

Clause 10 in Report No. 4 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on March 23, 2017.

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2016 Integrated Management System Update Report for Water,
Wastewater and Waste Management

Committee of the Whole recommends adoption of the following recommendation contained in the report dated February 16, 2017 from the Commissioner of Environmental Services:

1. Environmental Services staff circulate this report to the heads of Public Works at the local municipalities and the Ministry of the Environment and Climate Change.
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Report dated February 16, 2017 from the Commissioner of Environmental Services now follows:

1. Recommendation

It is recommended that:

1. Environmental Services staff circulate this report to the heads of Public Works at the local municipalities and the Ministry of the Environment and Climate Change.

2. Purpose

This report updates Council on the status of Environmental Services' Integrated Management System, including water, wastewater and waste management operations. This report is required by the Ministry of the Environment and Climate Change's Drinking Water Quality Management Standard and helps Council to meet its Standard of Care obligations required by the *Safe Drinking Water Act, 2002*.

3. Background

Councillors have a responsibility to ensure safe drinking water under the *Safe Drinking Water Act*

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. This requirement is further defined in the 2016 Drinking Water Systems Report (also on this agenda).

Environmental Services' Integrated Management System includes registration to ISO 14001, ISO 9001 and Ontario's Drinking Water Quality Management Standard

Environmental Services' Integrated Management System is a common framework based on the requirements of the International Organization for Standardization (ISO) 9001 Quality Management Standard, ISO 14001 Environmental Management Standard and Ontario's Drinking Water Quality Management Standard. York Region's application of ISO standards is voluntary, while the Drinking Water Quality Management Standard is a legal requirement under the *Safe Drinking Water Act, 2002* and the Municipal Drinking Water Licensing Program. Environmental Services' water facilities are registered to ISO 9001 and Drinking Water Quality Management Standard. Wastewater and waste management operations are registered to ISO 14001.

Integrated Management System supports Council's Standard of Care and due diligence obligations

The Integrated Management System aids York Region in meeting the needs of customers and other stakeholders, while continuously improving quality and monitoring and mitigating risk. It also helps Council meet Standard of Care and due diligence requirements by establishing and monitoring appropriate management controls over drinking water systems. Figure 1 summarizes roles and responsibilities, as defined by the Integrated Management System. Under the Integrated Management System, Corporate Top Management is identified as Council and the Chief Administrative Officer. Corporate Top Management must be provided with details on the continuing suitability, adequacy and effectiveness of the management system. Along with the 2016 Drinking Water Systems Report, this report is one way that information is provided to Council.

Figure 1
**Roles and Responsibilities for Environmental Services’
Integrated Management System**



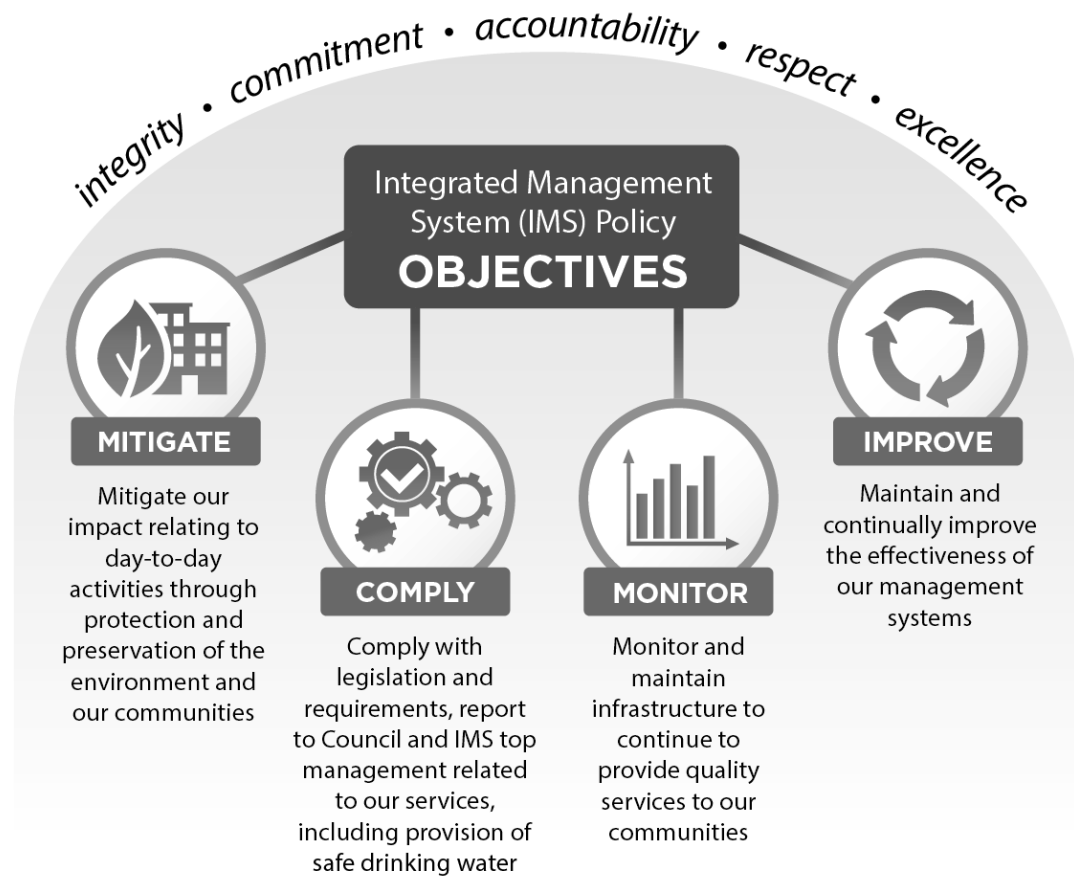
The Integrated Management System Policy provides the foundation for management system commitments and is displayed at all registered facilities. The Policy, which aligns with the Corporate Strategic Plan, provides a framework for setting objectives, as shown in Figure 2.

Figure 2

Integrated Management System Policy

Our innovative people provide environmental services that protect public health and the environment to meet the needs of our thriving communities.

We are committed to the following objectives:



4. Analysis and Implications

Auditing verifies effectiveness by evaluating conformance with each management system standard

ISO 9001, ISO 14001, and the Drinking Water Quality Management Standard emphasize the importance of audits as a tool for monitoring and verifying effective implementation of quality and environmental policies and processes. An

effective audit program is a critical component of the Integrated Management System to monitor compliance with regulatory requirements and strengthen system performance through continuous improvement. Both facilities and programs are audited via three types of audits, as shown in Figure 3.

- External audits - completed by a third party registration body, confirm conformance to ISO 9001, ISO 14001 and the Drinking Water Quality Management Standard
- Internal audits - conducted by staff, confirm conformance to internal management system requirements
- Compliance audits - conducted by staff, evaluate compliance with regulatory requirements

Environmental Services' comprehensive audit program drives continuous improvement in the Integrated Management System. The system of checks demonstrates a high level of due diligence and proactively identifies operational improvement opportunities and regulatory compliance concerns, thereby minimizing risk to the Region.

Figure 3
2016 Regional Water, Wastewater and Waste Management Audits



Audit findings help demonstrate system health by challenging the status quo

In 2016, audit findings identified internal business process improvements and system enhancements. Audit findings help demonstrate system health, in that staff are continually challenging the status quo and looking for opportunities to strengthen the delivery of services. Findings include opportunities to strengthen procedural documents, records management practices and staff training. Based

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on the maturity of Environmental Services' management system, corrective actions identified tend to be fewer but are often complex.

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 use this opportunity to assess the Integrated Management System. The review focuses on management system performance, audit results, regulatory requirements and resources. This review process helps identify opportunities for continuous improvement of business practices to improve efficiency and drive results. Operational Top Management met on February 15, 2017 to review system performance for the past year and confirmed the adequacy, suitability and effectiveness of the Integrated Management System.

Continuous improvement initiatives drive efficiencies in Integrated Management System performance

As part of ongoing continuous improvement, Environmental Services made several enhancements to internal systems and processes in 2016 to drive efficiencies in water, wastewater and waste management. Some of these include:

- Incident follow up process improvements to strengthen documentation of event occurrence, what was done to contain the situation, and steps to prevent reoccurrence. Database enhancements were implemented to facilitate tracking and analysis of incident data. In addition, the role of root cause analysis after incidents was clarified. Consistent with a mature management system, follow up actions were streamlined to focus deeper analysis efforts on major issues to drive further system improvements
- Streamlined documentation review processes. Achieved a 66 per cent reduction in the number of regulatory documents requiring review annually
- Enhancements to the internal audit program included auditor training to deepen their understanding of auditing techniques. Improved audit checklist to reflect emerging management priorities
- Established new Integrated Management System training
- Refined business metrics to facilitate monthly monitoring of management system performance
- Created real-time data reports via Intellex to monitor the timely closure of audit follow up activities

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Together, the initiatives above support efficiency, cost savings, and enhanced system performance, which help strengthen the Integrated Management System.

Integrated Management System is expanding to further benefit departmental processes and reduce risk

In 2015, a multi-year implementation plan was developed for the Integrated Management System, including the addition of critical processes associated with the delivery of capital infrastructure projects. Throughout 2016, progress was made on strengthening capital delivery documentation and improving existing processes to meet management system requirements with a focus on commissioning new infrastructure. As implementation progresses towards 2019, benefits will include project management process quality and consistency along with enhanced documentation. These results will be facilitated through system controls and regular process auditing.

The Region's public waste drop-off facilities are currently registered to ISO 14001 and are undergoing scope expansion to include ISO 9001 registration. In 2016, a multi-year implementation plan was initiated, with registration forecasted to occur in 2018. Achieving ISO 9001 registration will strengthen quality performance by bringing greater control to facility processes, such as tracking of customer complaints and supplier and contractor evaluation.

Workplan and audit schedule developed to support updates to ISO 9001 and ISO 14001 management standards

ISO 9001 and ISO 14001 management standards were updated by the International Organization for Standardization in September 2015. The revised standards now follow a common framework for system structure and include alignment of terms and definitions. Conformance to 2015 versions of the standards must be achieved by September 2018. In 2016, an implementation plan and audit schedule were developed to ensure standard changes are addressed within the prescribed transition period.

The Ministry of the Environment and Climate Change proposed changes to the Drinking Water Quality Management Standard in late 2015. Final changes to the Standard have not yet been released; however, staff continue to dialogue with the Ministry to advocate for improved auditing and inclusion of training approvals in the updated standard.

5. Financial Considerations

Investment in the Integrated Management System provides a framework to mitigate risk, monitor and comply with regulatory requirements and support continuous improvement

The Integrated Management System provides a framework for staff to mitigate risk, monitor and comply with regulatory requirements and continuously improve programs and processes used to deliver water, wastewater, and waste management services. Additionally, investment in the management system assists Council with meeting obligations prescribed in the *Safe Drinking Water Act, 2002*.

Total program costs to operate the Integrated Management System are \$1.1 million, including external audit services, and were approved by Council through the 2017 budget process. Eighty per cent of program costs are funded from water and wastewater user rates, representing 0.23 per cent of the total rate budget. Twenty 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 Municipal Impact

An Integrated Management System for Environmental Services provides a benefit to local municipalities as it supports a shared interest in mitigating risk and environmental impacts, improving service delivery and complying with regulatory requirements in a two-tier service delivery model. All local municipalities have a quality management system to meet requirements of the Drinking Water Quality Management Standard. York Region staff periodically meet with municipal partners to address challenges, develop common approaches and evaluate operating procedures to provide effective service delivery.

7. Conclusion

Environmental Services' Integrated Management System helps York Region limit risk by providing a framework for minimizing operational impacts on the environment, and protecting residents by complying with applicable laws, regulations and other environmental requirements. It also provides a structured approach to continuously evaluate and improve program delivery. Providing information on the performance and enhancements to the Integrated Management System supports Council in meeting Standard of Care requirements under the *Safe Drinking Water Act, 2002*. Continuous improvement projects help make the system more efficient and accomplish greater risk mitigation with the same resources. Rigorous and comprehensive evaluation features, such as the audit program and management review process, which are built into the management system, 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.

The Senior Management Group has reviewed this report.

February 16, 2017

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