

The Regional Municipality of York

Committee of the Whole
Environmental Services
April 8, 2021

Report of the Commissioner of Environmental Services

2020 Integrated Management System Update Report for Water, Wastewater and Waste Management

1. Recommendation

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

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* and demonstrates operational due diligence.

Key Points:

- Environmental Services' Integrated Management System is mature, well-established and provides a structured approach to risk mitigation and continual improvement
- Due to COVID-19 and in accordance with Public Health guidance, internal audits shifted to virtual delivery. These audits performed at water, wastewater and waste management facilities provided continued insight into delivery of our services and resulted in improved operational performance and regulatory due diligence
- Accomplishments achieved in 2020 through the Integrated Management System include successful third-party audits (resulting in one minor non-conformity) and successful re-registration to International Organization for Standardization's Quality Management Standard (ISO 9001:2015)

3. Background

Council has a legal obligation to ensure safe drinking water is provided to residents under the *Safe Drinking Water Act, 2002*

Councillors have an important role in ensuring that York Region’s drinking water systems provide safe, high-quality drinking water. *Safe Drinking Water Act, 2002* establishes a legal duty on individuals with decision-making authority over municipal drinking water systems, imposing a statutory standard of care. It requires Councillors to exercise a level of care, diligence and skill with regard to municipal drinking water system oversight that a reasonably prudent person would be expected to exercise. Councillors are expected to act with a view to ensuring the protection and safety of users of the municipal drinking water system. York Region Council fulfills this duty in part through ongoing financial support for drinking water systems and supporting continual improvement. Drinking water system performance is outlined in the 2020 Drinking Water Systems Report (also on this agenda), which includes Ministry of the Environment, Conservation and Parks inspection results.

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. Operational Top Management, which includes the Commissioner, Directors and Managers in Environmental Services, fulfills its role in the management system by making strategic and operational decisions and preparing this annual report to Council on our leading Integrated Management System.

Table 1
Roles and Responsibilities for Environmental Services’
Integrated Management System (IMS)

Who	Roles and Responsibilities for IMS
Corporate Top Management	
<ul style="list-style-type: none">• Council• Chief Administrative Officer	<ul style="list-style-type: none">• Exercise standard of care• Overall direction for Environmental Services’ IMS• Approval of resources and budget
Operational Top Management	
<ul style="list-style-type: none">• Commissioner• Directors• Managers	<ul style="list-style-type: none">• Strategic direction for Integrated Management System• High-level operational decision-making• Drinking Water Quality Management Standard representative

Who	Roles and Responsibilities for IMS
Water, Wastewater and Waste Management Operations	
<ul style="list-style-type: none"> • Water and Wastewater Operators • Waste Management Coordinators • Technical Support Staff • Integrated Management System Coordinators 	<ul style="list-style-type: none"> • Front line operations • Water and wastewater quality sampling • Maintenance, inspections and asset management • Documentation, data capture and validation • Internal audits and regulatory reporting • Operational training requirements

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 the safety of residents by complying with applicable legal requirements. York Region was the first organization in North America to apply International Organization for Standardization's Environmental Management Standard (ISO 14001) to a wastewater distribution system in 2000. York Region's Integrated Management System continues to evolve through a focused approach of continual improvement to program and service delivery.

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. Service delivery standards are outlined and confirmed through audits. Audits help identify and mitigate operational risks, deliver feedback for continual improvement, offer transparency and gauge operational resilience. Audit outcomes demonstrate to top management that the system is achieving intended results and support standard of care obligations.

Table 2 summarizes standards applied to Environmental Services' operational areas. York Region's adherence to International Organization for Standardization (ISO) standards is voluntary, while compliance with the Drinking Water Quality Management Standard (DWQMS) is a legal requirement under the *Safe Drinking Water Act, 2002* and the Municipal Drinking Water Licensing Program. By subscribing to multiple standards, the system effectively mitigates environmental and quality risks, while supporting the Region's service delivery and compliance with regulatory requirements.

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

Integrated Management System is a framework to manage risk, protect public health and the environment

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



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 DWQMS, on behalf of the Ministry of the Environment, Conservation and Parks

4. Analysis

Comprehensive audit program continues to evolve and confirms high level of compliance

Environmental Services' audit program drives regulatory compliance and continual improvement through 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 delivery of programs and services. To ensure the health and safety of staff and comply with public health measures, internal proactive and third-party audits were conducted virtually in 2020. The virtual audit process continued to evaluate conformance to system requirements through interviews, virtual tours and document reviews. In 2020, Environmental Services conducted 45 internal proactive audits. Each year, audit findings identify internal process improvements and system enhancements. Table 3 summarizes the number of audit findings by audit type, from 2018 to 2020.

Table 3

Number of Audit Findings for Water, Wastewater and Waste Management

Audit Type	2018	2019	2020
Internal Proactive Audit	74	60	48
ISO External Audit	8	0	1
Regulatory DWQMS Audit	0	0	0

A decrease in number of audit findings demonstrates system maturity and successful implementation of continual improvement initiatives. The virtual audit methods used in 2020 successfully met all requirements and objectives and allowed for a thorough review of processes and procedures. Audit processes, technology and data management practices continue to evolve, which allows for refinement of audit delivery, documentation review and data analysis. Best practices learned from virtual audits, such as improved documentation reviews and site visit scheduling will be incorporated into future audit delivery.

Audit findings highlight key priorities and continual improvement initiatives

Internal proactive audits provide an opportunity to evaluate existing processes and identify continual improvement opportunities. Key areas of focus for 2020 included assessing operational controls to mitigate environmental risks and evaluating effectiveness of newly implemented operational processes (i.e. when a new facility is commissioned). Table 4 identifies audit findings from 2020 and includes corrective actions to: update documents to reflect process changes; and, implement process enhancements to drive efficiencies, improvement of asset tracking and confirmation of staff training requirements. Each year, audit findings identify immediate corrective actions and inform key areas of focus for the subsequent year. Environmental Services' Integrated Management System has provided a systematic approach to addressing audit findings for the past 20 years. This practice minimizes risk to the Region and ensures public safety.

Table 4
Number of Internal Audit Findings by Category (2020)

Category	Number of Audit Findings
Documentation	19
Process Improvements	13
Asset Tracking and Calibration	9
Training	5
Miscellaneous	2

Third-party audits resulted in one minor non-conformity and successful re-registration to ISO 9001 Standard

Third-party audits are intended to confirm the Integrated Management System aligns with requirements of ISO and DWQMS standards. They also demonstrate the Region's ability to sustain services that are compliant with applicable regulations and Regional service level targets. In 2020, three external audits were conducted, which resulted in one minor non-conformity related to chemical labelling. This non-conformity did not impact drinking water quality or safety. A corrective action plan was implemented to address the root cause of the issue. Auditor feedback received during these audits and final results of external audits indicate that our operations are performing very well and the Integrated Management System is effectively mitigating known risks.

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

Annual management review meetings are required by all 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, resources, operational risks and opportunities. A collaborative review is critical and helps identify opportunities to improve efficiency and drive results. Through discussion at management review, systemic risks are reviewed and priorities for the upcoming year are established. Operational Top Management met in Q1 2021 to review system performance for 2020 and confirm the adequacy, suitability and effectiveness of the Integrated Management System.

Continual improvement initiatives drive efficiencies in performance

Environmental Services made several enhancements to systems and processes in 2020 to drive efficiencies in water, wastewater and waste management services and mitigate environmental risk. Some of these include:

- Used data to support decision making by improving system performance dashboards and reporting communications through the corporate Customer Relationship Management system
- Streamlined reporting of objectives and targets with emerging risks and opportunities to efficiently track progress on initiatives that mitigate system risk
- Consolidated Integrated Management System training requirements and implemented centralized tracking of training completion
- Prepared for individual producer responsibility at waste depots, including tracking risks associated with transition, adjusting operations and procurement contracts

Together, these initiatives support efficiency, cost savings, risk mitigation and enhanced system performance, which strengthen service delivery in water, wastewater and waste management operations.

Emergency preparedness tools in the Integrated Management System supported COVID-19 response

During initial stages of the COVID-19 pandemic, Environmental Services staff met regularly with the Ministry of the Environment, Conservation and Parks, Canadian Water Network, Regional Public Works Commissioners of Ontario and local municipalities to share best practices to maintain safe delivery of services. To proactively comply with public health measures, operations staff were assigned start locations at facilities throughout the Region to minimize in-person interactions, while support staff worked from home. The Integrated

Management System supported Environmental Services' operational response to COVID-19 by providing a systematic framework and tools for emergency response.

The Integrated Management System has a strong foundation in emergency preparedness and response through emergency procedures, emergency training and testing and conducting lessons learned exercises following an incident. While the COVID-19 pandemic proved a different type of operational emergency, Environmental Services staff continued to meet regulatory and standard requirements through use of interim procedures, non-conformity reporting, virtual audits, and root cause analysis investigations. Annual emergency testing requirements were adapted to align with the department's COVID-19 pandemic response. Improvements identified throughout the emergency response will be incorporated into system documentation and process improvements in 2021.

5. Financial

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

Total actual program costs to operate the Integrated Management System in 2020 were \$630,000, representing less than 1% of Environmental Services' gross operating costs. Program costs, including staffing and external audit services, are funded 80% through water and wastewater user rates and 20% from the tax levy designated for waste management activities.

Council's support of the Integrated Management System generates a value-added return on investment. Environmental Services' high scores during regulator inspections are in part attributed to the activities and rigour of the Integrated Management System. The system provides substantial risk mitigation and due diligence, which assists Council in meeting standard of care obligations prescribed in the *Safe Drinking Water Act, 2002*.

6. Local Impact

York Region and local municipal partners benefit from a collaborative approach to service delivery

Environmental Services' Integrated Management System provides benefits to local municipalities as it supports a systematic approach to mitigating full-system risks and environmental impacts. Local municipalities benefit from a systems approach, which drives continual improvement and high-performance that meets regulatory requirements in the shared service delivery model for water, wastewater and waste management operations. All local municipalities maintain a quality management system to meet requirements of the DWQMS. Environmental Services staff meets regularly with municipal and provincial

partners to address challenges, share best practices, evaluate operating procedures, and develop common approaches for efficient and effective service delivery.

7. Conclusion

Providing a summary of Environmental Services' performance and enhancements in the context of the Integrated Management System supports Council with meeting standard of care requirements under the *Safe Drinking Water Act, 2002*. Work delivered via the Integrated Management System, including internal and external audits, demonstrates York Region's commitment to ongoing improvement and resiliency of its programs and services. Successful external audits in 2020, including re-certification to ISO 9001, confirm the Integrated Management System is well-established, mature and systematically reduces operational risk. Continual improvement initiatives support system efficiencies and accomplish improved risk mitigation. On an ongoing basis, management confirms adequacy and effectiveness of the Integrated Management System to strengthen the delivery of York Region's water, wastewater and waste management services.

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

Recommended by:



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