

2021 DWQMS Summary Report

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| Presented To: | Operations Committee |
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| Type: | Correspondence for Information Only |
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| Recommended by: | General Manager of Growth and Infrastructure |

Report Summary

This report provides information regarding requirements to maintain a drinking water license and gives a “top down” update on the health of our drinking water system for the year 2021.

Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

This report refers to operational matters and has no direct connection to the Community Energy & Emissions Plan.

Financial Implications

There are no financial implications associated with this report.

Background

The residents of the City of Greater Sudbury (CGS) demand and expect that the potable water they use daily is clean, safe and is of the highest quality, meeting or exceeding all the provincial regulations found in the Safe Drinking Water Act of 2002.

Council’s responsibility is to have an understanding that there is a direct link between the decisions and approvals Council makes concerning the operational, maintenance and allocation of capital funds for the drinking water systems. This report gives a broad overview of what is required to maintain a drinking water license and gives a “top down” update on the health of our drinking water system for the year 2021.

Municipal Drinking Water Licensing Program

All owners of a municipal drinking water system must acquire and hold in good standing a license to operate their drinking water systems. A Municipal Drinking Water License is issued by the MECP and must have:

- A Drinking Water Works Permit
 - A permit to establish or alter a drinking water system.
- A Permit to Take Water
 - A permit to take 50,000 L or more of source water per day.
- An Operational Plan
 - A plan prepared in accordance with the Drinking Water Quality Management Standard (DWQMS) developed by the MECP.
- Accreditation as an Operating Authority
 - A comprehensive audit and periodic review of the Operational Plan by an independent certified accreditation body appointed by the province; and
- A Financial Plan updated on a 5-year cycle maximum
 - A long-term strategic plan developed to ensure the financial sustainability of the drinking water system (the financial plan was recently updated in recent budget deliberations).

To assist in attaining the goals stated above the CGS has implemented a Quality Management System (QMS). Our QMS follows the requirements set out in the Drinking Water Quality Management Standard (DWQMS), developed by the Ministry of Conservation and Parks (MECP). Our QMS was first accredited in 2010 and has received re-accreditation every three years with surveillance audits conducted annually by an approved third-party body ever since. This management standard follows the principles found in the ISO 9001:2000 Quality Management Standard and uses the Hazard Analysis and Critical Control Points (HACCP) methodology to identify and mitigate risks through effective management of our drinking water right from water source to residential taps.

Of note is that the DWQMS has recently been updated with a second version produced by the MECP since first released and the CGS has attained accreditation under the revised standard.

City of Greater Sudbury Drinking Water Systems

The City of Greater Sudbury Owns and is the Operating Authority for six drinking water system, Sudbury DWS, Valley DWS, Dowling DWS, Falconbridge DWS, Onaping/Levack DWS, & the Vermilion DWS, and has maintained their Municipal Drinking Water Licences since 2010.

Quality Management Standard Requirements

The Water/Wastewater Treatment & Compliance QMS details a set of comprehensive policies and procedures that ensures:

- Effective management of all aspects of the drinking water systems within the CGS.
- That continuous water testing is conducted (more than 10,000 samples annually); and
- A culture of continual improvement is fostered in our water treatment and distribution systems.

Water/Wastewater Treatment & Compliance ensures this is accomplished, in part, by conducting audits of the approved Operational Plan (OP), a document that details how the city maintains compliance with the Safe Drinking Water Act.

The audits are conducted by both trained internal staff and by an MECP approved third party. The audit focus is on conformance to the OP and involves a comparison of what is stated in the OP to what is occurring in the field. Any non-conformances or opportunities for improvements (OFI) found are then required to be reported and acted upon.

Further information regarding the Drinking Water Quality Management Standard can be found here:

<https://www.ontario.ca/page/ontarios-drinking-water-quality-management-standard-pocket-guide>

KEY RESULTS FROM 2021 AUDITS

External Audit

In November 2021, a third-party audit was conducted by NSF International Strategic Registrations and there were no non-conformances found. There were five Opportunities for Improvement (OFIs) identified as indicated in the following areas.

| Location of OFI | Description | Management Response | Status |
|------------------------------|--|--|---|
| Competencies | Sudbury has developed processes for maintaining competencies in accordance with Clause 10 of the Standard. It would be useful to include a prompt in annual performance review forms for support / competency regarding the DWQMS | Discuss internally how to better support staff's competency regarding the DWQMS | Complete |
| Document Control | Sudbury has developed document and records control procedures in accordance with Clause 5 of the Standard. Ensure that all relevant DWQMS documentation, including job instructions are effectively controlled | Job Instructions to be managed at the supervisor/clerical level. | Complete |
| Drinking Water System | Sudbury has developed an infrastructure maintenance program in accordance with Clause 15 of the Standard. It would be useful to provide additional detail in Job Instruction WWS-WT-JI005 David Street Fiber Repair Procedure. The specific material used (Loctite 3924) Should be specified. It would also be useful to obtain a more recent SDS for Loctite 3924 and confirm that the material continues to be certified to NSF 61 | Update job instruction with more specific details, and confirm NSF certification | Complete |
| Sampling / Monitoring Table; | Sudbury has documented sampling, testing, and monitoring activities in accordance with the Clause 16 of the Standard. It would be useful to review the Sampling / Monitoring Table (QMS-16-002) to ensure it is complete. David Street sodium, phosphorous and Microcystin sampling/analyses are not included | Review and update sampling table, have operational staff review table | Complete |
| System Description | Sudbury has described the drinking water system in accordance with Section 6 of the Standard. It would be useful to confirm that former salt storage areas mentioned in the Valley System description no longer represent a potential source of sodium in nearby water supply wells. | Look into reference, confirm statement, clarify if necessary. City amalgamated in 2001 since then no salt dome has been present. | To be completed during annual system review |

Internal Audits

There was a total of ten internal audits conducted by CGS staff: resulting in one minor non-conformance, and some opportunities for improvements in the following areas:

| Location of Non-Conformance | Description | Management Response | Status |
|---|--|--|--|
| Risk Assessment Outcomes | Critical Control Points (CCP) and Critical Control Limits (CCL) table was not available on Citylink as procedure indicated. Table was available when asked to provide evidence | Make table available immediately and begin Corrective Action Process. | Complete |
| Location of OFI | Description | Management Response | Status |
| Risk Assessment Outcomes | Would like to see evidence of CCP & CCL tracking | Develop a written procedure | In process |
| Drinking Water Systems | Inconsistencies in physical address - multiple documents | Develop a written procedure | In process |
| Org. Structure, Roles, Responsibilities and Authorities | Organizational changes that occurred within the year need to be reflected within element nine. | Review and updated during next annual review | In process |
| Competencies | Possibility for union competencies, Transfer of training oversight, Lack of process for dual licensed operators | <ol style="list-style-type: none"> 1. Manager to discuss with Directors to include competencies within Job Descriptions (potential issues with Union) 2. Transfer oversight to a central position 3. Assess the need for dual licensed operators training process | <ol style="list-style-type: none"> 1. In process 2. Completed 3. In process |
| Essential Supplies & Services | <p>Include on-site assurances of chemical quality control, more transparency with tendering Contract</p> <p>Develop a way to track inventory within the D&C warehouse</p> | <ol style="list-style-type: none"> 1. To be added into the next tender 2. Develop a tracking inventory process | <ol style="list-style-type: none"> 1. Complete 2. In progress |
| Infrastructure Maintenance, Rehabilitation and Renewal | Employees/staff find it difficult to track KPI's with current maintenance software | Potential implementation of new CMMS currently being proposed (Cityworks) | In development |
| Internal Audits | Update process to allow for electronic paperwork | Update during annual review | In process |
| Management Review | Communication of Management review to owners, missing data package review for Management review | Owner is to be provided with the data package prior to meeting | Complete |

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| Continual Improvement | Lack of clarity for Best Management Practice (BMP) working group Update Continual Improvement (CI) Tracking form decrease duplication of work | <ol style="list-style-type: none"> 1. Define the working group as an agenda item at Next Best Practices Meeting scheduled 2. Review current process and streamline where possible. | <ol style="list-style-type: none"> 1. In progress 2. Complete |
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All items have been discussed and action plans are in place.

Management Review Summary

Management Review occurs annually to discuss any documented deficiencies, MECP inspections or any other issues that occurred in the drinking water systems in the previous year.

The 2021 Management Review highlighted potential deficiencies in the following categories.

| Deficiencies Identified | Require Action | Status |
|--|--|------------|
| Tracking of Deviations from critical control point / limits and response actions | Develop a written process | In process |
| Operational performance, tracking of more valuable KPI's | teams to identify which KPI's they want reported on | In process |
| Director Directions have been updated will affect the QMS Operational Plan | Post op plan to external site – minus the risk assessment outcomes Look into electronic document control software Add Subject System Description Form within the Op Plan | Complete |
| Operational Plan currency, content, and updates | Update required elements to current practices | In process |
| Staff suggestions | Develop consistency with management practices | Complete |

Actions plans have been put in place to help with these deficiencies.

SUMMARY

The City of Greater Sudbury's Drinking Water Quality Management System has successfully maintained its accreditation for another year.

The Water & Wastewater Treatment and Compliance Division is committed to communicating the state of the drinking water system with City Council while continuing to make improvements to the CGS Drinking Water Quality Management System.