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DRINKING WATER QUALITY MANAGEMENT STANDARD IMPLEMENTATION UPDATE

The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, May 28, 2008, from the Commissioner of Environmental Services:

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council delegate the authority to endorse and submit the final Drinking Water Quality Management Standard (DWQMS) Operational Plans to the Commissioner of Environmental Services.
2. Environmental Services staff report back to Regional Council on the status of the DWQMS implementation prior to submission of Operational Plans to the Ministry of the Environment.
3. The Regional Clerk forward a copy of this report to the Clerks of the nine local municipalities for information.

2. PURPOSE

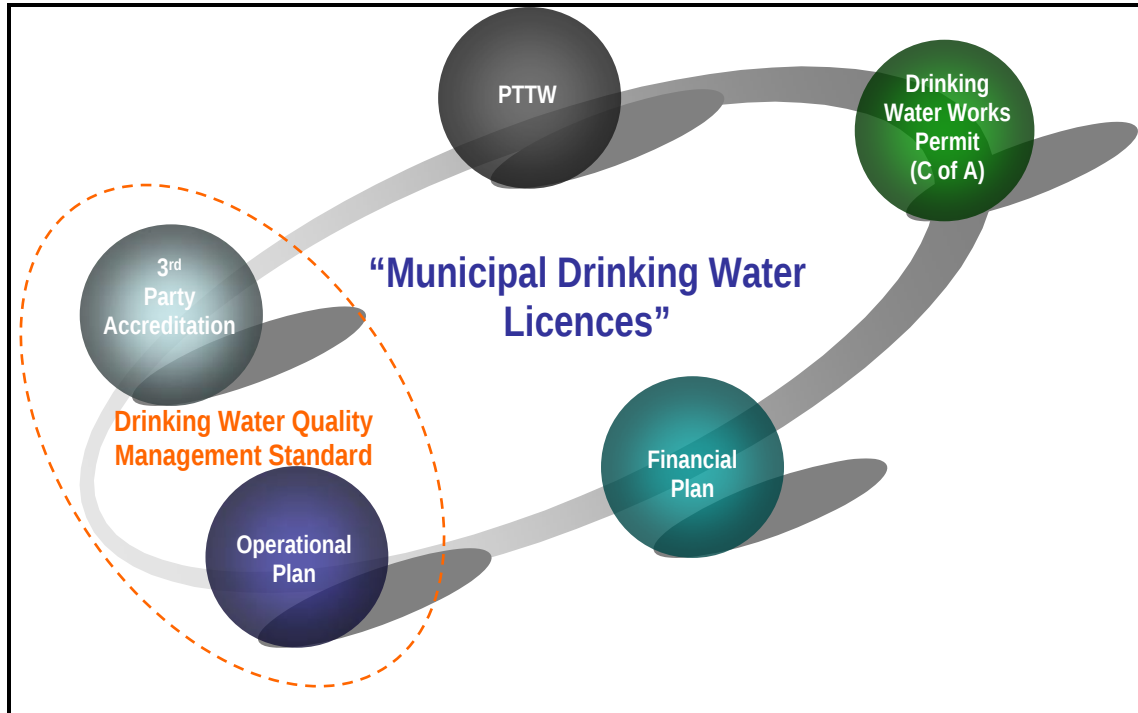
This report provides an update on the implementation of York Region's Drinking Water Quality Management Standard along with a redefinition of the various roles and responsibilities.

3. BACKGROUND

The Drinking Water Quality Management Standard (DWQMS) is a regulatory requirement

The final version of the DWQMS standard was released in October 2007 and enshrined in a regulatory framework under Ontario Regulation 188/07. The DWQMS is based on the internationally recognized ISO series of standards and will become part of the larger municipal drinking water licensing regime (Figure 1) proposed by the Ministry of the Environment (MOE). The standard requires a drinking-water system owner to identify roles and responsibilities at all levels in the organization that have input into the operation of the drinking-water system.

Figure 1
Components of the Municipal Drinking Water License



Previous staff reports on the DWQMS requirements for York Region

Previous staff reports to Regional Council on the DWQMS requirements include:

- Committee Report 1 January 5, 2005 *'Proposed Regulatory Changes – Drinking Water Quality Management System Standard under the Safe Drinking Water Act'* and Committee Report 2 February 1, 2006 *'Proposed Regulatory Changes – Drinking Water Quality Management System Standard under the Safe Drinking Water Act'* detailing the Region's comments on draft material released by MOE.
- Committee Report 1 January 16, 2008 *'Roles and Responsibilities as Part of the Regulated Drinking Water Quality Management Standard'* recommending roles and responsibilities to support the DWQMS within York Region.

The Environmental Services Department was recently reorganized, necessitating the need to redefine some of the roles and responsibilities outlined in previous staff reports.

4. ANALYSIS AND OPTIONS

Changes to roles and responsibilities as recommended in previous staff reports

In the DWQMS, Top Management is responsible for endorsing and communicating the requirements of the DWQMS. Top Management is a group of people that irrespective of other duties:

- Are at the highest management level within the operating authority as defined by the operating authority.
- Make decisions about the DWQMS.
- Make recommendations to the owner about the drinking water system.

In the January 2008 staff report, the owner was defined as The Regional Municipality of York and Regional Council (who acts on behalf of the corporation). It is recommended that the following definitions apply to Top Management:

- 1. Corporate Top Management** - includes the Commissioner of Environmental Services, the CAO and possibly select members of Regional Council. The Commissioner of Environmental Services will act as the agent between the Operational Top Management and the Corporate Top Management. On an annual basis, a report will be provided to Corporate Top Management on the continuing suitability, adequacy and effectiveness of the DWQMS.
- 2. Operational Top Management** - includes the management team for the Water and Wastewater Branch including but not limited to the Commissioner of Environmental Services, the Manager of Operations and the Manager of Regulatory Compliance and Policy. The Operational Top Management will meet a minimum of twice yearly and provide decisions on the day-to-day operation of the continuing suitability, adequacy and effectiveness of the DWQMS. The Commissioner of Environmental Services will act as an agent for Corporate Top Management and liaise between both groups.

MOE has identified additional roles and responsibilities for Corporate Top Management including Regional Council under the proposed Municipal Drinking Water License Program

The MOE has indicated that they are developing a Municipal Drinking Water License (MDWL) Program that will be issued to all drinking-water systems in Ontario. The MDWL program will consolidate a number of programs and approvals into one license, including:

- Drinking Water Works Permit (which will replace Certificates of Approval)
- Permit to Take Water
- Financial Plan
- Accreditation to DWQMS

Based on material supplied by the MOE, the Owner (Regional Municipality of York with Regional Council acting on its behalf) will be responsible for:

1. Applying for the MDWL and Drinking Water Works Permit
2. Endorsing the Operational Plan
3. Submitting the Operational Plan to the MOE
4. Owning the Operational Plan
5. Ensuring the operating authority is accredited
6. Monitoring the Quality Management System and the need for resources to support it
7. Ensuring compliance with the MDWL

Some owner roles, responsibilities and authorities, may be delegated to the Commissioner of Environmental Services or other staff as appropriate. However, there is currently no legislation developed to support the MDWL program. The MOE anticipates that it will be coming following the submission of Operational Plans by drinking-water systems in Ontario. Once the proper regulatory framework is in place, Environmental Services staff will recommend the appropriate delegations where necessary.

The Operational Plan template has been developed and includes the applicable information from the current ISO 9000 program

The DWQMS is currently in the development phase. Staff are working on the Operational Plan template that will be tailored to meet the needs of each drinking-water system.

A draft template for a generic Operational Plan has been developed. The draft template will be used as a general format for all the drinking-water systems to provide a consistent approach.

The draft template contains information that is based on the existing ISO 9000 Quality Management System for York Region drinking-water systems and has been tailored to meet the requirements of the DWQMS where there are differences.

Each template contains sections that will require system specific information such as:

- The requirements for the drinking-water system description (including physical process descriptions and water quality characteristics).

- The risk assessment and critical control point analysis that will be undertaken for each drinking-water system.

The Risk Assessment methodology has been developed and assessments will be complete by July 2008

Staff has developed a methodology for the risk assessment exercise that is required under the DWQMS for each drinking-water system. The methodology combines suggestions from the Ministry of the Environment guidance material and other risk assessment models currently being used within the department integrating aspects of Health & Safety, Regulatory Compliance, Environmental Impact, Financial Impact, and Process Performance (including detectability of hazards and redundancy of equipment).

Beginning in May 2008, staff will conduct the risk assessment exercise for each drinking-water system. The assessment will assign quantitative scores to various hazards and risk events identified within each drinking-water system, and categorize those risks based on a threshold value. The threshold value will determine whether the risks are considered 'critical control points' (CCP) within the drinking-water system.

In basic terms, a CCP is any point within the drinking-water system where a hazardous event can be prevented based on a mitigation control applied by the operator. The control can be in the form of a monitor to ensure that all regulatory limits are met or as simple as a procedure to ensure the consistent operation of equipment.

The risk assessment and CCP identification is expected to be completed by the end of July 2008.

The training program is under development and implementation is targeted for early fall of 2008

Staff are in the process of developing a request for quotation to retain the services of an external training provider. The training provider will be hired to develop and implement a training program for the Environmental Services department specific to the requirements of the DWQMS Operational Plans. It is anticipated that the training will take place with a series of workshops in early fall 2008.

Staff have targeted December 2008 for submission of the Operational Plan to MOE

Each drinking-water system in York Region will require an operational plan. Below is a list of eleven drinking-water systems anticipated to be individually accredited to the DWQMS and have their own operational plans:

1. York Water System/Aurora/Newmarket/East Gwillimbury system
2. Ansnorveldt Well system
3. Ballantrae Wells system
4. Georgina Water Treatment Plant
5. Keswick Water Treatment Plant
6. King City Wells system
7. Kleinburg Wells system
8. Nobleton Wells system
9. Mount Albert Wells system
10. Schomberg Wells system
11. Stouffville Wells system

The Operational Plans require endorsement of the Owner. At this time, it is recommended that the Commissioner of Environmental Services act on behalf of Council and endorse the final Operational Plans.

A report will be prepared and submitted to Council in late fall to provide the Operational Plan template and the submission option selected by staff.

Operational Plan submission to the MOE will be completed in December 2008 in advance of the required January 1, 2009 deadline and ahead of the anticipated holiday downtime.

5. FINANCIAL IMPLICATIONS

Costs associated with the DWQMS implementation and accreditation are anticipated to be up to \$7,000 per drinking-water system

Similar to an ISO registered system, a third party auditor is required to accredit each drinking-water system to the DWQMS. Although a third party accreditation body has yet to be named, the MOE has indicated that an accreditation audit may cost in the range of \$3,000 to \$7,000 per drinking water system depending on the system size. The third party accreditation costs may include:

- An application fee applied by the accrediting association for accreditation to the standard
- Document review
- On-site verification or auditing
- Listing fee (paid upon accreditation to the accrediting association)

It is estimated that the accreditation process could cost upwards of \$70,000 (\$7,000 x 10 drinking-water systems). Accreditation is not required until the Operational Plan has been

submitted to both the accreditation body and the MOE, which is currently scheduled for January 1, 2009. The funding required will be indicated in the 2009 Environmental Services budget.

6. LOCAL MUNICIPAL IMPACT

The local municipalities, as with all other drinking-water system, Owners and Operators are required to implement the MOE's DWQMS. Timelines for implementation vary depending on the size of the municipality and are detailed in Table 1.

Table 1
Operational Plan Submission Deadlines for Local Municipalities in York Region
as required by Ontario Regulation 188/07

Operational Plan Submission Deadline	Local Municipality
January 1 st , 2009	City of Vaughan
February 1 st , 2009	Town of Markham
February 1 st , 2009	Town of Richmond Hill
August 1 st , 2009	Town of Aurora
August 1 st , 2009	Town of East Gwillimbury
August 1 st , 2009	Town of Georgina
August 1 st , 2009	Township of King
August 1 st , 2009	Town of Newmarket
August 1 st , 2009	Town of Whitchurch-Stouffville

MOE has indicated that each system that has a physical connection to another is to be considered one drinking-water system. As the municipalities gear up and begin implementing the DWQMS, they may encounter locations where there are no physical interconnections between their systems, triggering more than one Operational Plan. This would in turn double the potential accreditation costs due to additional review and auditing services.

Costs incurred by the local municipalities could be even more significant than originally anticipated depending on the number of drinking-water systems identified per municipality. Based on discussions between Regional staff and local municipal staff all local municipalities plan to submit one Operational Plan for their local drinking water systems, with the exception of the Town of Whitchurch-Stouffville who anticipate submitting two Operational Plans (one for Ballantrae/Mussleman's Lake and one for the Town of Stouffville).

In total, it is estimated that a minimum of 20 individual Operational Plans will be submitted by the nine local municipalities and York Region.

7. CONCLUSION

Staff recommend that the Commissioner of Environmental Services approve the Operational Plans for each drinking-water system prior to submission to the MOE and the accreditation body.

The draft Operational Plan template for the drinking-water systems has been developed and is under review. The risk assessment and training programs are being developed and are anticipated to be completed by the end of July 2008 and the middle of fall 2008 respectively. Regional staff continue to work on the DWQMS implementation and will report back to Council in late fall 2008.

For more information on this report, please contact Michele Maitre, Manager Regulatory Compliance and Policy, Water and Wastewater Branch, Environmental Services at extension 5097.

The Senior Management Group has reviewed this report.