Ministry of the Environment, Conservation and Parks

Drinking Water and Environmental Compliance Division, Eastern Region
Cornwall Area Office

113 Amelia Street
Cornwall ON K6H 3P1
Tel.: 613-933-7402
Fax: 613-933-6402

Ministère de l'Environnement, de la Protection de la nature et des Parcs

Division de la conformité en matière d'eau potable et d'environnement, Direction régionale de l'Est
Bureau de Cornwall

113, rue Amelia
Cornwall ON K6H 3P1
Tél.: 613-933-7402
Téléc.: 613-933-6402

Ontario

Mr. Pierre Leroux
Chief Administrator Officer/Clerk
The Corporation of the Nation Municipality
958 Route 500 West
Casselman, ON K0A 1M0

Dear: Ms. P.Leroux,

Re: **2024-25 Inspection Report for the St. Isidore Distribution System**

Please find enclosed a copy of the final inspection report for the St. Isidore Distribution System.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A guide for members of Municipal Council" found under on the Ontario website at https://www.ontario.ca/page/taking-care-your-drinking-water-guide-members-municipal-councils

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection Rating Record (IRR), provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. IRR ratings are published (for the previous year) in the ministry's Chief Drinking Water Inspector's Annual Report.

If you have any questions or concerns regarding the inspection process, please contact Shannon Hamilton-Browne, Water Compliance Supervisor, at (613) 808-4255.

Thank you for the assistance during the inspection. Please do not hesitate to contact me if you have any questions or concerns about the attached report.

Sincerely,

Jean-François Durocher
Bilingual Water Inspector
Drinking Water and Environmental Compliance Division
Ministry of the Environment, Conservation and Parks (MECP)
Cornwall Area Office
Phone: 613-363-5149
E-mail: jean-francois.durocher@ontario.ca

cc: Nicholas Pigeon, Nation Municipality – Director of Water and Wastewater, Overall Responsible Operator
Sébastien Mainville, Nation Municipality – Supervisor of Water and Wastewater, Operator
Sébastien Cadieux, Nation Municipality – Senior Water and Wastewater Operator, Compliance Officer
Rami Basha, Eastern Ontario Health Unit (EOHU) – Program Manager (Prescott Russell Cluster)
Sandra Mancini, South Nation Conservation Authority – Team Lead Engineer
Shannon Hamilton-Browne, Ministry of Environment, Conservation and Parks (MECP) –Water Inspections Programs Supervisor, Cornwall/Ottawa SDWB

TABLE OF CONTENTS

APPENDICES

ST. ISIDORE DISTRIBUTION SYSTEM
Physical Address: 958 ROUTE 500, RURAL ROUTE DELIVERY 3, CASSELMAN, ON K0A 1M0

INSPECTION REPORT

System Number: 260091026
Entity: CORPORATION DE LA MUNICIPALITE DE LA NATION
Inspection Start Date: February 10, 2025
Site Inspection Date: February 14, 2025
Inspection End Date: April 04, 2025
Inspected By: Jean-Francois Durocher
Badge #: 1440

_____
(signature)

INTRODUCTION

Purpose

This announced, focused inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with ministry drinking water policies and guidelines.

Scope

The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management and the operation of the system.

The inspection of the drinking water system included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the drinking water system during the review period.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O. Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

Facility Contacts and Dates

The drinking water system is owned by The Corporation of the Nation Municipality and operated by The Corporation of the Nation Municipality employees.

The system serves an estimated population of 1,000 and is categorized as a Large Municipal Residential System.

Information reviewed for this inspection covered the time period between February 1, 2024, to January 31, 2025.

The water inspector met with Nicholas Pigeon, Director of Water and Wastewater for Municipality of the Nation, and Sébastien Mainville, Water and Wastewater Manager as part of the inspection process. All employees that the inspector met with during this inspection are employed by the Nation Municipality.

Systems/Components

The St. Isidore Distribution System provides and maintains secondary disinfection and distribution of water. Primary disinfection is undertaken by another regulated drinking water system which provides treated water to this drinking water system.

Treated water is received from the Lefaivre Drinking Water System and St. Isidore Distribution System provides water storage, secondary disinfection boosting and pressure boosting for the drinking water system.

The Lefaivre Drinking Water System is inspected separately from this drinking water system.

An outstation is a component of a drinking water system that is not located at either a water treatment plant or a well supply and is generally not associated with primary treatment, for example reservoirs, booster stations, and re-chlorination facilities located within the distribution system. Outstations may be visited on a rotational basis as part of a ministry inspection. This inspection included the inspection of:

- St. Isidore Water Tower (L'escale Street)
- Plantagenet Booster Pump Station (651 County Road 9)

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals (please note this list is not exhaustive) at the time of the inspection in addition to the requirements of the SDWA and its regulations:

Municipal Drinking Water Licence No. 179-101 Issue No. 4
Drinking Water Works Permit No. 179-201 Issue No. 3

NON-COMPLIANCE

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

Ministry Program: DRINKING WATER | **Regulated Activity:** DW Municipal Residential

Question ID	DWMR1018001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner ensured that equipment was installed as required.

At the time of the inspection, The Nation Municipality was operating the Drinking Water System (DWS) under Drinking Water Works Permit (DWWP) No. 179-201 Issue No. 3 that was issued on June 18, 2021. The facility also operated under Municipal Drinking Water Licence (MDWL) No. 179-101 Issue No. 4 which was issued June 18, 2021.

The equipment as identified on the above noted certificates was reviewed at the time of the inspection and found to be in order.

Question ID	DWMR1021001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Were Form 2 documents prepared as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Form 2 documents were prepared as required.

A Form 2 was created for the Plantagenet Booster station. The Plantagenet Booster station is already equipped with a chlorine analyser for the water that is being pumped to the consumers. A new chlorine analyser was installed which analyses the water entering the booster station before it reaches the clearwell.
The new analyser is a Evoqua, Wallace and Tiernan (W/T93043), installation performed by Chloratech Inc. A Director Notification from was also filled out and submitted to MECP.

Question ID	DWMR1025001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Were all parts of the drinking water system that came in contact with drinking water disinfected in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All parts of the drinking water system were disinfected as required.

Condition 2.3 of Schedule B of DWWP No. 179-201 Issue No. 3 which was issued on June 18, 2021, states that all parts of the drinking water system in contact with drinking water which are:
2.3.1 Added, modified, replaced, extended; or
2.3.2 Taken out of service for inspection, repair or other activities that may lead to contamination, shall be disinfected before being put into service in accordance with a procedure approved by the Director or in accordance with the applicable provisions of the following documents:

a) The ministry's Watermain Disinfection Procedure, effective August 2020.
b) AWWA C652 – Standard for Disinfection of Water-Storage Facilities;
c) AWWA C653 – Standard for Disinfection of Water Treatment Plants; and
d) AWWA C654 – Standard for Disinfection of Wells.

It was indicated by operating authority staff at the time of the inspection, that the Standard Operating Procedure (SOP) was updated specifically to ensure the Watermain Disinfection Procedure is properly and adequately followed and adhered to by St. Isidore DWS staff. No concerns identified.

Question ID	DWMR1024001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:
Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.

Section 1-2(2)4 of Schedule 1 of Ontario Regulation 170/03 states that if the drinking water system's water treatment equipment provides chlorination or chloramination for secondary disinfection, the equipment is operated so that, at all times and at all locations within the distribution system,
i. The free chlorine residual is never less than 0.05 mg/L, if the drinking water system provides chlorination and does not provide chloramination, or
ii. The combined chlorine residual is never less than 0.25 mg/L if the drinking water system provides chloramination.

The maintenance of a disinfectant residual in the distribution system (secondary disinfection) is intended to maintain (or introduce and maintain) a persistent disinfectant residual to protect the water from microbiological re-contamination, reduce bacterial re-growth, control biofilm formation, and serve as an indicator of distribution system integrity (loss of disinfectant residual indicating that the system integrity has been compromised). Only chlorine, chlorine dioxide and monochloramine provide a persistent disinfectant residual and can be used for the maintenance of a residual in the distribution system.

Rapid decay of a disinfectant residual may occur because of several other causes such as heavy encrustation or sediment accumulation and biofilm activity and may require investigation and specific corrective action such as engineered flow velocity increases and swabbing or pigging/lining and/or main replacement.

Chlorine residuals are monitored in the distribution system with continuous online chlorine residual analyzers located at the Plantagenet Booster Station and St. Isidore Water Tower. Chlorine residuals taken from the continuous online analyzers are recorded on the monthly spreadsheet.

The target combined chlorine residual in the distribution system is 2.2 mg/L. The critical control point in distribution system is 1.0 mg/L to 1.2 mg/L. The chlorine residual is boosted (Plantagenet Booster Station) to 2.15 mg/L and the pumps will cut off at a chlorine residual concentration of 2.45 mg/L. At the St. Isidore Water Tower, the combined residual is lower at 1.5 mg/L and comes into the tower at 2.2 mg/L.

It was reported that there were no failures in the chloramination system during the inspection period.

Records provided by the Owner were reviewed for the inspection period and found to be in order. The lowest combined chlorine residual which was measured in the distribution system during this inspection review period was on November 18, 2024 (St. Isidore Water Tower) with a result of 0.29 mg/L. The highest combined chlorine residual which was measured in the distribution system during this inspection review period was on October 5, 2024 (St. Isidore Water Tower) with a result of 2.68 mg/L. The lowest residual in the distribution last inspection period was 0.51 mg/L and highest residual in the distribution last inspection period was 2.99 mg/L.

Question ID	DWMR1033001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 7-2 | (3); SDWA | O. Reg. 170/03 | 7-2 | (4);

Question:
Was secondary disinfectant residual tested as required for the large municipal residential distribution system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Secondary disinfectant residual was tested as required.

Subsection 7-2 (3) of Schedule 7 of Ontario Regulation 170/03 requires that the owner of a large municipal residential system that provides secondary disinfection and the operating authority for the system shall ensure that at least seven distribution samples are taken each week and are tested immediately for, free chlorine residual, or combined chlorine residual, if the system provides chloramination.

The required sampling had been conducted in accordance with the rules prescribed by Subsection 7-2(4) of Schedule 7 of Ontario Regulation 170/03. The rules stipulate the following:

- At least four of the samples must be taken on one day of the week, at least 48 hours after the last sample was taken in the previous week.

- At least three of the samples must be taken on a second day of the week, at least 48 hours after the last sample was taken on the day noted above.

- When more than one sample is taken on the same day of the week under paragraph noted above, each sample must be taken from a different location.

Subsection 6-4(1) of Schedule 6 of Ontario Regulation 170/03, states that a person who is required to ensure that samples are taken under this Regulation, or under an approval, municipal drinking water licence or order, including an OWRA order, shall ensure that they are taken in the form of grab samples, unless continuous monitoring equipment or microbiological in-line testing equipment is authorized or required.

Subsection 6-4(2) of Schedule 6 of Ontario Regulation 170/03, states that continuous monitoring equipment may be used for sampling and testing that is required under this Regulation, or under an approval, municipal drinking water licence or order, for,
(a) turbidity;
(b) fluoride;
(c) free chlorine residual; and
(d) free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual.

The secondary disinfectant residual in the distribution system is measured as per Subsection 7-2(3) of Schedule 7 of Ontario Regulation 170/03 by means of online monitoring, at the Plantagenet Booster Station and St. Isidore Water Tower, which monitor the total and free chlorine residuals.

Residuals are also monitored in the distribution system when conducting weekly microbiological sampling and flushing. The chlorine analyzers located at the Plantagenet Booster Station and St. Isidore Water Tower, are all visually checked daily. No concerns identified.

Question ID	DWMR1035001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)1-4;

Question:
Were operators examining continuous monitoring test results and did they examine the results within 72 hours of the test?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Operators were examining continuous monitoring test results as required.

Facility Logbooks are maintained by operating authority staff for the St. Isidore Distribution System. These logbooks were reviewed, and it was noted that Operators were reviewing the continuous monitoring data, typically within 24-48 hours of the test.

The SCADA system generates a daily report which is entered on a monthly tracking spreadsheet. It was noted the operators examine data as part of their morning routine inspection.

The Nation Municipality have an operator on site five days a week from 0700 to 1600 and a designated on-call person is available after hours.

Question ID	DWMR1038001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)1-4;

Question:
Was continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format.

The Table in Schedule 6 of Ontario Regulation 170/03 states that free chlorine residual and total chlorine residual measured for the purpose of determining combined chlorine residual in a distribution sample must be recorded at a minimum frequency of one (1) sample per one (1) hour and that a minimum alarm set point be 0.25 milligrams per litre.

The Table in Schedule 6 does not state a maximum alarm standard for chlorine residual to achieve secondary disinfection.

The SCADA system records total and free chlorine residual continuously and the alarm for low combined chlorine residual meets the requirements of the Table in Schedule 6 of Ontario Regulation 170/03. No concerns identified.

Question ID	DWMR1037001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)5-10; SDWA | O. Reg. 170/03 | 6-5 | (1.1);

Question:
Were all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All required continuous monitoring equipment utilized for sampling and testing were equipped with alarms or shut-off mechanisms that satisfied the standards

The continuous monitoring equipment required by Ontario Regulation 170/03 was equipped with the following alarm set points:

- low-low alarm is set at 0.75 mg/L and low alarm is set at 0.80 mg/L at St. Isidore Water Tower and high alarm is set at 2.90 mg/L and a high-high alarm is set at 2.95 mg/L for combined chlorine residuals.

- low-low alarm is set at 0.55 mg/L and low alarm is set at 0.60 mg/L at Plantagenet Booster Station and high alarm is set at 2.90 mg/L and a high-high alarm is set at 2.95 mg/L for combined chlorine residuals.

It was reported that the flow sensors for the sodium hypochlorite and ammonium sulphate metering pumps are alarmed and shut-down if there is no flow detected. The systems are also equipped with level sensors. It was reported that the chloramination system is equipped with automatic shut-offs/interlocks. It was reported that there were only minor events and no shutdowns. No concerns identified.

Question ID	DWMR1040001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)1-4; SDWA | O. Reg. 170/03 | 6-5 | (1)5-10;

Question:
Were all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All continuous analysers were calibrated, maintained, and operated as required.

It was indicated at the time of the inspection that all continuous analyzers are calibrated, maintained, and operated in accordance with the manufacturer's instructions and in accordance with Schedule 6-5 of Ontario Regulation 170/03.

St. Isidore DS operating authority utilize a management/maintenance schedule to assist and track maintenance/calibration activities. Calibration records and work order summaries were provided by operating authority staff and summarized below:

- All flow meters were calibrated on monthly basis and a third-party contractor providing a Certificate of Instrument Performance on October 25, 2024. The previous Certificate of Instrument Performance was issued on October 16, 2023.

- The continuous monitoring equipment that monitors chlorine was calibrated on a weekly basis and a third-party contractor providing a factory spec calibration as well as a Certificate of Instrument Performance on February 8, 2024. The previous Certificate of Instrument Performance was issued on February 13, 2023.

- All turbidity meters were calibrated on bi-weekly basis and a third-party contractor providing a factory calibration as well as a Certificate of Instrument Performance on February 8, 2024. The previous Certificate of Instrument Performance was issued on February 13, 2023.

Question ID	DWMR1108001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-5 | (1)5-10; SDWA | O. Reg. 170/03 | 6-5 | (1.1);

Question:
Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by O. Reg. 170/03, Municipal Drinking Water Licence, Drinking Water Works Permit, or order triggered an alarm or an automatic shut-off, did a qualified person respond as required and take appropriate actions?

Compliance Response(s)/Corrective Action(s)/Observation(s):
A qualified person responded as required and took appropriate actions.

Section 6-5 of Schedule 6, Ontario Regulation 170/03 requires that continuous monitoring equipment be designed and operated in accordance with the standards described in subsection (1.1).

If the continuous monitoring equipment does not have a feature that ensures that no water is directed to users in the event of a prescribed alarm, then in the event of an alarm a qualified person must be promptly dispatched to the plant and must arrive as soon as possible.

It was reported that the flow sensors for the sodium hypochlorite and ammonium sulphate metering pumps are alarmed and shut-down if there is no flow detected. The systems are also equipped with level sensors. It was reported that the chloramination system is equipped with automatic shut-offs/interlocks.

The Nation Municipality's SOP Alarms Response Protocol was reviewed during this inspection. An on-call staff member from The Nation is designated each week on a rotating

basis to respond to all alarms associated with various facilities operated by this group. An automatic alarms auto dialer is installed at the facility. The alarms are sent to the auto dialer. Then a sequence of calling operator on duty "on-call" is initiated upon receipt of the alarm. Weekly on-call rotation between personnel is initiated on Friday's during regular working hours 07:00 to 16:00. It is the incoming on-call operator's responsibility to notify the private security company (Falcon Security) in the change of on-call duty operator for the upcoming week.

For responding to Alarm Pages: The on-call operator acknowledges the auto dialer. The operator can log on to the SCADA system to define the alarm and reset it at distance or arrive at the facility. Some alarms the operator would need to go to the facility to act.
The operator refers to the SOP specific operational procedure, it covers the critical alarm situations that can occur at the facility. Should a page be received during regular working hours, the on-call operator should acknowledge the page as soon as possible.

The demonstrated response time for triggered alarms is acceptable. No concerns were identified.

Question ID	DWMR1099001	**Question Type**	Information

Legislative Requirement(s):
Not Applicable

Question:
Do records show that water provided by the drinking water system met the Ontario Drinking Water Quality Standards?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records showed that all water sample results met the Ontario Drinking Water Quality Standards.

Sample records provided for the St. Isidore DS for the period between February 1, 2024, to January 31, 2025, were reviewed. All of the parameters sampled were within the limits set in Ontario Regulation 169/03.

Question ID	DWMR1081001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 10-2 | (1); SDWA | O. Reg. 170/03 | 10-2 | (2); SDWA | O. Reg. 170/03 | 10-2 | (3);

Question:
Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Distribution microbiological sampling requirements were met.

Section 10-2(1)(a) of Schedule 10 of Ontario Regulation 170/03 requires that the owners of a

drinking water system and the operating authority for the system shall ensure that, if the system serves 100,000 people or less, at least eight (8) distribution samples, plus one (1) additional distribution sample for every 1,000 people served by the system, are taken every month, with at least one (1) of the samples being taken in each week.

According to information provided at the time of the inspection, the total permanent residential population served by the St. Isidore DWS is approximately 1,000. Based on the population of 1,000, the total number of distribution samples required per month is at least nine (9) with at least 25 per cent of the samples taken are to be tested for general bacteria population expressed as colony counts on a Heterophonic Plate Count (HPC).

A review of the water quality data for the period in question, confirmed that the microbiological monitoring requirements for the distribution system were consistently being met by a range of samples spanning from 12 to 15 samples per month and 25% of those samples were analyzed for HPC. No concerns identified.

Question ID	DWMR1096001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 6-3 | (1);

Question:
Did records confirm that chlorine residual tests were conducted at the same time and location as microbiological samples?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records confirmed that chlorine residual tests were conducted as required.

A review of the microbiological water quality monitoring data for the period in question, confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained. No concerns were identified.

Question ID	DWMR1086001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-6.1 | (1); SDWA | O. Reg. 170/03 | 13-6.1 | (2); SDWA | O. Reg. 170/03 | 13-6.1 | (3); SDWA | O. Reg. 170/03 | 13-6.1 | (4); SDWA | O. Reg. 170/03 | 13-6.1 | (5); SDWA | O. Reg. 170/03 | 13-6.1 | (6);

Question:
Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Haloacetic acid sampling requirements were met.

Section 13-6.1 (1) of Schedule 13 of Ontario Regulation 170/03 requires that at least one sample be taken every three months and tested for haloacetic acids (HAA).

A review of the water quality monitoring data for the period in question, confirmed that haloacetic acids samples were collected in accordance with the monitoring requirements prescribed by the legislation.

Since the previous inspection HAA samples were collected on January 17, 2024, April 11, 2024, July 3, 2024, October 2, 2024, and January 21, 2025.

The running annual average (RAA) based on the results of the four most recent quarterly sample results is 31.33 µg/L which is below the Ontario Drinking Water Quality Standard (ODWQS) limit of 80 µg/L (running annual average). The RAA during the previous inspection period was 28.8 µg/L.

Question ID	DWMR1087001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-6 | (1); SDWA | O. Reg. 170/03 | 13-6 | (2); SDWA | O. Reg. 170/03 | 13-6 | (3); SDWA | O. Reg. 170/03 | 13-6 | (4); SDWA | O. Reg. 170/03 | 13-6 | (5); SDWA | O. Reg. 170/03 | 13-6 | (6);

Question:
Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Trihalomethane sampling requirements were met.

Section 13-6 of Schedule 13 of Ontario Regulation 170/03 requires that at least one sample be taken every three months and tested for trihalomethanes (THM).

A review of the water quality monitoring data for the period in question, confirmed that THM samples were collected in accordance with the monitoring requirements prescribed by the legislation.

Since the previous inspection THM samples were collected on January 17, 2024, April 11, 2024, July 3, 2024, October 2, 2024, and January 21, 2025.

The running annual average based on the results of the four most recent quarterly sample results is 46 µg/L which meets the Ontario Drinking Water Quality Standard (ODWQS) limit of 100 µg/L (running annual average). The RAA during the previous inspection period was 41.25 µg/L.

Question ID	DWMR1114001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Did the owner have evidence that, when required, all legal owners associated with the

drinking water system were notified of the requirements of the Municipal Drinking Water Licence and Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner had evidence that the required notifications were made.

Question ID	DWMR1060001	Question Type	Legislative

Legislative Requirement(s):
SDWA | 31 | (1);

Question:
Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence.

Operations and maintenance manual(s) were reviewed at the time of the inspection and found to be in order containing contingency plans, standard operating procedures, drawings, and very detailed process descriptions. The manuals are kept at the Limgoes WTP; and are readily available to all Nation Municipality staff.

At the municipal office there is also a binder which contains abbreviated (condensed) operations and maintenance manuals. There is also the full technical series of operations and maintenance manuals and binders on site.

The Operations and Maintenance Manuals are in order and consistent with conditions 16.0 of Schedule B of MDWL No. 179-101 Issue No. 4. The manuals are kept at the Limoges WTP, readily available to all operating authority staff.

The operation and maintenance manuals and the emergency/contingency plans are reviewed on an annual schedule and are updated if needed. No concerns were identified.

Question ID	DWMR1062001	Question Type	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 7-5;

Question:
Did records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Records or other record keeping mechanisms confirmed that operational testing not

performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03.

According to operating authority, only certified operators perform operational testing that is not performed by continuous monitoring equipment and all those instances are recorded in the "Facility Logbook". Entries are made in chronological order.

"Facility Logbooks" (Plantagenet Booster Station and St. Isidore Water Tower) and other record keeping mechanisms maintained by operating authority staff were reviewed for the period between February 1, 2024, to January 31, 2025. No concerns identified.

Question ID	DWMR1071001	**Question Type**	BMP

Legislative Requirement(s):
Not Applicable

Question:
Did the owner provide security measures to protect components of the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
The owner provided security measures to protect components of the drinking water system.

All components of the WTP were found to be completely fenced, covered, secure, and under lock and key at all times.

Intrusion alarms are installed at the following locations:
- Plantagenet Booster Station
- St. Isidore Water Tower

All booster/pump stations have security lighting, signs and locked door/gates. The owners have also installed a closed-circuit video surveillance system as an additional security measure. No vandalism was observed no issues identified.

Question ID	DWMR1073001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 128/04 | 23 | (1);

Question:
Was an overall responsible operator designated for all subsystems which comprise the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
An overall responsible operator was designated for all subsystem.

The St. Isidore Water Distribution system is classified as a Class III Water Distribution Subsystem (WDS).

Mr. Nicholas Pigeon who possesses a Water Distribution Class III Certificate #88538 which expires June 30, 2026, is the ORO for the St. Isidore WDS and possesses the required qualifications.

Mr. Sebastien Mainville – Water Distribution Class II Certificate #105704 which expires May 31, 2025, is the back-up ORO for the St. Isidore WDS and possesses the required qualifications. No issues identified.

Question ID	DWMR1074001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 128/04 | 25 | (1);

Question:
Were operators-in-charge designated for all subsystems which comprise the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Operators-in-charge were designated for all subsystems.

The operator designated as the Operator-In-Charge (OIC) for any given week is different from the OIC at night or on-call for that week. All the information was recorded and maintained in WTP and in the logbook. The duty operators and the on-call operators for each subsystem are designated to be the OIC.

Question ID	DWMR1075001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 128/04 | 22;

Question:
Were all operators certified as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):
All operators were certified as required.

Question ID	DWMR1076001	**Question Type**	Legislative

Legislative Requirement(s):
SDWA | O. Reg. 170/03 | 1-2 | (2);

Question:
Were adjustments to the treatment equipment only made by certified operators?

Compliance Response(s)/Corrective Action(s)/Observation(s):
Adjustments to the treatment equipment were only made by certified operators.

APPENDIX A

REFERENCE MATERIAL

February 2, 2023

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

Many useful materials are available to help you operate your drinking water system. Below is a list of key materials owners and operators of municipal residential drinking water systems frequently use.

To access these materials online click on their titles below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.
For more information on Ontario's drinking water visit www.ontario.ca/page/drinking-water

Click on the publication below to access it

- Drinking Water System Profile Information Form - 012-2149E
- Laboratory Services Notification Form – 012-2148E
- Adverse Test Result Notification Form – 012-4444E
- Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils
- Procedure for Disinfection of Drinking Water in Ontario
- Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids
- Filtration Processes Technical Bulletin
- Ultraviolet Disinfection Technical Bulletin
- Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments
- Certification Guide for Operators and Water Quality Analysts
- Training Requirements for Drinking Water Operator
- Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption
- Drinking Water System Contact List – 7128E01
- Ontario's Drinking Water Quality Management Standard - Pocket Guide
- 2020 Watermain Disinfection Procedure
- List of Licensed Laboratories

APPENDIX B

COMPONENT INFORMATION REPORT

DWS Component Information Report for 260091026

as of 07-APR-2025

Drinking Water System Profile Information

DWS #	260091026
MOE Assigned Name	St. Isidore Distribution System
Category	LMRS
Regulation	O.REG 170/03
DWS Type	Distribution System
Source Type	Distribution
Address	Village Of St-Isidore
Region	Eastern Region
District	Cornwall Area Office
Municipality	The Nation
Public Health Unit	Eastern Ontario Health Unit

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
Distribution System				Treated water is pumped from the Plantagenet Booster Pumping Station directly to the Village of St-Isidore's elevated water storage tower via a combination of 150 mm, 200 mm and 250 mm diameter PVC transmission pipes. The water is initially treated at the Lefaivre WTP, with secondary disinfection by chloramination. Secondary disinfection by chloramination is then boosted as necessary at the Plantagenet Booster Pumping Station. The existing elevated water storage tanks are "floating" on the corresponding Alfred, Plantagenet and St-Isidore area water distribution systems, i.e. the pressure in the distribution mains will be maintained by the water level in each of the corresponding elevated water tanks (a pressure transducer is mounted on the riser pipe at the St-Isidore Water Tower). St-Isidore's distribution consists of PVC and Polyethylene pipes ranging in size for 25 mm service connections to 250 mm mains. Piping in the local distribution network consists largely of 150 mm, 200 mm and 250 diameter PVC pipes. The distribution system contains 44 hydrants (including 2 on the feeder main), 307 standard service connections, 50 gate valves, isolation and interconnection valves, blow-off points and drain valve chambers. There are 4,330 metres of 150 mm diameter pipe, 1,925 metres of 200 mm diameter pipe and 530 metres of 250 mm diameter pipe. A detailed analysis of the distribution network was completed in 1991 using the Micro Hardy Cross Model. Normal operating pressures without fire flows were found to be in the accepted operating range of 350 to 550 kilopascals (kPa). The model calculated maximum pressures as not exceeding 700 kPa under any condition. Under conditions of simultaneous maximum day and fire flow demands, pressure did not fall below 140 kPa. Pressure was calculated not to fall below 275 kPa during peak hour demand. Another hydraulic conditions analysis was completed by the Consulting Engineering firm for this project and is contained on f

DWS Component Information Report for 260091026

as of 07-APR-2025

LWIS Component Name	LWIS Component Type	LWIS Component Sub-Type	Component Address	Comments
Water Tower	Treated Water Poe		Lot: 5, Conc.: XVIII,	The elevated storage tank is an elevated steel tank on a concrete pedestal which contains a total of 950 cu. metres of which 533 cu. metres is for fire protection, 227 cu. metres is equalization and 190 cu. metres is for emergency purposes.
Booster Pump Station	Treated Water Poe	Booster Station	County Road No. 9, Lot: 6, Conc.: VI,	The Plantagenet Booster Pump Building is located on a permanent easement owned by the Nation Municipality on the south side of the existing Plantagenet Water Treatment Plant. The site is located at the south side of the Village of Plantagenet on the west side of the South Nation River. It is equipped with two (2) vertical turbine pumps (Goulds) placed on a concrete platform. One pump (the second pump will be used as a standby) will be operated during non-peak demand hours in order to replenish the volume of water in the St. Isidore water storage reservoir consumed by the residents of the Village of St. Isidore during any given day. Each pump has a rated capacity of 20L/sec or 1,728 cu metres/day with a 20 kW and 30 HP sizing. The building is constructed over a new concrete clear well storage area of 84, 420 Litres, and also uses the existing Plantagenet Water Treatment Plant clearwell even though the remainder of the plant is decommissioned. An emergency diesel generator (125 kW) is located at the east side of the booster pump building and mounted on an exterior 3.0 m by 3.0 m concrete platform and encased with a steel "Sound Shield" enclosure. A chloramination system consisting of two Ammonia Sulphate Proportional Feed Metering pumps, (one duty, one standby) each rated at 7.5 L/hr and one plastic ammonia sulphate storage vessel and containment tank of 250 litres in capacity, dosing ammonium sulphate (as needed) into the transmission water main that flows to the St. Isidore elevated storage tower. One (1) flowmeter located in the transmission water main after the St. Isidore high lift pumps. And two (2) automatic analyzers: one to continuously monitor the finished water free chlorine residual and one to continuously monitor the finished total chlorine residual. A multi-vent dust collector for the ammonium sulphate powder and a custom made puck dechlorinator unit to treat the analyzer waste water is also installed there and all necessary piping, appurtenances, instrumentation and controls.

APPENDIX C

INSPECTION RISK RATING (IRR)

DWS Name:	ST. ISIDORE DISTRIBUTION SYSTEM
DWS Number:	260091026
DWS Owner:	CORPORATION DE LA MUNICIPALITE DE LA NATION
Municipal Location:	THE NATION
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Feb-10-2025
Ministry Office:	Cornwall Area Office

Maximum Risk Rating: 297

Inspection Module	Non Compliance Risk (X out of Y)
Certification and Training	0/42
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/25
Treatment Processes	0/151
Water Quality Monitoring	0/51
Overall - Calculated	**0/297**

Inspection Risk Rating:	**0.00%**

Final Inspection Rating:	**100.00%**

DWS Name:	ST. ISIDORE DISTRIBUTION SYSTEM
DWS Number:	260091026
DWS Owner Name:	CORPORATION DE LA MUNICIPALITE DE LA NATION
Municipal Location:	THE NATION
Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Compliance Assessment Start Date:	Feb-10-2025
Ministry Office:	Cornwall Area Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 297

Inspection Risk Rating:	**0.00%**

FINAL INSPECTION RATING:	**100.00%**