, the IT Security at Metro Vancouver has been assessed at 'BASIC' given that 56 out of 83 or (68%) expected controls are currently in place and are operating as intended.

1. "NON-EXISTENT"	2. "MINIMAL"	3. "BASIC"	4. "EFFECTIVE"
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- 1 – No Controls In place
- 2 – Minimal controls in place; controls are not effective
- 3 – Basic level of controls, some areas for improvement
- 4 – Controls are effective, minor areas for improvement

We would like to thank management and staff from the Corporate Services Department for their timely cooperation and assistance during the review.

During the course of our review, we identified 30 opportunities for improvement. Management has agreed with all recommendations.

¹ A private branch exchange (PBX) is a telephone exchange that serves a particular business or office. PBXs make connections among the internal telephones of a private organization—usually a business—and also connect them to the public switched telephone network (PSTN) via trunk lines.