

ENGINEERING & OPERATIONS OPEN SESSION REPORT

TO: Mayor and members of Council
FROM: David Jackson, General Manager of Engineering & Operations
DATE: March 31, 2025
SUBJECT: Summary Report for Sarnia Drinking Water Distribution System

Recommendation

For Council's Information

Background

Under the Safe Drinking Water Act, O. Reg. 170/03, Schedule 22, City Council must be informed annually of the status of their water distribution system by the operating authority. A summary report is prepared to highlight and expand upon the Sarnia Distribution Systems 2024 Annual Report which is enclosed in this document. In addition, the annual reports are posted on the City of Sarnia's website and are available upon request at the Public Works Office (651 Devine Street).

Comments

This report is prepared for City Council as owners of the Sarnia Distribution System in accordance with Schedule 22 of O. Reg. 170/03 for the reporting period of January 1, 2024 – December 31, 2024, to review a summary of water quality information. The system is operated in accordance with the requirements outlined in MDWL 037-101 and DWWP 037-201.

Sampling and Monitoring Programs:

In 2024, 1060 Microbiological test samples, 265 HPC samples, 16 reportable lead distribution samples, 4 THM samples, 4 HAA and 1922 chlorine residual samples were taken on a demand of 10.3 million m³ (cubic meters) of water.

Ministry of the Environment Conservation and Parks (MECP) – Annual Inspection

An annual routine (announced) MECP inspection was conducted in the 2024 calendar year. The inspection concluded on November 25, 2024, reviewing the period of September 1, 2023 – August 31, 2024. The Sarnia Distribution system received a Final Inspection Rating of 100%.

Non-Compliance with Regulatory Requirements:

The Sarnia Distribution system received zero citations for non-compliance events during the November 25, 2024, inspection. No corrective actions were required.

The operating authority provided voluntary notification to the MECP regarding the Lead Reduction Program upon identifying the consumer notification process and flushing protocols were not implemented effectively. LSL Replacements were put on hold to allow the municipality to make amendments to the approved lead reduction plan including changes to flushing protocols and consumer notifications, under the review/approval of the MECP. Various post-replacement sample values indicated lead concentrations may temporarily increase following lead service line replacements. The City of Sarnia has revised their Post Replacement Filter Rebate program to provide a Brita assembly accompanied by a year supply (2 cartridges) of NSF 53 certified lead reducing filters, as an added temporary precaution.

Drinking Water Quality Management Standard (DWQMS)

The Drinking Water Quality Management Standard is the Quality Management Standard approved under S. 21 of the Safe Drinking Water Act, 2002 (SDWA), and complements this legislative and regulatory framework by endorsing a proactive and preventive approach to assuring drinking water quality. This approach includes consideration of 21 elements that are fundamental to ensuring the long-term sustainability of a Drinking Water System.

The DWQMS undergoes a surveillance audit (selected elements of the DWQMS) once every year and a reaccreditation audit (all elements of the DWQMS) once every three years.

Intertek - SAI Global conducted a surveillance audit on September 18, 2024. Three minor non-conformance and seven opportunities for improvements (OFIs) were documented as the result of this audit.

Non-Conformance with Regulatory Requirements:

Finding 1578314 – 1: “Documents required by the QMS are not being kept current and fully updated”. The minor non-conformance was received due to the Management Review procedure being revised without updating the title of Environmental Compliance Officer to Compliance Coordinator. The title of Compliance Officer and Compliance Coordinator are interchangeable terms for the Public Works department therefore no immediate containment was required.

Corrective Action: The operational plan (OP) was reviewed to ensure no reference is made to compliance "officer". The management review procedure was updated to correct the title of "officer" to coordinator. All associated procedures will be reviewed and updated during the SDS Operational plan overhaul.

Finding 1578314 – 2: "Not all supplies and services essential for the delivery of safe drinking water and their means to ensure procurement have been identified." The minor non-conformance was received due to no direct references being made within OP Element #13 to laboratory services, calibration, third party sampling, and chemical quality requirements and their procurement. The required information was available in documents and procedures associated with the OP.

Corrective Action: OP element #13 was revised to include direct reference to laboratory services, calibration, third party sampling, and chemical quality requirements and their procurement. In addition, OP Element 17 was updated to include reference to calibration services. The Essential Supplies and Services document was re-developed to provide contact information for all applicable parties.

Finding 1578314 – 3: "The corrective action process is ineffective." The minor non-conformity was received due to the root cause as well as verification of effectiveness not being identified within Continual Improvement Tracking spreadsheet for four non-conformance items.

Corrective Action: The corrective actions and verification for effectiveness were reviewed for CIR # 2023-01, 2023-02, 2023-10 and 2023-18. All corrective actions and verifications were then documented on the CIR Spreadsheet as well as CIR Form.

In addition, the DWQMS undergoes an annual internal audit that was conducted by Ontario Clean Water Agency (OCWA) on September 30, 2024. The internal audit detected two non-conformities and seven OFI's.

Two non-conformities were cited from the internal audit consisting of the following:

Element 1: Quality Management System

Non-conformance: The Operational Plan and its procedures should be reviewed thoroughly to ensure the naming of positions, systems, and the ministry is correct. As well as ensuring all the OFIs and non-conformances that have been previously identified in audit reports are addressed.

Corrective Action: The municipality has planned a full overhaul of the current operational plan.

Element 7: Risk Assessment

Non-conformance: There is insufficient evidence that the Risk assessment is being reviewed every calendar year, and the risks are being re-assessed every 36 months. There is a Risk Assessment Review History and Document History. It is recommended to have one revision history identifying the changes to the outcomes of the risk assessment and whether it was during an annual review or 36-month risk assessment.

Corrective Action: Element 7 and the associated procedures will be reviewed and revised during the operation plan overhaul. The Risk Assessment review history and document history will be consolidated into a single revision table to document all changes and provide reference to the type of review (annual or 36 month).

As multiple non conformances were detected as well as large number of opportunities for improvement (OFIs) in the current operational plan the operating authority has decided to conduct a full overhaul to resolve all outstanding administrative errors. A new operational plan is to be developed in the 2025 physical year and is to be implemented immediately upon approval.

Lead Testing

The City of Sarnia's Lead Reduction Plan remains in effect as required by MDWL 037-301. A total of 73 private, 74 combined and 97 City-owned, lead service lines have been replaced since 2020. The City of Sarnia replaces lead services as encountered during reconstruction, repair and maintenance projects. 20 plumbing samples were collected for the purpose of identifying the residential lead concentration in drinking water. 45 post replacement lead samples were collected to confirm reduction in residential lead levels for properties that have undergone a lead service line replacement. The operating authority has been working to revise consumer notifications and flushing protocols regarding lead service line replacements. The program will resume in 2025 continuing lead service line replacements for properties with sample results >10 ug/L.

There were two sample periods in 2024 with a total of 16 distribution samples collected to comply with O. Reg. 170/03 schedule 15.1.

Annual volume record of the Lambton Area Water Supply System January 1, 2024 – December 31, 2024

Month/Year 2024	Volume (m³)
January	750,462
February	703,365
March	737,988
April	730,287
May	893,246
June	1,064,426
July	1,129,064
August	1,044,558
September	1,003,288
October	820,086
November	721,773
December	741,044
2024 Year Total	10,339,586
2023 Year Total	10,376,433

The Lambton Area Water Treatment Plant has a rated maximum daily flow rate of 181,844 m³/day. LAWSS total flow was recorded as 18,237,351 m³ for 2024, the City of Sarnia's proportion of the normal flow rate is approximately 57%.

Consultation

The annual report has been posted on our website to fulfill a requirement of the Safe Drinking Water Act. The annual report is attached to this report.

Financial Implications

There are no costs related to this report. All costs associated with the supply, testing and reporting of the water system are included in the annual operating budget.

Reviewed by:

David Jackson
General Manager of Engineering &
Operations

Approved by:

Chris Carter
Chief Administrative Officer

This report was prepared by Haley Majovsky, Public Works Compliance Coordinator

Attachments:

- January 1, 2024 – December 31, 2024 Annual Report