
For Information

REPORT TITLE: **2022 Performance – Water and Wastewater Management Systems**

FROM: Kealy Dedman, Commissioner of Public Works

OBJECTIVE

To provide a summary of Peel’s Drinking Water Quality Management System (DWQMS) performance in 2022 in support of Regional Council’s duty and responsibilities under the Statutory Standard of Care.

REPORT HIGHLIGHTS

- Peel’s Drinking Water Quality Management System (DWQMS) remains an effective instrument in the supply of safe drinking water.
 - Staff continue to consolidate the management of common components of Peel’s Wastewater Integrated Management System (WWIMS) and DWQMS, which achieves efficiencies and standardized practices in service delivery.
 - 2022 Management Review outcomes demonstrate Peel’s compliance with regulatory requirements and conformance with the province’s Drinking Water Quality Management Standard as well as ISO 14001 and ISO 9001 standards.
 - Staff continue to implement control measures and complete action plans to manage risks associated with the delivery of water and wastewater services.
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DISCUSSION

1. Background

Peel Region (Peel) is responsible for supplying safe drinking water to its residents and business owners and collecting wastewater for treatment and release to receiving waters while meeting or exceeding provincial regulatory requirements.

Drinking Water Quality and Wastewater Management Systems

Ontario legislation for municipal drinking water systems requires drinking water system owners to conform to a Drinking Water Quality Management Standard (Standard) that emphasizes the importance of best management practices and continual improvement towards effective operational performance, quality drinking water and compliance with the law.

Peel implemented a Drinking Water Quality Management System (DWQMS) in 2008 that meets the requirements of the provincial Standard. Every year, its conformance is verified through internal audits and by a third-party accreditation body.

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In anticipation of future regulatory changes to improve the management of wastewater systems, Peel has voluntarily adopted quality and environmental management standards. Staff developed and implemented a Wastewater Integrated Management System (WWIMS) that follows international standards ISO 9001 (Quality Management) and ISO 14001 (Environmental Management).

DWQMS and WWIMS share some similar requirements which has allowed staff to develop and implement uniform practices and realize efficiencies.

Management Review

The Management Review is a key element of the Ontario Drinking Water Quality Management Standard and ISO 9001/14001 standards that evaluates the continuing suitability, adequacy, and effectiveness of the DWQMS and WWIMS. Every year, staff formally review the complete management system, the status and progress towards the objectives, including:

- Any incidents of regulatory non-compliance and water quality trends
- Internal and external audit results and status of management action plans
- Consumer feedback and operational performance
- Effectiveness of risk assessments and controls, and emergency management
- Resources needed for ongoing maintenance and continual improvement of the management systems.

The results of Management Review are reported to Council every year for information, to support Regional Council's duty and responsibilities under the Statutory Standard of Care of the *Safe Drinking Water Act, 2002*.

Staff completed a combined DWQMS and WWIMS Management Review using 2022 operational performance. The combined approach aligns with the organizational structure in the Water and Wastewater Division and provides an integrated framework to protection of public health and the environment and management of risks.

2. Findings

a) 2022 Regulatory Compliance & Water Quality Trends

i) Annual Compliance Reporting and Quality Trends

Staff reported the 2022 drinking water system compliance update to Regional Council on March 23, 2023 (2022 Water Compliance Update - Annual Summary Resolution Number 2023-240). The annual operational performance reports for 2022 that assess operational performance of Peel's water and wastewater systems are available on Peel's website (Drinking Water Quality Reports – Region of Peel¹ and Wastewater Performance Reports – Region²).

¹ <https://peelregion.ca/drinking-water/quality-reports.asp>

² <https://peelregion.ca/wastewater/#reports>

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ii) Ministry Inspections

Results of the Ministry of the Environment, Conservation and Parks (Ministry) annual inspections of the drinking water systems for 2022 demonstrate the value of applying best management practices and Peel's strong commitment to protection of public health and the natural environment. At the time of the March 23, 2023, Council meeting, inspection scores were pending for three of Peel's water systems. All inspection scores are now available, and staff are proud to report that Peel achieved a rating of 100 per cent for each drinking water system in 2022.

Drinking Water System Name	Ministry Inspection Score
Caledon Village – Alton	100%
Cheltenham	100%
Inglewood	100%
Palgrave – Caledon East	100%
South Peel Distribution System	100%
South Peel – AP Kennedy Water Treatment Plant	100%
South Peel – Lorne Park Water Treatment Plant	100%

b) DWQMS and WWIMS Audits and Compliance Checks

Audits serve an important function in Peel's water and wastewater management systems, confirming DWQMS and WWIMS effectiveness by assessing their conformance to the respective standards. Findings from internal and external (third-party) audits conducted in 2022 were associated with:

- documentation, specifically record entry standardization,
- communication, with focus on staff awareness of our quality management systems
- changes to organizational structure and staffing resources.

The overall outcome of the 2022 external audit of the water systems validated adequacy and documentation of internal controls and procedures in Peel's DWQMS, with recommendation for continued DWQMS accreditation. Through an opportunity for improvement identified during the audit, Peel staff improved the emergency response and operational events after-action review process. This process identifies lessons learned and improvement opportunities to help mitigate and prevent future emergency events.

The 2022 internal audit also contributed to the improvement of Peel's DWQMS in the areas of governance, risk management and control processes. The internal audit findings have led to improvements in record keeping accuracy and communication to raise staff awareness of Peel's management system. The DWQMS training program was improved by prioritizing program elements based on target-audience and regular measures of DWQMS knowledge and awareness. Staff also took advantage of collaborative tools to create an effective communication strategy that applies diverse methods of bringing stakeholders together with focus on progress and deliverables.

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Throughout the 2022 internal audit, several positive aspects were noted about the management of Peel's water systems; the staff suggestion process brings great ideas and positive changes to the program and staff participation in the risk assessment process leads to the implementation of effective control measures.

Staff have also implemented internal regulatory compliance checks, which are periodically conducted at Peel's drinking water and wastewater systems. These checks help staff verify compliance and close any gaps to ensure legislated requirements and internally established standards are met between annual Ministry inspections and DWQMS and WWIMS audits.

c) Customer Feedback

Customer satisfaction information is important to understand service delivery expectations and improvement opportunities. Maintaining an exceptional level of customer service is an important aspect of DWQMS and aligns with Peel's culture of continual improvement. Staff strive to maintain up-to-date information on operational performance of Peel's water and wastewater systems and making it readily available through Peel's website.

Water and wastewater staff address every call and written enquiry appropriately, and when required, conduct on-site investigations. Staff continues to identify opportunities and take steps to improve the customer service response process. Recent improvements include streamlining the investigation of wastewater odour-related concerns raised by residents. Areas that regularly experience odours are evaluated and solutions implemented that help prevent odourous gases in the wastewater collection system from impacting the community.

Staff welcomes reports from customers such as damage to fire hydrants and water and wastewater system leaks. In 2022, staff received over 600 calls from the residents regarding the integrity of maintenance holes on roadways in Peel. Reported damage, mainly related to broken or dislodged covers, is repaired immediately to restore public safety.

Each year, Peel receives approximately 1,500 customer enquiries related to water quality. Approximately 30 per cent are related to aesthetic water quality (taste and odour) and approximately 45 per cent are related to water pressure. Most circumstances that generate customer complaints are temporary in nature and typically resolved by providing information over the phone. Staff will also conduct on-site visits, collect water samples, and test water quality to ensure public safety and build trust and confidence. Staff also proactively inform residents and business owners of planned work or extenuating circumstances that may potentially contribute to changes in water pressure and water quality, including what actions a homeowner can take when impacts are observed. Water system studies are regularly completed and any areas of low water pressure in the water distribution system identified are addressed through the capital plan.

d) Operational Performance

Preventative maintenance of water and wastewater systems is critical to protecting public health and the environment. Completing all required preventative maintenance continues to be a challenge due to increasing customer service demands, growing capital construction support demands on operations staff, aging infrastructure requiring corrective maintenance, and the frequent turnover of certified water and wastewater operators. Recent organizational structure realignment, merging water and wastewater operations and maintenance functions, has improved cross training opportunities for operators and provided

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greater flexibility when assigning work. Future budget recommendations will address emerging operational resource requirements such as Maximo implementation, additional certified operators, and maintenance planner-schedulers.

e) Risk Management

Peel's DWQMS and WWIMS include regular evaluation of existing and potential risks to quality of drinking water, wastewater effluent, and integrity of infrastructure. The risk assessment process draws the experience from a cross-functional group of staff to identify potential service delivery challenges, practical preventative measures, and improvement opportunities. The outcome of each assessment results in action plans that help support delivery of reliable water and wastewater services. Staff presented a summary of risk considerations to Peel's drinking water systems to Regional Council on March 23, 2023 (2022 Water Compliance Update - Annual Summary, Resolution 2023-240) with some of those risks applied to the operations and management of Peel's wastewater systems.

The continued effectiveness of the risk management process delivers changes that remove or significantly reduce the impact of hazardous events on Peel's water and wastewater systems. While new risks were added during the 2022 DWQMS and WWIMS assessments, staff concluded that existing control measures adequately address these risks and minimize their potential effect on Peel's objectives.

f) Emergency Management

Desktop review and validation of Peel's water and wastewater emergency response protocols was conducted in 2022 resulting in minor administrative updates including clarity to roles and responsibilities during events of extended electrical utility power loss and enhancements to overall communication during an emergency to successfully mitigate the impact of the event on public health, property, and the environment. The 2022 review process also included a review of facility physical security measures, staff health and safety, and corporate security policies.

Wastewater service delivery is occasionally challenged by system blockages and heavy flows that create risks of spills to the environment. With focus on protection of the natural environment and sources of drinking water for the future, staff continue working on improvements in system overflow tracking and implementation of the Wastewater Emergency Response Plan for immediate response and risk mitigation actions.

A new regulatory approvals framework for municipal wastewater collection systems stresses the importance of well-equipped and functioning emergency management program. To maintain compliance and prevent emergency situations, staff continues to focus their efforts on emergency preparedness through building effective emergency response testing, mock drills, and comprehensive staff training. Staff are also improving wastewater collection system by-pass plans when system repair, construction or weather patterns create unexpected demands.

3. Quality Management System Sustainment and Improvement

Sustaining effective water and wastewater quality management systems in Peel requires active participation from staff and leveraging technology to enable staff to develop and implement improvements while meeting growing customer needs and expectations.

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The 2022 Management Review identified initiatives and resources recommended for continued sustainment of DWQMS, WWIMS, and regulatory compliance including:

- Compliance records migration from EIM to SharePoint,
- Implementation of e-communication methods for anytime-everywhere access to information to support field staff DWQMS and WWIMS awareness,
- Water and wastewater specific e-learning training options
- Electronic logbooks for certified operators to meet regulatory compliance and enable real-time operational oversight, and
- Implementation of an Environmental, Health and Safety and Quality (EHSQ) Management digital solution to reduce quality management system manual processes, improve accuracy and document management.

The sustainment initiatives and resource needs are anticipated to be funded with existing approved funding sources and future budget recommendations.

BILL 112 RISKS AND IMPLICATIONS

On May 18, 2023, the Province introduced Bill 112, the *Hazel McCallion Act (Peel Dissolution), 2023* that will dissolve the Peel Region and make the Cities of Brampton and Mississauga and the Town of Caledon single-tier municipalities, effective January 1, 2025. The proposed legislation provides for the establishment of a Transition Board to make recommendations on implementing the restructuring. Details of the transition including matters as they relate to Regional roles and responsibilities are not known at this time and will be addressed in future reporting to Regional Council. Additional assessment to support the transition under Bill 112 will be provided as further details become known.

CONCLUSION

Peel Region maintained excellent water and wastewater systems operational performance throughout 2022, in conformance with the Drinking Water Quality Management Standard and quality and environmental requirements of the ISO 9001 and 14001 standards as applicable.

Peel's water and wastewater management systems are well-established and effective in mitigating existing and potential risks, which was verified by successful audits, in-house compliance checks and Ministry inspections.



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