

Corporate Services
Regional Clerk's Office

March 22, 2019

Ms. Kimberley Kitteringham
City Clerk
City of Markham
101 Town Centre Boulevard
Markham, ON L3R 9W3

Dear Ms. Kitteringham:

Re: 2018 Integrated Management System Update Report for Water, Wastewater and Waste Management

Regional Council, at its meeting held on March 21, 2019, adopted the following recommendations of Committee of the Whole regarding "2018 Integrated Management System Update Report for Water, Wastewater and Waste Management":

1. The Regional Clerk circulate this report to the Clerks of the local municipalities for information and the Ontario Chief Drinking Water Inspector (Ministry of the Environment, Conservation and Parks).

The original staff report is enclosed for your information.

Please contact David Szeptycki, Director, Strategy & Innovation at 1-877-464-9675 ext. 75723 if you have any questions with respect to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher Raynor".

Christopher Raynor
Regional Clerk

Attachment

The Regional Municipality of York

Committee of the Whole
Environmental Services
March 7, 2019

Report of the Commissioner of Environmental Services

2018 Integrated Management System Update Report for Water, Wastewater and Waste Management

1. Recommendation

1. The Regional Clerk circulate this report to the Clerks of the local municipalities for information and the Ontario Chief Drinking Water Inspector (Ministry of the Environment, Conservation and Parks).

2. Summary

Providing information on the efficacy of Environmental Services' Integrated Management System supports Council in meeting statutory standard of care requirements under the *Safe Drinking Water Act, 2002* demonstrating operational due diligence.

- The Integrated Management System is well-established and provides a structured approach to risk mitigation and continual improvement.
- 92 water, wastewater and waste management audits were performed in 2018, which provide continued insight into the delivery of our services and result in improved operational performance and regulatory due diligence.
- Accomplishments achieved in 2018 through the Integrated Management System include: successful transition to new requirements under quality and environmental standards; and formal implementation of the International Organization for Standardization (ISO) 9001 quality management standard at waste management depots.

3. Background

Council has significant responsibilities to ensure safe drinking water under the *Safe Drinking Water Act, 2002*

Councillors have an important role to play in ensuring that York Region's drinking water systems provide safe, high-quality drinking water. Section 19 of the *Safe Drinking Water*

Act, 2002 clarifies the legal responsibility held by people with decision-making authority over municipal drinking water systems by imposing a statutory standard of care. It requires Councillors to exercise a level of care, diligence and skill with regard to a municipal drinking water system that a reasonably prudent person would be expected to exercise. York Region Council fulfills this duty through an ongoing commitment to financial support for water systems and continual improvement initiatives to proactively managing risks to protect people and the community. This requirement is further defined in the 2018 Drinking Water Systems Report (also on this agenda), which includes the Ministry of the Environment, Conservation and Parks' inspection findings.

Table 1 summarizes roles and responsibilities, as defined in the Integrated Management System. Council and the Chief Administrative Officer, identified as Corporate Top Management, are required to provide oversight to ensure suitability and effectiveness of the Integrated Management System.

Table 1
Roles and Responsibilities for Environmental Services'
Integrated Management System

Who	Roles and Responsibilities
Corporate Top Management	– Exercise a standard of care
– Council	– Overall direction for Environmental Services
– Chief Administrative Officer	– Approval of resources and budget
Operational Top Management	– Strategic direction for Integrated Management System
– Commissioner	– High-level operational decision making
– Directors	– Drinking Water Quality Management Standard representative
– Managers	
Water, Wastewater and Waste Management Operations	– Front line operations
– Water and Wastewater Operators	– Water and wastewater quality sampling
– Waste Management Coordinators	– Maintenance, inspections and asset management
– Technical Support Staff	– Internal audits and regulatory reporting
– Integrated Management System Coordinators	

Rigorous Integrated Management System assists Council with meeting standard of care

Environmental Services' Integrated Management System provides a consistent framework for minimizing operational impacts on the environment and protecting residents by complying with applicable legal requirements. The Integrated Management System also provides a structured approach to continually improve program and service delivery.

Table 2 summarizes what standards are applied to service delivery in Environmental Services. York Region's adherence to ISO standards is voluntary, while compliance with the Drinking Water Quality Management Standard is a legal requirement under the *Safe Drinking Water Act, 2002* and the Municipal Drinking Water Licensing Program.

Table 2
Integrated Management System Framework

Operations	Management Standard	Registered Since
Wastewater	– ISO 14001 Environmental Management Standard	– 2000
Water	– ISO 9001 Quality Management Standard	– 2001
	– Drinking Water Quality Management Standard	– 2009
Waste Management	– ISO 14001 Environmental Management Standard	– 2010
	– ISO 9001 Quality Management Standard	– 2018

The Integrated Management System assists Council by providing confidence that water, wastewater and waste management services are delivered in accordance with planned policies and procedures. The delivery of services are confirmed through onsite audits, which mitigate operational risks, provide feedback for continual improvement, and gauge resiliency.

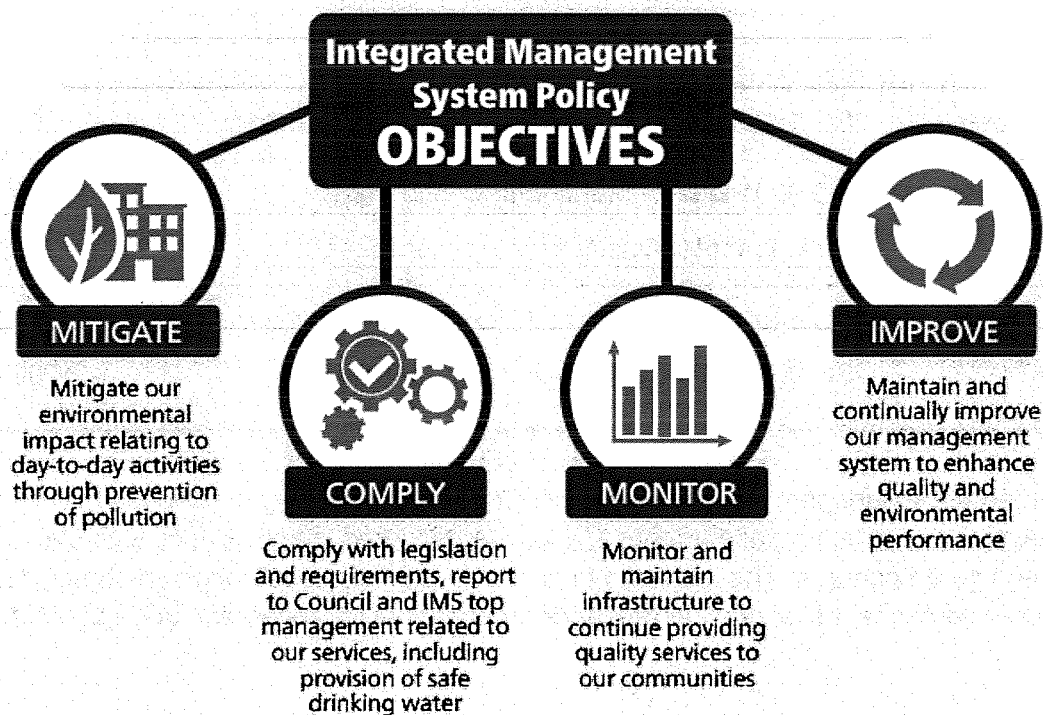
Policy defines the purpose of the Integrated Management System

The Integrated Management System Policy (Figure 1) is a requirement of our registration and provides the foundation for management system commitments. It sets the framework for water, wastewater and waste management quality and environmental objectives. It is displayed at all registered water, wastewater and waste management facilities.

Figure 1
Integrated Management System Policy

Our innovative people provide water, wastewater and waste management services that protect public health and the environment to meet the needs of our thriving communities.

We are committed to the following objectives:



Auditing confirms system effectiveness by evaluating conformance with each management system standard

An effective audit program is a critical component of the Integrated Management System. Audit programs monitor compliance with regulatory requirements, conformance with internal requirements and strengthen system performance by identifying continual improvement opportunities. Facilities and programs are audited via three main types of audits:

- Internal proactive audits
 - Conducted annually by trained auditors within Environmental Services to confirm conformance to management system requirements, and to evaluate compliance with regulatory requirements
- ISO external audits
 - Completed annually by a third party registration body to confirm conformance to ISO 9001 and ISO 14001
- Regulatory DWQMS audit
 - Completed annually by a third party registration body to confirm conformance to the Drinking Water Quality Management Standard, on behalf of Ministry of the Environment, Conservation and Parks
 - Ministry of the Environment, Conservation and Parks inspections (further defined in the 2018 Drinking Water Systems Report, also on this agenda)

4. Analysis

Rigour of York Region's audit program delivers high levels of consistent compliance

Environmental Services' comprehensive audit program drives regulatory compliance and continual improvement in the Integrated Management System. Audits demonstrate system health and due diligence by ensuring that staff are continually challenging the status quo and looking for opportunities to strengthen the delivery of services. Every year, audit findings identify internal business process improvements and system enhancements. Table 3 summarizes the total number of audits performed in 2018.

Table 3
2018 Regional Water, Wastewater and Waste Management Audits

Audit Type	Number of Audits	Number of Findings
Internal Proactive Audits	87	74
ISO External Audits	4	8
Regulatory DWQMS Audit	1	0

Audit findings have highlighted key priorities and continual improvement initiatives for 2019

Our audits identified several continual improvement opportunities. A few examples include strengthening system administration by ensuring current documentation is available at remote sites, regularly verifying the contents of spill kits, and ensuring newly installed equipment have calibrations scheduled on a consistent basis. Findings also highlighted key

areas of focus for 2019, including: evaluating the potential for electronic logbooks, enhancing facility manuals management, and strengthening the sample management program. Environmental Services' Integrated Management System has provided a systematic approach to addressing audit findings for the past 19 years. This practice minimizes risk to the Region and ensures public safety.

Process refinement and staff training identified through third party audits

Third-party audits confirm that the Management System is in line with requirements of the standards and has demonstrated an ability to sustain services compliant with applicable regulations, and met the Region's level of service targets. Five third party audits were conducted in 2018 that resulted in eight minor non-conformities. Minor non-conformities include administrative updates to the Integrated Management System Policy Statement and verification that a muffle furnace was operating within allowable temperature ranges. Actions to address the eight non-conformities have improved system performance by refining procedures, improving equipment controls, and strengthening staff training. Feedback received during third-party audits indicates the Integrated Management System is mature, systematically achieves requirements, and demonstrates strong leadership and engagement.

Operational Top Management confirms adequacy, suitability and effectiveness of the Integrated Management System

Annual management review meetings are a requirement of the three management standards. Operational Top Management uses this opportunity to assess efficacy of the Integrated Management System. The review focuses on system and regulatory performance, audit results and resources. A collaborative review is critical, and helps identify opportunities for continual improvement to improve efficiency and drive results. Through discussion at management review, priorities for the upcoming year are established. Operational Top Management met on March 4, 2019 to review system performance for the previous year and confirm the adequacy, suitability and effectiveness of the Integrated Management System.

Continual improvement initiatives drive efficiencies in performance

As part of the commitment to ongoing continual improvement, Environmental Services made several enhancements to systems and processes in 2018 to drive efficiencies in water, wastewater and waste management services and mitigate environmental risk. Some of these include:

- Developed customized online Integrated Management System refresher training for all operating staff, with 100% completion rate
- Delivered customized online training for operating staff to ensure awareness and understanding of emergency response procedures
- Continued to meet regulatory requirements for Operator training, while improving the effectiveness of skill development programs by increasing hands-on training delivery

- Conducted root cause analysis reviews of incidents to identify contributing factors and develop corrective actions to prevent recurrence
- Initiated identification and ongoing review of strategic and operational risks and opportunities, through monthly discussions to identify mitigation activities
- Streamlined review of environmental impacts associated with wastewater and waste management operations, to identify highest environmental risk, and to confirm mitigation measures are in place
- Improved report of quarterly customer communications to better identify trends and improvement areas
- Finalized Integrated Management System Policy Manual to address new requirements of updated versions of ISO 9001, ISO 14001 and Drinking Water Quality Management Standard

Together, these initiatives support efficiency, cost savings, risk mitigation and enhanced system performance, which help strengthen service delivery.

Waste Management expands System scope to formalize customer focus

The Region's public waste facilities have been registered to ISO 14001 since 2010. In October 2018, these facilities successfully expanded scope to achieve ISO 9001 registration. In 2016, a multi-year implementation plan was initiated to formalize existing quality processes. Throughout 2017 and 2018, project deliverables and milestones were met including policy and procedure development, staff training and internal audits. Achieving ISO 9001 registration provides mechanisms to ensure customer needs are continually met at waste depots and assist in maintaining operational excellence.

Updates completed to support new versions of ISO and Drinking Water Quality Management Standard

In 2018, Environmental Services implemented changes to meet new ISO and Drinking Water Quality Management Standard requirements, including risk assessment updates that include an assessment of climate change implications. For the ISO standards, successful transition audits were conducted in July 2018, resulting in continued registration to ISO 9001 and ISO 14001. Following external review in April 2019, accreditation to the Drinking Water Quality Management Standard version 2 is expected shortly thereafter and will support legal requirements under the *Safe Drinking Water Act, 2002* and the Municipal Drinking Water Licensing Program.

5. Financial

Integrated Management System helps mitigate risk, comply with regulatory requirements and support continual improvement

Investment in the management system assists Council with meeting standard of care obligations prescribed in the *Safe Drinking Water Act, 2002*. The management system provides a framework for staff to identify and mitigate risk, monitor and comply with regulatory requirements and continually improve processes used to deliver water, wastewater, and waste management services.

Total annual program costs to operate the Integrated Management System are \$1.25 million, including staffing and external audit services, and were approved by Council through the 2019 budget process. 80 per cent of program costs are funded from water and wastewater user rates, representing 0.19 per cent of the total rate budget. 20 per cent of program costs are funded from the tax levy portion designated for waste management activities under the scope of the Integrated Management System.

6. Local Impact

Lessons learned are shared with provincial and municipal partners

The Integrated Management System for Environmental Services provides benefits to local municipalities as it supports a systematic approach to mitigating risk and environmental impacts. It also helps improve service delivery by documenting customer and regulatory requirements in a shared service delivery model for water, wastewater and waste management operations. All local municipalities have a quality management system to meet requirements of the Drinking Water Quality Management Standard. Environmental Services staff meet regularly with municipal and provincial partners to address challenges, share best practices, develop common approaches and evaluate operating procedures to provide effective service delivery.

7. Conclusion

Providing information on enhancements and performance of the Integrated Management System supports Council in meeting standard of care requirements under the *Safe Drinking Water Act, 2002*. Continual improvement initiatives help make the system more efficient and accomplish improved risk mitigation with the same resources. Rigorous and comprehensive evaluation performed through the management system, including audits and the management review process demonstrates York Region's commitment to ongoing improvement of its programs and services.

For more information on this report, please contact David Szeptycki, Director, Strategy & Innovation at 1-877-464-9675 ext. 75723. Accessible formats or communication supports are available upon request.

Recommended by:

Erin Mahoney, M. Eng.
Commissioner of Environmental Services

Approved for Submission:

Bruce Macgregor
Chief Administrative Officer

February 22, 2019
8976764