

Staff Report



Infrastructure Services Department

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REPORT TO: Community and Infrastructure Services Committee

DATE OF MEETING: March 6, 2023

SUBMITTED BY: Greg St. Louis, Director, Gas & Water Utilities, 519-741-2600 ext. 4538

PREPARED BY: Angela Mick, Manager, Quality Management and Water Programs, 519-741-2600 ext. 4408

WARD(S) INVOLVED: Ward(s)

DATE OF REPORT: February 2, 2023

REPORT NO.: INS-2023-011

SUBJECT: Drinking Water Quality Management Standard (DWQMS): Management Review Summary for 2022

RECOMMENDATION:

That the City of Kitchener Drinking Water Quality Management Standard (DWQMS): Management Review Summary for 2022 Report be received for information.

REPORT HIGHLIGHTS:

- The purpose of this report to inform the decision-making authority about the status of the drinking water system
- The key finding of this report is that the Kitchener distribution system meets the requirements under the *Safe Drinking Water Act*.
- There are no financial implications of this report
- This report supports the delivery of core services.

BACKGROUND:

The *Safe Drinking Water Act, 2002* and *Regulation 188/07*, requires the City of Kitchener to be licensed to operate and maintain Kitchener's water distribution system. Some of the licensing requirements include the development and management of a Quality Management System (QMS) and Operational Plan as well as communication to the owner. The City of Kitchener became licensed in August, 2009 with a Financial Plan submitted in July, 2010. The licence was renewed in 2019.

Section 19 of the *Safe Drinking Water Act* imposes a statutory standard of care on persons who oversee the municipal drinking water system: "...every person who, on behalf of the municipality, oversees the accredited operating authority of the system or exercises decision-making authority over the system". This standard of care includes Council since they have decision-making authority. Part of the standard of care includes requiring system owners to undertake financial planning and implement the Drinking Water Quality Management System (DWQMS). The following link is a guide for municipal councillors to help understand their responsibilities under the *Safe Drinking Water Act, 2002* and provides information on how Ontario's drinking water is

safeguarded: [Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils | ontario.ca](https://www.ontario.ca/taking-care-of-your-drinking-water)

Three things to remember as a municipal councillor (as outlined in the above Guide):

- It's your duty. There are legal consequences for not acting as required by the standard of care, including possible fines or imprisonment.
- Be informed. Your decisions can have an impact on public health. You don't have to be an expert in drinking water operations, but you do need to be informed about them.
- Be vigilant. It is critical you never take the drinking water safety for granted or assume all is well with the drinking water systems under your care and direction.

REPORT:

The purpose of this report is to inform Council as the decision-making authority about the status of the drinking water system on an annual basis. The Kitchener water distribution system meets the requirements under the *Safe Drinking Water Act*. There are specific areas that must be reported per regulatory requirements, which include; but are not limited to consumer feedback, results of infrastructure review, results of audits and summary of maintenance.

The DWQMS requires Top Management to "report the results of the management review, the identified deficiencies, decisions and action items to the Owner". Top Management is defined as "a person, persons or group of people at the highest management level within an Operating Authority that makes decisions respecting the QMS and recommendations to the Owner respecting the subject system or subjects systems". The Owner of the water utility is the Corporation of the City of Kitchener, represented by City Council.

The 2022 Management Review was completed with Top Management: Denise McGoldrick, General Manager, Infrastructure Services, Greg St. Louis, Director, Gas & Water Utilities, and Tammer Gaber, Manager, Operations (Gas & Water) as well as Matt Ryan, Manager, Training and Programs, Angela Mick, Manager, Quality Management and Water Programs and Dean Chapman, Quality Management System Specialist. The Management Review report is attached.

Highlights of the report are:

- The Summary Water Report-2022 (INS-2023-010) confirmed that the drinking water system was in compliance with regulatory water sampling requirements during 2022. The DWQMS Management Review confirms the continuing adequacy and effectiveness of the quality management system which includes compliance, customer feedback, operational performance, audit information etc. as outlined in this report.
- COVID restrictions were minimal and largely did not impact 2022 operations; however, construction and operating costs increased.
- Year Five Water Infrastructure Program (WIP) maintenance end of year achievements (specific areas of improvement identified by WIP):
 - Cleaned approximately 168km of watermain. 2022 was the final year of the 6 year program to complete all main cleaning over 6 years. In 2023 the program will restart with the area previously cleaned in 2017.
 - Water quality complaints continue to decrease. There were 105 complaints total with 28 discoloured water complaints for 2022; which has greatly decreased from pre-watermain cleaning/pre-treatment plant upgrade levels in 2016 (395 complaints total with 147 discoloured water).

- 21 broken valves and/or failing valves were either replaced or removed which allows for quicker isolation for water emergencies. Broken valves are tracked in real time and the majority are addressed within weeks (except for winter).
- Approximately 1,873 valves were proactively operated (23%); the majority were within the watermain cleaning area and the 2022 reconstruction areas. Operating valves ensures that they will work when they are needed in an emergency or for construction activities.
- Completed spring and fall maintenance of fire hydrants.
- Underground utility locates – continued to meet regulatory requirements with a combination of in-house and contract staff (17,885 locates completed; representing the largest number of locates completed over the past 10 years).
- Approximately 3,300 services are protected by Backflow Prevention (BFP) – the focus is on high risk use.
- Regulatory reliefs were provided by the Ministry to decrease the number of monthly samples and to limit the fall lead testing programs (customer premises) to hydrants only due to COVID restrictions. A relief has also been granted for the spring 2023 lead testing program (hydrants only).
- An inspection of approximately 130 air relief valves in chambers was completed. No air reliefs were replaced in 2022. A study was commenced to determine which air reliefs require replacement and which may be removed.
- There were 93 watermain breaks in 2022, which is above than the 5-year average of 84.
- Approximately 6,065 aging/problem water meters were replaced.
- Hydrant painting program for corrosion protection was re-started with 450 hydrants painted, painting will continue in 2023. Hydrants are also stencilled with the watermain diameter for the Fire Department.
- Unaccounted for water was 10% (At the 10% industry target). The unaccounted for water generally fluctuates around 10% (9-12%, with 10% being the approx. 10 year average).
- Pressure reducing valve maintenance was completed.
- The Water Utility Asset Management Plan was completed in 2022. The water assets have a value of more than \$1 Billion and are generally in very good condition. Overall, watermains are more than halfway through their useful life. This is being addressed through the WIP.
- Staff training programs included: Ethics for Drinking Water Operators, Water Quality for Distribution System Operators and New Watermain Commissioning Course. DWQMS Awareness training occurred for new staff.
- Replaced watermains as outlined in the 2022 City of Kitchener Engineering & Water Utility Capital Forecast.
- External audit determined that the management system is effectively implemented and maintained and recommended continued certification of accreditation for the municipal drinking water system.
- Increased erosion and sediment control procedures during watermain breaks to minimize sediment from entering storm sewer and to provide rehabilitation steps if sediment does enter storm sewer or watercourses. Sediment control/rehabilitation costs associated with watermain breaks can be significant.
- Locate related costs are expected to increase significantly in 2023 due to new regulatory requirements. Locating costs are split between gas and water. A Locate Review is

currently being led by the City's Internal Auditor to evaluate the service level, risk and resourcing needs associated with new legislative requirements.

Continuing Areas of Focus are:

- Continue with tasks associated with the next WIP review.
- Re-endorsement of the DWQMS Operational Plan by Council.
- Approval of the Water Distribution System Financial Plan as part of Application for Renewal of Licence due later this year.
- Proceed with improvements to the As-built process in conjunction with Engineering, specifically hiring the additional resource approved through the budget process. There has been difficulty filling this position. Hiring staff is the last outstanding item related to the 2020 MECP inspection which flagged that The owner did not have up-to-date documents describing the distribution components as required. As-builts and GIS mapping is required within 12-months from when a new watermain is commissioned. A number of process changes have been completed over the last 2 years to improve turn-around time.
- Development and roll out AMANDA solution for better tracking of Backflow Prevention/Cross Connection program.
- Development of a water disruption communication tool. The existing Watermain Break App provides for updates to the website and email for emergency watermain breaks but there is no notification for planned water outages or emergency outages associated with other infrastructure (valves, services).
- Check valves along the LRT. The valves are largely new but are deemed to be critical due to potential impacts to the LRT.
- Hydrant mobile field inspections are anticipated to be rolled out in spring 2023. It is anticipated that the solution will provide efficiencies by minimizing data entry and provide faster deficiency follow-up.
- Proceed with OnPoint roll-out to replace ArcReader infrastructure mapping.
- Proceed with filling technical water position approved as part of the 2023 budget process.
- Participation in locates review with Internal Auditor.

STRATEGIC PLAN ALIGNMENT:

This report supports the delivery of core services.

FINANCIAL IMPLICATIONS:

The recommendation has no impact on the Capital or Operating Budgets.

COMMUNITY ENGAGEMENT:

INFORM – This report has been posted to the City's website with the agenda in advance of the council / committee meeting. The Drinking Water Quality Management Policy is available on the Kitchener Utilities website.

PREVIOUS REPORTS/AUTHORITIES:

There are no previous reports/authorities related to this matter; however the Management Review Summary Reports are provided on an annual basis with the last report being INS-2022-038

APPROVED BY: Denise McGoldrick, General Manager, Infrastructure Services

ATTACHMENTS:

Attachment A – Drinking Water Quality Management Standard Review - 2022