

COMMITTEE OF THE WHOLE WORKING SESSION - OCTOBER 28, 2008

DRINKING WATER QUALITY MANAGEMENT SYSTEM AND TOP MANAGEMENT REVIEW

Recommendation

The Commissioner of Engineering and Public Works, and the Director of Public Works, on behalf of "Top Management", as defined under the City's Drinking Water Quality Management Standard, recommend that:

1. Council formally endorse the draft Operational Plan;
2. That the presentation from BRI International Inc. be received;
3. The report from "Top Management" be received; and,
4. That the composition of "Corporate Top Management" be amended to reflect the following positions; City Manager, Commissioner of Engineering and Public Works, Director of Public Works, Director of Engineering Services and Director of Development/Transportation Engineering.

Economic Impact

There is no direct economic impact as a result of the recommendations contained in this report.

Communications Plan

The City's Drinking Water Quality Management Standard will form the basis for the operation of the City's water distribution system. Once finalized and approved, information will be posted on the City's web site.

Purpose

To seek Council endorsement of the Draft Operational Plan, and to receive the report from "Top Management".

Background - Analysis and Options

As reported previously to Council in December of 2007, and again in February of 2008, the Ministry of the Environment (MOE) requires that the City develop a Drinking Water Quality Management Standard (DWQMS) to obtain accreditation as the Operating Authority under the Safe Drinking Water Act, 2002 (SDWA), by January 1, 2009. Regulation 188/07 also requires the City to submit its Operational Plans to the MOE by January 1, 2009.

The DWQMS is based on the ISO series of standards, and forms part of the municipal licencing program implemented by the Province. The DWQMS requires a drinking water system Owner to identify roles and responsibilities at all levels of the organization that may have input into the operation of the drinking water system.

The "Owner" of the water system is the Corporation of the City of Vaughan and Council, with Council acting on behalf of the Corporation.

The Ministry defines Top Management as, "*a person, persons, or a group of people at the highest management level within an operating authority that makes decisions regarding QMS and recommendations to the owner respecting the subject system or subject systems*".

For the purposes of the City's Operational Plan, Council approved on March 31, 2008, that Top Management consists of two groups, one being "Corporate Top Management" and the other being "Operational Top Management".

- "Corporate Top Management", consists of the City Manager, the Deputy City Manager, the Commissioner of Engineering and Public Works, the Director of Public Works, the Director of Engineering Services and the Director of Development/Transportation Engineering.
- "Operational Top Management" consists of the Director of Public Works, the Manager of Environmental & Technical Services, The Supervisor of Water and the Supervisor of Compliance and Training.

In reviewing the composition of Corporate Top Management, it was concluded that there is no direct reporting relationship between the Deputy City Manager's position, and the management positions directly impacting DWQMS. As the City Manager's position is already identified as being part of "Corporate Top Management", and the Deputy City Manager would automatically assume the role of City Manager in his/her absence, listing the Deputy City Manager's position is not required. Therefore, it is appropriate to amend this group accordingly.

Part of the Owner's role is to:

- Create formal Council resolutions as required
- Implement a QMS in accordance with the DWQMS
- Receive and review regular update reports from Senior Management
- Ensure the system is being operated by an Accredited Operating Authority
- Ensure compliance with the Terms and Conditions of the License and its components

In relation to drinking water, there is a requirement under the Safe Drinking Water Act that the "Owner" and "Top Management" exercise a level of care, diligence and skill that a reasonably prudent person would be expected to exercise in a similar situation. DWQMS provides Council and Top Management with tools to continually assess the City's drinking water systems and to help ensure the "Standard of Care" Provisions under the Act are met.

A Draft Operational Plan

In 2007, BRI International Inc. (BRI) and RV Anderson were retained to develop the City's DWQMS, to meet the requirements of the MOE's Municipal Drinking Water Licencing program, as outlined in the Safe Drinking Water Act, 2002. Since then, staff, along with the consultants, have been working diligently through the process to meet the required deadlines.

The draft Operational Plan has now been completed, and is before Council for endorsement, as required by the Ministry of Environment. Once Council has endorsed the draft plan, it can then be identified as being "Endorsed", and sent along with the other required documentation to the MOE.

The plan covers the following required 21 elements:

- 1 Quality Management System (Overview of the Plan)
- 2 Quality Management System Policy
- 3 Commitment and Endorsement
- 4 QMS Representative
- 5 Document and Records Control
- 6 Drinking Water System
- 7 Risk Assessment
- 8 Risk Assessment Outcomes
- 9 Organizational Structure, Roles, Responsibilities and Authorities
- 10 Competencies

- 11 Personnel Coverage
- 12 Communications
- 13 Essential Supplies and Services
- 14 Review and Provision of Infrastructure
- 15 Infrastructure Maintenance, Rehabilitation and Renewal
- 16 Sampling Testing and Monitoring
- 17 Measurement and Recording Equipment Calibration and Maintenance
- 18 Emergency Management
- 19 Internal Audits
- 20 Management Review
- 21 Continual Improvement

As part of the process, the MOE requires a third party external audit be performed to ensure that “we do what we say we do”. The Canadian General Standards Board (CGSB), has been appointed by the MOE to perform the mandated external audit.

In order to meet the deadline of January 1, 2009, the plan needs to be endorsed by Council and the necessary documents forwarded to the Ministry.

B Summary of Operational Top Management Review:

An “Operational Top Management” review was held on September 30, 2008. During this session, a draft copy of the internal audit report was reviewed and non-conformances were identified along with agenda items a-p (as outlined in element 20 of the Operational Plan). Decisions and actions were determined along with responsibility and due dates.

The purpose of this review, as defined by the MOE, was to evaluate the suitability, adequacy and effectiveness of the quality management system that includes the consideration of items a-p. Operational Top Management reviews will be held annually to re-visit the commitment to the policy and to identify and respond to any applicable changes. The next meeting of this group is scheduled for Friday, September 25, 2009.

As required by the MOE, the following are the results are presented to the Owner in the prescribed manner:

Deficiencies Identified:

In preparation for the external audit that is required by the Ministry to obtain a Drinking Water Licence, an internal audit was held. As required, any “deficiencies” must be identified and reported. The following were noted at the time of the internal audit:

Element 3 – Commitment and Endorsement (No formal endorsement from Operational and Corporate Top Management and Council)

Element 5 – Document and Records Control (Standard Operating Procedures, referred to as SOP’s, have not been updated, and no Operators have the revised SOP’s updated for DWQMS)

Element 8 – Risk Assessment (Revised SOP’s have not been developed for critical control point)

Element 10 – Competencies (Overall awareness of the QMS and the duties relevant to the QMS were not clear for staff in all relevant City departments)

Element 18 – Emergency Management (Operations staff aware of emergency response but had no formal procedures)

Element 20 – Management Review (Operational and Corporate Top Management review had not been held)

In addition to the above issues that refer to the mandated elements, the following observation was made:

- There is no pro-active backflow prevention program in place for existing buildings, and backflow is directly related to the critical control point dealing with potential contamination through back-flow. The City currently has a program in place for new development under the building code for fire lines and domestic lines.
The requirements apply to Industrial, Commercial, and Institutional facilities under the plumbing section, independent of our municipal system. The Ministry of the Environment has enquired about this program and its status during annual inspections of the distribution systems.

Decisions Made:

Element 3 – To address this deficiency, a re-audit will take place after the Council meeting of November 10, 2008. By this time, it is anticipated that the plan will be endorsed.

Element 5 – To address this deficiency, the Standard Operating Procedures are currently in the process of revision, taking into account the DWQMS requirements. All Operators will receive appropriate training and updated procedure books by the end of November 30, 2008.

Element 8 – As noted above, the SOP's are in revision and will be distributed by November 30, 2008.

Element 10 - Copies of the QMS policy will be put in each Operator Procedure handbook. Also, a copy will be laminated and posted in City buildings that are in sight of staff and the public. Directors of different departments will be updated regularly to promote QMS knowledge to their staff within the Corporation. Additional employee awareness sessions will be held for new and existing Water Division staff and/or other departmental staff. This process will be continuous.

Element 18 - The existing emergency plan established by the Emergency Planning Department only encompasses 2 types of emergencies for the Water Division (Booster Stations, Main breaks). Other emergencies that the Water Division may encounter have been identified as follows:

- adverse quality results,
- adverse quality results, resulting in a boil water advisory,
- leaking water meter,
- aesthetic quality,
- no water,
- low pressure (less than 20 psi).

While staff are knowledgeable as to the procedures for handling these situations, these procedures are in the process of being formally documented and will be made available to Water staff in the Public Works Department, Water Division, Work Procedures book upon completion, by November 30, 2008.

Element 20 – An “Operational Top Management” review was held on September 30, 2008 and a “Corporate Top Management” review was held on October 17, 2008.

Action Items

Element 5 – SOP's are in the process of revision. All Operators will receive training and updated procedure books by November 30, 2008.

Element 8 – SOP's are in revision and will be distributed by November 30, 2008.

Element 10 - Copies of the QMS policy will be put in each Operator procedure handbook. Also, a copy will be laminated and posted in convenient locations. Directors of different departments will be updated regularly to promote QMS knowledge to their staff within the Corporation. Additional employee awareness sessions will be held for new and existing Water Division staff and/or other departmental staff. This process will be continuous awareness sessions.

Element 18 - The existing emergency plan established by the Emergency Planning Department only encompasses 2 types of emergencies for the Water Division (booster stations, main breaks). Other emergencies that the water division may encounter have been identified and procedures will be made available in the Public Works Department, Water Division, Work Procedures book upon completion, by November 30, 2008.

The recent change in the name of the shared directory from the "J" drive to the "O" drive could affect documents and records, which could have an impact on the QMS. File paths for documents listed in form 05-01 must be updated.

Other QMS Issues Identified (including summary of corrective actions):

Recommendations for improvements as a result of growth and Ministry expectations. Due to increased operational duties, it is anticipated that additional staff or resources will be required to perform daily duties in many areas such as:

- Increasing the amount of hydrants maintained and tested annually
- Development and implementation of a backflow prevention program
- Improvement of the existing valve turning program
- Development and implementation of a records management system

Maintaining the Quality Management Standard is an increase in daily functions within the Water Division. In order to effectively maintain all aspects, Operational Top Management will undertake a thorough review to determine the need for: additional administrative staff; a records management system (staff, data storage); additional service vehicles; additional testing and monitoring equipment (eg. turbidity meters); and, additional laptop computers for field operations. Any additional resources identified as being required will be requested through the 2009 Water and Wastewater Budget process. The Water and Wastewater Budget is funded through user rates, and not through taxation.

Corrective Actions Identified:

Element 5 & 8: Procedures currently under revision.

Element 10: Once procedures are complete, an in depth training session will be held to identify new procedures, and changes made to existing procedures. If further training is required, such as on certain pieces of equipment, this will be arranged.

Element 18: Documentation of emergency procedures.

Relationship to Vaughan Vision 2020

This report and its recommendations are consistent with the priorities previously set by Council, specifically the following Vaughan Vision 2020 Goals and Objectives:

Goal: "Service Excellence",
Objectives: "Pursue Excellence in Service Delivery",
"Enhance and Ensure Community Safety, Health and Wellness",

Goal: "Staff Excellence"
Objectives: "Support Professional Development of Staff".

Regional Implications

As has been noted in previous reports, the Region must also develop similar plans for their drinking water systems. BRI and RV Anderson are the City's consultants on this project, and they are also working with a number of other municipalities and the Region in the development and review of these plans.

Although each Owner must develop their own plans, staff of the area municipalities and the Region meet regularly to discuss drinking water and DWQMS related issues.

Conclusion

The draft Operational Plan, as presented, covers the 21 elements required by the Ministry. The plan is a mandated document, and is necessary in order to obtain a Municipal Drinking Water Licence from the Ministry of Environment. Prior to its submission to the Ministry, it is required that the plan be endorsed by Council. Therefore, it is recommended that Council formally endorse this plan.

Attachments

Draft Operational Plan provided to Members of Council only under separate cover.

Report prepared by:

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Respectfully submitted,

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Commissioner of Engineering and Public Works

Brian T. Anthony,
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