

# <u> Audit Report</u>

12 Month Surveillance Audit for

The Regional Municipality of Niagara

1631650-02

Address: 3501 Schmon Parkway, Thorold, Ontario, CAN, L2V 4T7

Start Date: May 17, 2021 End Date: May 19, 2021

Type of audit - Surveillance System Audit

Issue Date: May 28, 2021

Revision Level: Final

#### **BACKGROUND INFORMATION**

SAI Global conducted an audit of The Regional Municipality of Niagara beginning on May 17, 2021 and ending on May 19, 2021 to DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017.

The purpose of this audit report is to summarise the degree of compliance with relevant criteria, as defined on the cover page of this report, based on the evidence obtained during the audit of your organization. This audit report considers your organization's policies, objectives, and continual improvement processes. Comments may include how suitable the objectives selected by your organization appear to be in regard to maintaining customer satisfaction levels and providing other benefits with respect to policy and other external and internal needs. We may also comment regarding the measurable progress you have made in reaching these targets for improvement.

SAI Global audits are carried out within the requirements of SAI Global procedures that also reflect the requirements and guidance provided in the international standards relating to audit practice such as ISO/IEC 17021-1, ISO 19011 and other normative criteria. SAI Global Auditors are assigned to audits according to industry, standard or technical competencies appropriate to the organization being audited. Details of such experience and competency are maintained in our records.

In addition to the information contained in this audit report, SAI Global maintains files for each client. These files contain details of organization size and personnel as well as evidence collected during preliminary and subsequent audit activities (Documentation Review and Scope) relevant to the application for initial and continuing certification of your organization.

Please take care to advise us of any change that may affect the application/certification or may assist us to keep your contact information up to date, as required by SAI Global Terms and Conditions.

This report has been prepared by SAI Global Limited (SAI Global) in respect of a Client's application for assessment by SAI Global. The purpose of the report is to comment upon evidence of the Client's compliance with the standards or other criteria specified. The content of this report applies only to matters, which were evident to SAI Global at the time of the audit, based on sampling of evidence provided and within the audit scope. SAI Global does not warrant or otherwise comment upon the suitability of the contents of the report or the certificate for any particular purpose or use. SAI Global accepts no liability whatsoever for consequences to, or actions taken by, third parties as a result of or in reliance upon information contained in this report or certificate.

Please note that this report is subject to independent review and approval. Should changes to the outcomes of this report be necessary as a result of the review, a revised report will be issued and will supersede this report.

Standard: DRINKING WATER QUALITY MANAGEMENT STANDARD VERSION 2 - 2017

Scope of Certification: Full Scope for Treatment and Distribution System

Drinking Water System Owner: Regional Municipality of Niagara

Operating Authority: Regional Municipality of Niagara

Population Serviced: 482,000

Activities: Treatment & Distribution

Decew Falls / Niagara Falls Drinking Water System, Municipal Drinking Water Licence # 007-

102, Issue 5

Drinking Water Systems

Grimsby Drinking Water System, Municipal Drinking Water Licence # 007-105, Issue 3

Port Colborne Drinking Water System, Municipal Drinking Water Licence # 007-101, Issue 3

Welland Drinking Water System; Municipal Drinking Water Licence # 007-104, Issue 3
Rosehill Drinking Water System, Municipal Drinking Water Licence # 007-103, Issue 5

Total audit duration: Person(s): 1 Day(s): 2.25

Audit Team Member(s): Team Leader Marco Brunato

#### Definitions and action required with respect to audit findings

#### Major Non-conformance:

Based on objective evidence, the absence of, or a significant failure to implement and/or maintain conformance to requirements of the applicable standard. Such issues may raise significant doubt as to the capability of the management system to achieve its intended outputs (i.e. the absence of or failure to implement a complete Management System clause of the standard); or

A situation which would on the basis of available objective evidence, raise significant doubt as to the capability of the Management System to achieve the stated policy and objectives of the customer.

NOTE: The "applicable Standard" is the Standard which SAI Global are issuing certification against, and may be a Product Standard, a management system Standard, a food safety Standard or another set of documented criteria.

Action required: This category of findings requires SAI Global to issue a formal NCR; to receive and approve client's proposed correction and corrective action plans; and formally verify the effective implementation of planned activities. Correction and corrective action plan should be submitted to SAI Global prior to commencement of follow-up activities as required. Follow-up action by SAI Global must 'close out' the NCR or reduce it to a lesser category within 90 days for initial certification and within 60 days for surveillance or receitification audits from the last day of the audit

If significant risk issues (e.g. safety, environmental, food safety, product legality/quality, etc.) are detected during an audit these shall be reported immediately to the Client and more immediate or instant correction shall be requested. If this is not agreed and cannot be resolved to the satisfaction of SAI Global, immediate suspension shall be recommended.

In the case of initial certification, failure to close out NCR within the time limits means that the Certification Audit may be repeated.

If significant risk issues (e.g. safety, environmental, food safety, product legality/quality, etc.) are detected during an audit these shall be reported immediately to the Client and more immediate or instant correction shall be requested. If this is not agreed and cannot be resolved to the satisfaction of SAI Global, immediate suspension shall be recommended.

In the case of an already certified client, failure to close out NCR within the time limits means that suspension proceedings may be instituted by SAI Global.

Follow-up activities incur additional charges.

#### Minor Non-conformance:

Represents either a management system weakness or minor issue that could lead to a major nonconformance if not addressed. Each minor NC should be considered for potential improvement and to further investigate any system weaknesses for possible inclusion in the corrective action program

<u>Action required</u>: This category of findings requires SAI Global to issue a formal NCR; to receive and approve client's proposed correction and corrective action plans; and formally verify the effective implementation of planned activities at the next scheduled audit.

#### **Opportunity for Improvement:**

A documented statement, which may identify areas for improvement however shall not make specific recommendation(s).

Action required: Client may develop and implement solutions in order to add value to operations and management systems. SAI Global is not required to follow-up on this category of audit finding.

# **Audit Type and Purpose**

#### Surveillance Audit:

A systems desktop audit in accordance with the systems audit procedure as it applies to Full Scope accreditation. The audit also included consideration of the results of the most recent audit undertaken in accordance with this Accreditation Protocol and any of the following that have occurred subsequent to that audit including but limited to;

- (a) the results of any audits undertaken in accordance with element 19 of the DWQMS V2;
- (b) historical responses taken to address corrective action requests made by an Accreditation Body;
- (c) the results of any management reviews undertaken in accordance with element 20 of the DWQMS V2; and,
- (d) any changes to the documentation and implementation of the QMS.

# **Audit Objectives**

The objective of the audit was to determine whether the drinking water Quality Management System (QMS) of the subject system conforms to the requirements of the Ontario Ministry of the Environment & Climate Change (MOECC) Drinking Water Quality Management Standard (DWQMS V2).

The audit was also intended to gather the information necessary for SAI Global to assess whether accreditation can continue.

# **Audit Scope**

The processes associated with the operating authority's QMS were objectively evaluated to obtain audit evidence and to determine a) whether the quality management activities and related results conform with DWQMS V2 requirements, and b) if they have been effectively implemented and/or maintained.

## **Audit Criteria:**

- The Drinking Water Quality Management Standard Version 2
- Current QMS manuals, procedures and records implemented by the Operating Authority
- SAI Global Accreditation Program Handbook

# **Confidentiality and Documentation Requirements**

The SAI Global stores their records and reports to ensure their preservation and confidentiality. Unless required by law, the SAI Global will not disclose audit records to a third party without prior written consent of the applicant. The only exception will be that the SAI Global will provide audit and corrective action reports to the Ontario Ministry of the Environment. For more information, please refer to the SAI Global Accreditation Program Handbook.

As part of the SAI Global Terms, it is necessary for you to notify SAI Global of any changes to your Quality Management System that you believe are significant enough to risk non-conformity with DWQMS V2: For more information, please refer to the SAI Global Accreditation Program Handbook.

# Review of any changes

Changes to the Operating Authority since last audit include: There have been no changes that would impact the scope of accreditation,

#### **EXECUTIVE OVERVIEW**

Based on the results of this surveillance system audit the management system remains effectively implemented and meets the requirements of the standard relative to the scope of certification; therefore, a recommendation for continued certification will be submitted.

#### Recommendation

Based on the results of this audit it has been determined that the management system is effectively implemented and maintained and meets the requirements of the standard relative to the scope of certification identified in this report; therefore, a recommendation for continued certification will be submitted to SAI Global review team.

# **Opportunities for Improvement:**

No opportunities for improvement were offered during this surveillance audit.

# **Management System Documentation**

The management systems operational plan(s) was reviewed and found to be in conformance with the requirements of the standard.

# **Management Review**

Records of the most recent management review meetings were verified and found to meet the requirements of the standard. All inputs were reflected in the records, and appear suitably managed as reflected by resulting actions and decisions.

#### **Internal Audits**

Internal audits are being conducted at planned intervals to ensure conformance to planned arrangements, the requirements of the standard and the established management system.

#### Corrective, Preventive Action & Continual Improvement Processes

The Operating Authority is implementing an effective process for the continual improvement of the management system through the use of the quality policy, quality objectives, audit results, data analysis, the appropriate management of corrective and preventive actions and management review.

Actions taken and planned to address the previously issued NCR 2020-01 were reviewed and accepted following the Reaccreditation audit in 2020. Evidence of the actions completed was reviewed during this surveillance audit and found to be satisfactory in effectively addressing the issues identified.

# **Summary of Findings**

1. Quality Management System Conforms		
2. Quality Management System Policy		NANC
3. Commitment and Endorsement		Conforms
4. Quality M	anagement System Representative	Conforms
5. Documen	t and Records Control	NANC
6. Drinking-\	Water System	Conforms
7. Risk Asse	essment	Conforms
8. Risk Asse	essment Outcomes	Conforms
9. Organizat	ional Structure, Roles, Responsibilities and Authorities	NANC
10. Compete	ncies	NANC
11. Personne	el Coverage	NANC
12. Commun	ications	NANC
13. Essential	Supplies and Services	NANC
14. Review a	and Provision of Infrastructure	Conforms
15. Infrastruc	cture Maintenance, Rehabilitation & Renewal	NANC
16. Sampling	, Testing and Monitoring	Conforms
17. Measurement & Recording Equipment Calibration and Maintenance NANG		NANC
18. Emergen	cy Management	NANC
19. Internal A	Audits	Conforms ****
20. Manager	nent Review	Conforms
21. Continua	I Improvement	Conforms
Major NCR #	Major non-conformity. The auditor has determined one of the following:  (a) a required element of the DWQMS has not been incorporated into a QMS;  (b) a systemic problem with a QMS is evidenced by two or more minor non-conformities; or  (c) a minor non-conformity identified with a corrective action request has not been remedied.	
Minor NCR #	Minor non-conformity. In the opinion of the auditor, part of a required eler been incorporated satisfactorily into a QMS.	ment of the DWQMS has not
OFI	Opportunity for improvement. Conforms to requirement, but there is an op	portunity for improvement.
Conforms	Conforms to requirement.	
NANC	Not applicable/Not Covered during this audit.	
**** Additional comment added by auditor in the body of the report.		
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# PART D. Audit Observations, Findings and Comments

DWQMS Reference:	1 Quality Management System
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 dated May 4, 2021

Details: The operational plan details all requirements of the standard. All systems in place at all treatment plants; all plants follow similar SOPs and for the smaller treatments sites. Policies & procedures established in all locations – few procedures plant specific. Operational Plan Rev 12

DWQMS Reference:	3 Commitment and Endorsement
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 3

Details: Owner Representatives of Niagara Regional Council; The Regional Chair and Regional Clerk endorse the Operational plan through direct sign off the Operational Plan in Section 3. Operating Authority top management representatives sign off via the Commitment and Endorsement Memorandum.

Per Section 9 Top Management includes the

- Commissioner of Public Works
- Director of Water and Wastewater
- Associate Director, Water Operations, Maintenance, and Staff Development

Commitment & Endorsement from

John Brunet Associate Director Water Operations & Maintenance Dec 18, 2019

Tony Cimino Associate Director W-WW Engineering May 25, 2018

Craig Courteau Associate Director W-WW Integrated Systems May 24, 2018

Richard Pinder Associate Director Asset Management Oct 15, 2019

Tony Tonellato Director of Water Waste Water Services May 24, 2018

Bruce Zvaniga Commissioner Public Work Oct 13, 2020

DWQMS Reference:	4 Quality Management System Representative
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 4 & Section 9

Details: Top Management has appointed the Water-Wastewater Quality Management Specialist (reporting to the Manager, Quality & Compliance – Water) as the QMS Representative for Niagara Region's drinking water systems. The representatives' responsibilities with respect to the DWQMS are defined in Section 4. The role is also reflected in Section 9 of the operational plan

WW QM Specialist responsible for the system maintenance

Interface with all departments i.e. Integrated Systems; Asset Management

Least connected with Engineering; interface needs to be managed by the WW Specialist

Compliance awareness shared with water compliance specialist; Communications via training course "This is how we do it" mandatory compliance course

Displayed Rev June 2019

Revised – look at the responsibilities of the various work groups; aligned the learning objectives

Contractors and Consultants also receive awareness training of Quality & Compliance - completed

Standard of Care for top Management, Ops Managers & Mtce Managers; once per council cycle and as required.

DWQMS Reference:	6 Drinking Water System
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 6 Decew Falls DWS QMS-WT-DN-P-060 Rev 7 Grimsby DWS QMS-WT-GR-P-060 Rev 4 Port Colborne DWS QMS-WT-PC-P-060 Rev 5 Rosehill DWS QMS-WT-RH-P-060 Rev 9 Welland DWS QMS-WT-WE-P-060 Rev 7
Details:	

Decew DWS Process Schematic QMS-WT-DN-V-060 Rev 3

Grimsby DWS\_Process Schematic QMS-WT-GR-V-060 Rev 3

Welland DWS Process Schematic QMS-WT-WE-V-060 Rev 6

Port Colborne DWS Schematic QMS-WT-PC-V-060 Rev 4

Rosehill DWS SchematicQMS-WT-RH-V-060 Rev 5

DWQMS Reference	7 Risk Assessment
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 7 Procedure - Drinking Water System Risk Assessment (QMS-WT-ALL-P-070) Rev 9

Details: The procedure outlines the risk assessment method and criteria. Risk assessment outcome are documented in Risk Assessment Outcomes Table (QMS-WT-ALL-T-080) and stored I the EtQ portal.

Risk assessment is completed annually.

Risk Assessment Review Form - Water (QMS-WT-ALL-F-070 Rev 0) is used to updates the completed Risk Assessment Outcomes Table with changes as applicable. A rank of >15 denotes the need for action.

Appendix A of the procedure defines the risk assessment scoring criteria;

Table A1 Likelihood (1-5; 1=Rare, 5=Imminent);

Table A2 Severity impact water quality (1-5; 1=Insignificant, 5=Catastrophic);

Table A3 Severity impact on system capacity (1-5; 1=Insignificant, 5=Catastrophic);

Table A4 Severity impact on compliance (1-5; 1=Insignificant, 5=Catastrophic);

Table A5 Severity impact on the environment (1-5; 1=Insignificant, 5=Catastrophic);

Table A6 Severity impact financial (1-5; 1=Insignificant, 5=Catastrophic);

Table A4 Severity impact on reputation (1-5; 1=Insignificant, 5=Catastrophic);

Risk assessment completed remotely.

Area 1 Niagara Falls Feb 2, 2021, Rosehill Feb 4, 2021

Area 2 Welland Feb 9, 2021 Port Colborne Feb 11, 2021

Area 3 DeCew March 11, 2021 Grimsby March 12, 2021

Potential areas of concern discussed

- Aging assets
- Known infrastructure weaknesses
- Lack of redundancy

DWQMS Reference:	8 Risk Assessment Outcomes
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 8

# Details:

Risk Outcomes Table QMS-WT-ALL-T-080 Rev 4

CCPs for Niagara Region's drinking water systems are identified as:

- CCP: Coagulant (Aluminum Sulphate) Feed (OP-WT-ALL-P-006)
- CCP: Secondary Disinfection (Distribution Chlorine) (OP-WT-ALL-P-007)
- CCP: Filter Effluent Turbidity (OP-WT-ALL-P-008)
- CCP: Primary Disinfectant (Sodium Hypochlorite) Feed (OP-WT-ALL-P-009)
- CCP: Verification of Primary Disinfection (OP-WT-ALL-P-010)
- Tracking of all Critical Control Limit Deviations (OP-WT-ALL-P-028 Rev 3)

Risk Assessments Outcomes Table and Summary- All WTPs 2021 Rev 4

No high level risk identified; Medium and low risks only identified

DeCew DWS with most risks identified 73 low and 24 medium 0 high

Niagara Falls 56 low and 12 medium 0 high

Welland 55 low and 15 medium 0 high

new risk DF-156 - Decew Falls- water main break - 400mm cast iron watermain along Power Glen; new 400 mm PVC pipe connection installed - confirm formal transfer to city of ST. Catharines

new risk DF-157 Decew Falls – improper abandonment of Carlton St. Reservoir; revisit RFP for SOW for proper abandonment of adjoining water mains (2021)

new risk NF-83 - Niagara Falls - Valve or appurtenance failure at Drummond Road watermain (Sheldon St. to Glengate St.); Capital project scheduled for water main - design and construction 2021

WE-114 Welland - initiate PIR for a study in area

New risk RH-54 0 - Dominion Road AC - break history - no immediate cause for cause for concern

DWQMS Reference:	14 Review and Provision of Infrastructure
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 10 Section 14 Procedure - Review, Rehabilitation, and Renewal of Infrastructure QMS-WT-ALL-P-140 Rev 9

Details: Procedure outlines a process for the annual review of drinking water system infrastructure to ensure its continued adequacy. It details how capitally-funded drinking-water infrastructure rehabilitation and renewal projects are initiated, approved and communicated to the Owner.

Capital budget completed in Jan

EAM system input

Meeting with ops and maintenance; process works

End of life:

Parts availability considered

Capital projects some years off; what is the mitigation to keep asset operational

Municipalities meeting annually to discuss infrastructure work and number of projects

The 3 year risk assessment outcomes completed 2021 (see notes under element 8 above) reflects a discussion of the adequacy of infrastructure necessary to operate and maintain the subject systems.

DWQMS Reference:	16 Sampling, Testing and Monitoring
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 16 Procedure -Sampling, Testing and Monitoring QMS-WT-ALL-P-160 Rev 5

## Details:

Details for Sampling, Testing and Monitoring Activities in each DWS are reflected the following procedures;

- Rosehill WTP QMS-WT-RH-T-160 Rev 6
- Niagara Falls QMS-WT-NF-T-160 Rev 6
- Welland QMS-WT-RH-T-160 Rev 7
- Port Colborne QMS-WT-PC-T-160 Rev 7
- Grimsby QMS-WT-GR-T-160 Rev 6
- DeCew Falls QMS-WT-DF-T-160 Rev6

The tables within each of the listed procedures includes a column for challenging conditions.

Key process parameters for each drinking water system are continuously monitored using a SCADA system.

External testing includes analyses that are performed by an external, Ministry-licenced drinking-water laboratory as defined in the above noted procedures. External testing covers Microbiological, Chemical, Radiological and Inorganic Parameters as defined in the referenced regulations.

DWQMS Reference:	19 Internal Audits
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 19 Procedure Internal Auditing QMS-WT-ALL-P-190 Rev 9

#### Details:

The procedure documents the criteria (Section 1), scope (Section 5.2) and frequency of internal audits (Section 5.3); that all 21 elements are assessed at least every 3 calendar years and that each DWS facility is audited at least every 2 calendar years.

Records keeping is defined in section 5.6 reporting and references the Document and Records Control procedure QMS-WT-ALL-P-050. Internal audit conducted all at once – with all requirements covered.

Initiated planning Jan 2020

Meeting held to develop audit plan; training refresher on audit objectives

Determine what areas need to be audited based

All elements once every 3 years;

All 3 areas covered; each plant once every 2 years.

Audit Plan Feb 22, 2021

- 3 Commitment & Endorsement

- 7 Risk Assessment
- 11 personnel Coverage
- 16 Sampling testing & Monitoring
- 18 Emergency Management
- 19 Internal Audit

Internal Audit Report issued April 23, 2021 for the audit conducted March 1-31, 2021 (includes coverage of Area 1 Rosehill WTP, Area 2 Port Colborne WTP and Area 3 DeCew WTP) Observation/Comment\*\*\*\*; Section 2.2 of the report erroneously reports the audit findings from the 2020 External Audit.

Internal audit identified 8 NCRs, 6 potential NCRs and 21 best practice for evaluation. Elements 3 and 7 were found to be conforming.

Report provided to Associate Director Water Operations & Maintenance April 23, 2021. And to all staff April 27, 2021

DWQMS Reference:	20 Management Review
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 20 Procedure - Management Review QMS-WT-ALL-P-200 Rev 7

# Details:

The procedure specifies a management review once per calendar by means of a Q2 and a Q4 meeting with all requirements discussed over course of the 2 meetings. In section 5.3.1, the procedure defines the specific items to be discussed in each of the respective meetings. All required inputs have been specified.

Management Review Part 1 2020/05/28 Agenda & Minutes

Management Review Part 2 2020/12/03 Agenda & Minutes

Action item 46 regarding Transportation control plan; & Action item 71 regarding elevated tank design standards identified.

DWQMS Reference:	21 Continual Improvement
Client Reference:	Operational Plan QMS-WT-ALL-MAN-010 Rev 12 Section 21 Procedure - Corrective Action, Preventive Action, and Best Practices QMS-WT-ALL-P-210 Rev 8

# Details:

EtQ is the Management system software tool used to track and monitor corrective and preventive actions. EtQ is also used record the root cause analysis.

Best Practices are also part of the procedure. The procedure specifies that at least once every 36 months the QMS representative will review best practices published by the MECP.

The procedure describes activities for handling both corrective actions and preventive actions. Handling of best practices and preventive action are addressed in Section 5.4 of the procedure with Figure 2 providing an overview of the process

QMR follows up for implementation and verification of the actions

Annual update includes internal audit results

Compliance obligations/MECP Inspections

Per Management Review 12/03/2020 14 nonconformances and 49 potential nonconformances closed in 2020

AWQI 152646 Grimsby WTP coagulant interruption 2020-10-22

External Audit NCR 2020-01 CAR WTCAR-20-011 actioned Sept 2020

Corrective actions: "Work orders for PM 10511 are contracted out to third-party calibration technicians, and this contract work is typically completed each September. Since the contract is coming due shortly, we have elected to complete this work on the regular PM schedule. It is anticipated that all 11 installed flowmeters will be calibrated by September 30th, 2020."

"PM 10511 was converted to a "duplicate" PM type to ensure that, in future, new work orders will be released on an annual basis regardless of the status of work orders from previous years."

Evidence provided:

Certificate of Calibration Oct 7, 2020 Flow transmitters 41909, 41908, 42475, 41905, 41912, 41907, 41906, 41448, 41452, 41450, 41913

Screen shot of EAM PM10511 indicating "Duplicate"; Frequency Annual

Details regarding the objective evidence reviewed are maintained on file at SAI Global.

This report was prepared by:

Marco Brunato

SAI Global Management Systems Auditor

The audit report is distributed as follows:

- SAI Global
- Operating Authority
- Owner
- MOECC

# **Notes**

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