

The Corporation of the City of Kawartha Lakes

Council Report

Report Number WWW2017-011

Date: December 12, 2017

Time: 2:00 p.m.

Place: Council Chambers

Ward Community Identifier: ALL

Subject: Drinking Water Quality Management System Review and Endorsement

Julie Henry, Quality Management and Policy Coordinator

Recommendation(s):

RESOLVED THAT Report WWW2017-011, Drinking Water Quality Management System Review and Endorsement be received;

THAT the City of Kawartha Lakes and Ontario Clean Water Agency (OCWA) Drinking Water Quality Management Reviews be received;

THAT the City of Kawartha Lakes Water and Wastewater Quality Management System be endorsed by Council for approval through the accreditation process;

THAT the City of Kawartha Lakes Quality Management System Policy statements be adopted;

THAT the Ontario Clean Water Agency Quality Management System be endorsed by Council for approval through the accreditation process; and

THAT the Ontario Clean Water Agency Quality Management System Policy statements be adopted.

Department Head:_____

Financial/Legal/HR/Other:_____

Chief Administrative Officer:_____

Background:

The City of Kawartha Lakes owns twenty-one drinking water systems, all of which are licensed under the Municipal Drinking Water Licensing Program (MDWLP). This licensing program was established under the *Safe Drinking Water Act*, 2002 as a result of recommendations made by Justice O'Connor in the *Report of the Walkerton Inquiry (2002)* and states that in order to receive a license (which allows an owner to legally operate its drinking water systems), the Owner of a municipal drinking water system must ensure that an accredited operating authority is operating the system(s) at all times. To remain an accredited operating authority, an established and successful quality management system that meets the requirements of the Ontario Drinking Water Quality Management Standard (ODWQMS) must be maintained. Without this Quality Management System (QMS) in place, an owner cannot legally attain a municipal drinking water license and as such, cannot legally operate a drinking water system. Therefore, it is imperative to attain owner endorsement and approval through the accreditation process.

The Drinking Water Quality Management Standard provides the foundation for the operation of municipal drinking water systems for accredited operating authorities in the Province of Ontario. Operating authorities must establish a quality management system to meet the requirements of the standard and to develop and establish policy and directives by controlling and directing an organization with regard to quality. This system is documented in the Operational Plan which is reviewed and updated annually. A documented, functioning quality management system is necessary for the production of safe, reliable drinking water and every year as mandated by the standard, must be endorsed by the Owner. This report facilitates this requirement.

The owner of all twenty-one drinking water systems in the City of Kawartha Lakes is The Corporation of the City of Kawartha Lakes, represented by Mayor and Council. The Water and Wastewater Division of the Corporation of the City of Kawartha Lakes is the accredited operating authority for the Lindsay Drinking Water System (both treatment and distribution) and for the remaining twenty distribution systems within the City. The Ontario Clean Water Agency (OCWA) is the accredited operating authority for the remaining twenty smaller treatment systems. **Both OCWA and the Water and Wastewater Division were granted status as accredited operating authorities in 2011 and have since successfully maintained their accreditation and licensed status.**

Council endorses the Water and Wastewater Division's Quality Management System every year by signing the Quality Management System Policy (signed by the Mayor and CAO as representative for Council.) This policy is the mission statement, or commitment that an accredited operating authority makes with regards to the delivery of safe drinking water. As per Element Three of the standard, "The Operational Plan shall contain a written endorsement of its contents by Top Management and the Owner". In response, Council has

endorsed the Quality Management System annually since the initial accreditation in 2011. Most recently, on December 13, 2016 Council endorsed the Quality Management System through the following resolution.

RESOLVED THAT Report WWW2016-009, Drinking Water Quality Management System – Operational Plan and Policy Endorsement and Update, be received;

THAT the City of Kawartha Lakes and Ontario Clean Water Agency (OCWA) Drinking Water Quality Management System Top Management Reports be received;

THAT the City of Kawartha Lakes, Water and Wastewater Operational Plan be endorsed by Council for approval through the accreditation process;

THAT the City of Kawartha Lakes Quality Management System Policy statements be adopted;

THAT the Ontario Clean Water Agency Operational Plan be endorsed by Council for approval throughout the accreditation process; and

THAT the Ontario Clean Water Agency Quality Management System Policy statements be adopted.

CR2016-1265

CARRIED

Rationale:

The following section provides an overview of the standard that the City and OCWA have followed and the specific activities that were undertaken over the last year to ensure the operational plans and quality management system policies for the next year can be endorsed and adopted by council.

Drinking Water Quality Management Standard

The Drinking Water Quality Management Standard is based on a PLAN, DO, CHECK and IMPROVE methodology and states the commitments of the Accredited Operating Authority in the delivery of safe drinking water.

DWQMS 2.0 (a revision of the existing standard) was released by the MOECC in February of 2017. As such, operating authorities have until the end of 2019 to incorporate the updates in their Quality Management Systems. The updates to the elements of the standard are noted as required below.

Each chapter of the DWQMS (included in this report as Appendix A), is referred to as an element and the **PLAN** and **DO** related elements are as follows:

1. **Quality Management System** – Encompasses the twenty-one elements of the DWQMS.

2. **Quality Management System Policy** – Commitment to maintenance and continual improvement of the QMS. The policy for the Water and Wastewater Division is included in this report as Appendix B. The policy for Ontario Clean Water Agency is included in this report as Appendix E.
3. **Commitment and Endorsement** – Written endorsement of contents by Top Management and the Owner.
4. **Quality Management System Representative** - Identification of the QMS Representative and Designate as appointed by Top Management.
5. **Document and Records Control** – Procedure to manage and control important documents and records.
6. **Drinking Water System** – Description of the Drinking Water Systems and Water Sources.
7. **Risk Assessment** – Procedure to identify, assess, and rank hazards and hazardous events associated with the provision of safe drinking water.
Note: Change due to DWQMS revision, climate change and associate hazards must now be included in this element and in the annual risk review and three year risk assessment. The MOECC provided a list of hazards, all of which have been incorporated into our quality management system Element Eight of the Operational Plan.
The revision also requires the risk assessment and review to consider the reliability and redundancy of equipment. This edit has been completed.
8. **Risk Assessment Outcomes** – Documentation for the Risk Assessment Outcomes.
9. **Organization Structure, Roles, Responsibilities and Authorities** – Procedure that identifies the Owner, Operating Authority, Top Management and the roles and responsibilities of each.
10. **Competencies** – Procedure that documents the competencies required for all employees with positions directly related to the provision of safe drinking water.
11. **Personnel Coverage** – Procedure to ensure that sufficient, competent personnel are available at all times.
12. **Communications** – Procedure that describes how the QMS is communicated between Top Management and the Owner, Operating Authority, Suppliers and the Public.
13. **Essential Supplies and Services** – Identifies all supplies and services essential for the delivery of safe drinking water.
14. **Review and Provision of Infrastructure** – Procedure for the annual review of drinking water infrastructure.
Note: The MOECC revision requires the operating authority to: consider the outcomes of the risk assessment documented under element eight and to ensure that the adequacy of the infrastructure necessary to operate and maintain the subject system is reviewed at least once every Calendar Year. This item will be implemented during the next infrastructure review.
15. **Infrastructure Maintenance, Rehabilitation, and Renewal** - Procedure for the maintenance of infrastructure maintenance, rehabilitation and renewal programs for the drinking water system.

Note: The MOECC revision requires the operating authority to document a long term forecast of major infrastructure maintenance, rehabilitation and renewal activities. The division was already documenting this information and is referenced in the Operational Plan.

16. **Sampling, Testing, and Monitoring** – Procedure for sampling, testing and monitoring activities completed for finished drinking water quality.
17. **Measurement and Recording Equipment Calibration and Maintenance** – Procedure to document the calibration and maintenance of measurement and recording equipment used for safe drinking water quality.
18. **Emergency Management** – Procedure to document how the operating authority maintains a state of emergency preparedness.

The **CHECK** elements of the Drinking Water Quality Management Standard are as follows:

19. **Internal Audits** – Procedure documents the process for Internal Audits
Note: The MOECC revision requires the operating authority to complete internal audits at least once every calendar year (previously the element stated once every twelve months).
20. **Management Review** – Procedure established by the Division for describing how the QMS will ensure its continuing suitability, adequacy and effectiveness.

The **IMPROVE** element of the Drinking Water Quality Management Standard is:

21. **Continual Improvement** – Procedure established by the Division to continually improve the effectiveness of its Quality Management System through the use of elements one to twenty (1 – 20) and the employment of the corrective action procedure.

Note: The DWQMS revision requires the addition of best management practices to this element. The practices are to be reviewed once every thirty-six months. MOECC has not released the documentation for this revision as of yet; our QMS will be updated accordingly when the information is published.

The DWQMS revision also requires the operating authority to document a process for identifying and implementing Corrective Actions and Preventative Actions into this element of the QMS. This revision has been completed.

All of the elements of the Quality Management Standard are addressed and adhered to within the Water and Wastewater Division's Quality Management System and documented within the Operation Plan.

External Audits

As part of the accreditation process, it is necessary for every Accredited Operating Authority to undergo an annual third-party external audit. The external audits follow a three-year cycle as follows:

- Year one is a comprehensive onsite audit, and
- Year two and three are surveillance desktop audits.

The Water and Wastewater Division and OCWA had their comprehensive onsite audits in 2015 and at the time were both granted Certificates of Accreditation by SAI Global (an accredited third party auditor). In 2016 and 2017 both Operating Authorities underwent surveillance audits which entailed a review of documents requested by the third party auditor who confirmed that both Operating Authorities are conforming to all twenty-one elements of the Drinking Water Quality Management Standard (DWQMS). Each Operating Authority must successfully complete the audit cycle to maintain its accreditation.

The surveillance audits of 2017 resulted in no non-conformances for either operating authority and the auditor declared the Quality Management Systems effective. The report for the Water and Wastewater audit is found in Appendix C.

The report for OCWA's surveillance audit is located in Appendix F.

Both OCWA and the Water and Wastewater Division will undergo a third-party re-accreditation audit in 2018.

Internal Audits

In addition to external audits, the DWQMS requires Operating Authorities to conduct internal audits on all twenty-one elements of their Quality Management System on an annual basis. An auditing team is assigned and staff are questioned on their knowledge and understanding of the QMS and its relevance to their positions. Similar to the external audits, the internal audits identify non-conformances and opportunities for improvement.

Top Management Review

One of the requirements of the DWQMS is an annual Top Management Review. During this review, the Quality Management Representative presents to Top Management a report that summarizes and reviews the Quality Management System and provides details regarding its status. Members of Top Management provide feedback and resources for the maintenance and continual improvement of the system. The members of Top Management for the Water and Wastewater Division are:

Bryan Robinson – Director of Public Works

David Kerr – Manager, Environmental Services

Amber Hayter – Supervisor, Water and Wastewater Operations

Items included in the Top Management Report are as follows:

- A. Incidents of Regulatory Compliance – Inspection reports from the MOECC (Ministry of Environment and Climate Change).
- B. Incidents of Adverse Drinking Water Tests – any adverse drinking water quality incidents and resolutions.
- C. Deviations from Critical Control Point (CCP) Limits and Response Actions – any deviations from set points and required limits with explanations.
- D. The Efficacy of the Risk Assessment Process – the annual Risk Assessment and results.
- E. Internal and Third Party (external) Audit Results – the results of audits.
- F. Results of Emergency Response Testing – emergency response testing is conducted annually. The report includes the results of said testing/training.
- G. Operational Performance – the performance of staff, equipment, infrastructure etc. in regards to the delivery of safe drinking water.
- H. Raw Water Supply and Drinking Water Quality Trends – reports and data related to the raw water supply and any indicated trends.
- I. Follow-up on Action Items from previous Management Reviews – any outstanding items are addressed.
- J. The Status of Management Action Items Identified Between Reviews – any opportunities for improvement or corrective actions identified by Management.
- K. Changes that Could Affect the Quality Management System – any items that could affect the system (staffing changes, MOECC revisions, audit suggestions etc.).
- L. Consumer Feedback – a report containing consumer calls/complaints is included. Trends and improvement measures are discussed.
- M. The Resources Needed to Maintain the Quality Management System – any resources required to maintain the current quality level and success of the system are identified.
- N. The Results of Infrastructure Review – results of the annual review are included for consideration.
- O. Operational Plan Currency, Content and Updates – revisions made to the Operational Plan.
- P. Staff suggestions - any suggestions made by staff are included for discussion and consideration presented, discussed and considered.

The specifications for the Top Management Review are described in Element 20 of the DWQMS and a summary of the review is provided to the Owner in Appendix D.

A summary of OCWA's Top Management Review is included in Appendix G (part of their Management Review Report)

Conclusions and Recommendations

Owner commitment is a crucial component of a successful Quality Management System, and without the authority, direction and support of the system(s) owner, a QMS cannot be maintained. Without a successful QMS, an Operating Authority cannot be accredited and without this accreditation, cannot maintain its Municipal Drinking Water License (a mandated requirement to legally produce drinking water). It is therefore recommended that Council accepts and re-endorses the City's and OCWA's Quality Management Systems and to adopt the City's and OCWA's QMS Policy Statements as presented. As well, it is recommended that Council receive the Top Management Reports and QMS updates thereby illustrating their full commitment to the maintenance and continual improvement of QMS.

Currently, both Quality Management Systems are in excellent standing. The City of Kawartha Lakes remains committed to providing safe and reliable drinking water and service to all of our residents, businesses and visitors and continues to meet and surpass applicable legislation and regulations related to the provision of safe drinking water.

The Operational Plan for the Water and Wastewater Division of the City of Kawartha Lakes and for Ontario Clean Water Agency will be made available in their entirety for any member of Council who would like to read them.

Other Alternatives Considered:

No alternatives were considered. The Drinking Water Quality Management Standard as mandated by the *Safe Drinking Water Act, 2002* under the Ministry of Environment and Climate Change requires the endorsement of an Accredited Operating Authority's Quality Management System for the continuation of accreditation. As mentioned, without owner endorsement we cannot attain accreditation and without accreditation, we cannot operate.

Financial/Operation Impacts:

There are no financial considerations related to this report

Relationship of Recommendation(s) To the 2016-2019 Strategic Plan:

This project is consistent with the 2016-2019 Strategic Plan specifically in Goal 2 “An Exceptional Quality of Life” and Goal 3 “A Healthy Environment”. Maintaining a healthy and robust Quality Management System ensures the Water and Wastewater Division of the City of Kawartha Lakes has the ability to provide clean, safe drinking water while ensuring dedication and commitment to the environment via source water protection. Both goals add to the quality of life and health of City residents.

In addition, the recommendations in this report adhere to the City-wide strategic plan, embracing the pursuit of collaboration, continual improvement, excellence, innovation and results throughout the protection and enhancement of water quality.

Consultations:

Director of Public Works
Manager of Environmental Services
Supervisor Water and Wastewater Operations

Attachments:

Department Head E-Mail: brobinson@kawarthalakes.ca

Department Head: Bryan Robinson

Appendix A



DWQMS Standard _
February 2017.pdf

Appendix B



Owner Endorsement
-Quality Management

Appendix C



SAI Global CKL
DWQMS Audit Report

Appendix D



Management Review
Action Items Tracking

Appendix E



OCWA Endorsement
by CKL

Appendix F



OCWA 2017
Surveillance Audit

Appendix G



CKL Management
Review Implementatio