



HURON WOODS DRINKING WATER SYSTEM
86 BIRCH ST, SOUTH BRUCE PENINSULA, ON, N0H 2G0
Inspection Report

System Number: 220007775
Entity: ONTARIO CLEAN WATER
AGENCY
THE CORPORATION OF THE
TOWN OF SOUTH BRUCE
PENINSULA
Inspection Start Date: 11/01/2022
Inspection End Date: 11/30/2022
Inspected By: Robert Graham
Badge #: 1667



(signature)

NON-COMPLIANCE/NON-CONFORMANCE ITEMS

The following item(s) have been identified as non-compliance/non-conformance, based on a "No" response captured for a legislative or best management practice (BMP) question (s), respectively.

Question Group: Other Inspection Findings

Question ID	MRDW1038001	Question Type	Legislative
Question:			
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4;		
Observation/Corrective Action(s)			
<p>Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.</p> <p>On December 12, 2021, OCWA reported AWQI No.157296 to the MECP SAC concerning a DWS turbidity analyzer failure due to a power outage that occurred at approximately 8:00 pm on December 11, 2021. The back-up generator failed to start and when power was restored the turbidity analyzer did not function. During the incident time period, the OA reported that the water plant produced water for approximately 3 hours while the turbidity analyzer was not functioning. A review of the incident SCADA trend sheets document that the water plant produced water on December 11, 2021, from 21:43 hours to December 12, 2021, at 00:38 hours, while the turbidity analyzer was not functioning.</p> <p>The Huron Woods DWS obtains water from a surface water source (Well 6 which is a GUDI well) and provides filtration, therefore continuous monitoring of each filter effluent line shall be performed for turbidity under SDWA, O. Reg. 170/03, Schedule 7-3 (2). The DWS incident resulted in non-compliance with continuous monitoring equipment not being utilized to fulfill O. Reg. 170/03 requirements by performing tests for the parameter of turbidity with at least the minimum frequency of every 15 minutes as specified in the Table in Schedule 6 of O. Reg. 170/03, and recording data with the prescribed format. OCWA identified that the back-up generator failed to activate during the power outage due to an insufficient battery charge that was caused by battery charger failure and the on-call DWS operator did not obtain handheld turbidity samples/tests during the incident.</p> <p>On December 12, 2021, OCWA notified the MECP that the non-functioning turbidity</p>			

analyzer had been replaced and calibrated and that the DWS was operational and continuous monitoring testing/recording of turbidity was occurring as required under O. Reg. 170/03.

No further action is required given that the replacement turbidity analyzer is operational and is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.

INSPECTION DETAILS

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

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

Question ID	MRDW1001001	Question Type	Information
Question:			
What was the scope of this inspection?			
Legislative Requirement		Not Applicable	
Observation			
<p>The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period. 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 practices.</p> <p>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.</p> <p>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.</p> <p>On November 1, 2022, Ministry of the Environment, Conservation and Parks (MECP) Provincial Officer Bob Graham conducted an announced focused inspection of the Huron Woods Drinking Water System (DWS). The Huron Woods DWS is a Large Municipal Residential DWS (serves a major residential development and serves more than 100 private residences) owned by the Town of South Bruce Peninsula (Owner) and operated by the Ontario Clean Water Agency (OCWA - Operating Authority - OA). Assistance with the inspection was provided by Leo-Paul Frigault, OCWA Senior Operations Manager, Karla Young, OCWA Process & Compliance Technician and Cole Hutchinson, OCWA Operator-in-Training.</p> <p>The Huron Woods DWS operates under MECP issued Municipal Drinking Water Licence Number 094-103, Issue Number 4 and Drinking Water Works Permit Number 094-203, Issue Number 4, both dated March 6, 2020.</p> <p>The well serving the Huron Woods DWS (Well No. 6) is an overburden well drilled to a</p>			

depth of 16.6 metres. The well has a 250 mm diameter casing and is equipped with a submersible well pump rated at 5.3 L/s at a TDH (total dynamic head) of 15 metres. The water discharges to a 50 mm diameter header into the pumphouse. Well 6 is the primary production well supplying the Huron Woods drinking water system and is considered ground water under the direct influence of surface water (GUDI).

During the inspection review period, from October 30, 2021, the day following the previous inspection, to the date of inspection on November 1, 2022, there was one Adverse Water Quality Incident (AWQI) reported to the MECP Spills Action Centre (SAC).

Question ID	MRDW1000001	Question Type	Information
Question:			
Does this drinking water system provide primary disinfection?			
Legislative Requirement	Not Applicable		
Observation			
This Drinking Water System provides for both primary and secondary disinfection and distribution of water.			

Question ID	MRDW1018001	Question Type	Legislative
Question:			
Has the owner ensured that all equipment is installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?			
Legislative Requirement	SDWA 31 (1);		
Observation			
The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.			
The equipment installed at the Huron Woods DWS plant compares favourably to the equipment listed in the DWWP issued for the Huron woods DWS. The process flow diagram included in Schedule D of the Permit also appears to be accurate. All equipment described in the Permit appeared to be installed and operating on the date of this inspection. There were two (2) reported alterations undertaken during this inspection review period which required a Form 2 – Record of Modification or Replacement document to be prepared. The alterations included a new online chlorine analyzer and a new filter turbidity analyzer.			

Question ID	MRDW1021001	Question Type	Legislative
Question:			
Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 2 documents were prepared in accordance with their Drinking Water Works Permit?			
Legislative Requirement	SDWA 31 (1);		
Observation			
The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.			
During the inspection review time period the following Minor Modifications or Replacements to the DWS were undertaken:			
<ul style="list-style-type: none"> - a new Wallace & Tiernan Evoqua Depolox 400M online chlorine analyzer was installed at the Huron Woods WTP to replace the existing online clear well chlorine analyzer; - the filter turbidity analyzer (US Scientific Microtol) located after the cartridge filter was replaced with a HACH TU5300sc due to failure. 			

Question ID	MRDW1024001	Question Type	Legislative
Question:			
Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated as required?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (2);		
Observation			
Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined.			

Question ID	MRDW1038001	Question Type	Legislative
Question:			
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4;		
Observation			

Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was not performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and/or was not recording data with the prescribed format.

On December 12, 2021, OCWA reported AWQI No.157296 to the MECP SAC concerning a DWS turbidity analyzer failure due to a power outage that occurred at approximately 8:00 pm on December 11, 2021. The back-up generator failed to start and when power was restored the turbidity analyzer did not function. During the incident time period, the OA reported that the water plant produced water for approximately 3 hours while the turbidity analyzer was not functioning. A review of the incident SCADA trend sheets document that the water plant produced water on December 11, 2021, from 21:43 hours to December 12, 2021, at 00:38 hours, while the turbidity analyzer was not functioning.

The Huron Woods DWS obtains water from a surface water source (Well 6 which is a GUDI well) and provides filtration, therefore continuous monitoring of each filter effluent line shall be performed for turbidity under SDWA, O. Reg. 170/03, Schedule 7-3 (2). The DWS incident resulted in non-compliance with continuous monitoring equipment not being utilized to fulfill O. Reg. 170/03 requirements by performing tests for the parameter of turbidity with at least the minimum frequency of every 15 minutes as specified in the Table in Schedule 6 of O. Reg. 170/03, and recording data with the prescribed format. OCWA identified that the back-up generator failed to activate during the power outage due to an insufficient battery charge that was caused by battery charger failure and the on-call DWS operator did not obtain handheld turbidity samples/tests during the incident.

On December 12, 2021, OCWA notified the MECP that the non-functioning turbidity analyzer had been replaced and calibrated and that the DWS was operational and continuous monitoring testing/recording of turbidity was occurring as required under O. Reg. 170/03.

No further action is required given that the replacement turbidity analyzer is operational and is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.

Question ID	MRDW1035001	Question Type	Legislative
Question:			
Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;		
Observation			

Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.

Operators print off a daily report for review and confirm report reviews by signing and dating the reports. All daily report reviews are available in a binder maintained on site. Additionally, Operators record the daily review in the facility logbook confirming that they have reviewed the DWS data.

Question ID	MRDW1037001	Question Type	Legislative
Question:			
Are all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or MDWL or DWWP or order, equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10; SDWA O. Reg. 170/03 6-5 (1.1);		
Observation			
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, were equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.			
The water treatment plant is equipped with continuous analyzers and alarms for free chlorine and turbidity. The low low alarm set point for the treated water chlorine analyzer is 0.50 mg/L. When reached the system locks out ceasing water production ensuring the system meets their CT requirements. The turbidity analyzer high alarm set point downstream of the filters is 0.30 NTU. The turbidity analyzer high high alarm set point downstream of the filters is 0.70 NTU. When reached the system alarm sequence is triggered and the filters are locked out ceasing water production and preventing any adverse conditions.			

Question ID	MRDW1040000	Question Type	Legislative
Question:			
Are all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10;		
Observation			
All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.			

Routine analyzer maintenance, accuracy verification checks and calibrations are conducted by the operator(s) which are recorded in facility log books and monthly process and compliance status reports. Annual analyzer accuracy verification checks and calibrations were performed by HACH in April 2022. Annual flow meters accuracy verification checks and calibrations were performed by IndusControl Incorporated in June 2022.

Question ID	MRDW1108001	Question Type	Legislative
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, an Order, MDWL, or DWWP issued under Part V, SDWA, has triggered an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?			
Legislative Requirement	SDWA O. Reg. 170/03 6-5 (1)1-4; SDWA O. Reg. 170/03 6-5 (1)5-10; SDWA O. Reg. 170/03 6-5 (1.1);		
Observation			
Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.			

Question ID	MRDW1033001	Question Type	Legislative
Question:			
Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
Legislative Requirement	SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);		
Observation			
The secondary disinfectant residual was measured as required for the large municipal residential distribution system.			
Subsection 7-2 (3) and (4) of schedule 7, O.Reg.170/03 identifies that the owner of a large municipal residential system that provides secondary disinfection and the OA for the system shall ensure that at least seven distribution samples are taken each week and are tested immediately for free chlorine residual if the system provides chlorination. Records provided during the inspection indicate that the owner complied with these requirements, by conducting four (4) free chlorine residual tests for secondary disinfection monitoring purposes 2 days each week and at least 48 hours apart.			

Question ID	MRDW1099001	Question Type	Information
Question: Do records show that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O. Reg. 169/03)?			
Legislative Requirement	Not Applicable		
Observation			
Records showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O. Reg. 169/03).			

Question ID	MRDW1081001	Question Type	Legislative
Question: For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
Legislative Requirement	SDWA O. Reg. 170/03 10-2 (1); SDWA O. Reg. 170/03 10-2 (2); SDWA O. Reg. 170/03 10-2 (3);		
Observation			
All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met.			
<p>The owner of a large municipal residential drinking water system shall ensure that if the system serves a population of 100,000 or less, at least 8 distribution samples plus one for every thousand people served by the system are taken every month. At least one of the samples must be taken each week. As the Huron Woods DWS population is less than 100,000, a minimum of 8 samples must be collected from the distribution system monthly. These samples are required to be tested for E.Coli. and total coliform; and at least 25 percent of the samples are required to be tested for general bacteria populations expressed as colony counts on a heterotrophic plate count (HPC). Records indicate that the Owner is routinely collecting two distribution samples each week in order to comply with, and meet, the regulatory requirement. Each of those samples were tested for E.Coli., total coliform, and approximately one half of the samples were tested for general bacteria populations expressed as colony counts on a heterotrophic plate count. There were no concerns identified with the results obtained.</p>			

Question ID	MRDW1096001	Question Type	Legislative
Question:			

Do records confirm that chlorine residual tests are being conducted at the same time and at the same location that microbiological samples are obtained?	
Legislative Requirement	SDWA O. Reg. 170/03 6-3 (1);
Observation	
Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.	

Question ID	MRDW1086001	Question Type	Legislative
Question:			
Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			
Legislative Requirement	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);		
Observation			
All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.			
<p>Section 13-6.1 (1) of Schedule 13, O.Reg.170/03 requires the Owner and the OA to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Haloacetic Acids (HAAs), and tested for HAAs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. The standard for HAAs is expressed as a Running Annual Average (RAA), where the RAA is defined as the average for quarterly HAAs results for a DWS. Sampling for the inspection period occurred on January 4, (59.8 ug/L), April 4 (47.7 ug/L), July 4 (41.7 ug/L) and October 3, 2022 (55.5 ug/L). The HAAs RAA for the inspection time period was 51.7 ug/L. The Ontario Drinking Water Quality Standard is a RAA concentration of 80 ug/L. There were no concerns identified with the sample results.</p>			

Question ID	MRDW1087001	Question Type	Legislative
Question:			
Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?			
Legislative Requirement	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);
Observation	
<p>All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.</p> <p>Section 13-6 of Schedule 13, O.Reg.170/03 requires the Owner and the OA to ensure that at least one distribution sample is taken every 3 months from a point in the DWS distribution system, or in plumbing that is connected to the DWS, that is likely to have an elevated potential for the formation of Trihalomethanes (THMs), and tested for THMs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. The standard for THMs is expressed as a Running Annual Average (RAA), where the RAA is defined as the average for quarterly THMs results for a DWS. Sampling for the inspection period occurred on January 4, (70.0 ug/L), April 4 (58.0 ug/L), July 4 (51 ug/L) and October 3, 2022 (53 ug/L). The THMs RAA for the inspection time period was 58 ug/L. The Ontario Drinking Water Quality Standard is a RAA concentration of 100 ug/L. There were no concerns identified with the sample results.</p>	

Question ID	MRDW1094001	Question Type	Legislative
Question:			
Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?			
Legislative Requirement	SDWA 31 (1);		
Observation			
<p>All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met.</p> <p>Wastewater from the backwash process for the iron and manganese filter system is discharged to a wastewater holding tank where suspended solids are permitted to settle. MDWL Schedule C, Table 3 identifies that the annual average concentration of Backwash Wastewater Facility Total Suspended Solids discharged from the holding tank shall not exceed 25 mg/L and the annual average concentration of total chlorine residual shall not exceed 0.02 mg/L. Table 7 identifies that Backwash Wastewater Suspended Solids and total chlorine residual parameters shall be comprised of manual composite samples taken monthly at the point of discharge from the filter backwash tank. During the inspection review period this requirement has been met.</p> <p>Based upon the inspection time period sample results provided, the annual average concentration of Backwash Wastewater Total Suspended Solids was calculated to be 5.83</p>			

mg/L and the annual average concentration of total chlorine residual was calculated to be 0.01 mg/L, meeting the requirements of Table 3 of the DWS MDWL.

Question ID	MRDW1101001	Question Type	Legislative
Question:			
For LMR Systems, have corrective actions (as per Schedule 17 of O. Reg. 170/03) been taken to address adverse conditions, including any other steps as directed by the Medical Officer of Health?			
Legislative Requirement	SDWA O. Reg. 170/03 17-1; SDWA O. Reg. 170/03 17-10 (1); SDWA O. Reg. 170/03 17-11; SDWA O. Reg. 170/03 17-12; SDWA O. Reg. 170/03 17-13; SDWA O. Reg. 170/03 17-14; SDWA O. Reg. 170/03 17-2; SDWA O. Reg. 170/03 17-3; SDWA O. Reg. 170/03 17-4; SDWA O. Reg. 170/03 17-5; SDWA O. Reg. 170/03 17-6; SDWA O. Reg. 170/03 17-9;		
Observation			
Corrective actions (as per Schedule 17), including any other steps that were directed by the Medical Officer of Health, had been taken to address adverse conditions.			

Question ID	MRDW1104000	Question Type	Legislative
Question:			
Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6?			
Legislative Requirement	SDWA O. Reg. 170/03 16-6 (1); SDWA O. Reg. 170/03 16-6 (2); SDWA O. Reg. 170/03 16-6 (3); SDWA O. Reg. 170/03 16-6 (3.1); SDWA O. Reg. 170/03 16-6 (3.2); SDWA O. Reg. 170/03 16-6 (4); SDWA O. Reg. 170/03 16-6 (5); SDWA O. Reg. 170/03 16-6 (6);		
Observation			
All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.			
As previously described, on December 12, 2021, OCWA reported AWQI No.157296 to the MECP SAC concerning a DWS turbidity analyzer failure due to a power outage that occurred at 8:00 pm on December 11, 2021. The back-up generator failed to start and when power was restored the turbidity analyzer did not function. During the incident time period, OCWA reported that the water plant produced water for approximately 3 hours while the turbidity analyzer was not functioning. A review of the incident SCADA trend sheets document that the water plant produced water, from December 11, 2021, at 21:43 hours to			

December 12, 2021, at 00:38 hours, while the turbidity analyzer was not functioning. The failed turbidity analyzer was replaced on December 12, 2021.

An adverse water quality incident is a prescribed adverse test result or an observation indicating that water directed to users was improperly disinfected. Schedule E of the Huron Woods DWS MDWL identifies that primary disinfection pathogen log removal/inactivation credits are assigned only for UV disinfection and chlorination, and not filtration by greensand or cartridge filtration. As such, it is apparent that AWQI No. 157296 is reported as a regulatory non-compliance observation and not an adverse water quality test result, given that improperly disinfected water was not directed to users of the DWS.

Question ID	MRDW1059000	Question Type	Legislative
Question:			
Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system?			
Legislative Requirement	SDWA O. Reg. 128/04 28;		
Observation			
<p>The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system. At the time of inspection, the Provincial Officer observed that the SCADA alarm setpoint for the UV system was set at 28 W/m². A review of the Part 5.4.1 of the Operations and Maintenance Manual (UV Disinfection) for the Huron Woods DWS identifies a UV alarm setpoint for each UV Unit at 29 W/m².</p> <p>In response to the above alarm deviation the OA reported the following: "The UV unit is hardwired by the manufacturer, Trojan, to shut down if radiation intensity falls below 29.2 W/m² for more than 10 seconds. We are not able to change that setting. We have a flow regulator that regulates the flow to 5.3 L/s or below at all times. There was an issue that, when the plant was running and the automatic UV wiper engaged, the wiper would pass in front the sensor and cause a slight radiation intensity dip that would result in unnecessary plant shut down prompted by the SCADA system. Although the manufactured programmed 10 seconds delay was enough to keep the UV system from alarming and shutting down, the redundant SCADA programmed alarm was picking up the slight radiation intensity dip and would unnecessarily shut down the system. In order to avoid these issues, the SCADA was set to 28 W/m². The system still shuts down if radiation intensity falls below 29.2 W/m² for more than 10 seconds. Since the SCADA setpoint doesn't match the O&M Manual we are going to look into setting a delay on the SCADA setpoint and set it to 29 W/m² to see if this helps with the wiper issue".</p> <p>Upon determination of the effectiveness of the aforementioned proposed actions by the OA to rectify the above-described shut down of the UV system, please provide written notification to the Provincial Officer upon completion and revise the Operations and</p>			

Maintenance Manual according to accurately reflect the alarm settings and operation of the UV Disinfection system.

Question ID	MRDW1060000	Question Type	Legislative
Question: Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.			

Question ID	MRDW1061001	Question Type	Legislative
Question: Are logbooks properly maintained and contain the required information?			
Legislative Requirement	SDWA O. Reg. 128/04 27 (1); SDWA O. Reg. 128/04 27 (2); SDWA O. Reg. 128/04 27 (3); SDWA O. Reg. 128/04 27 (4); SDWA O. Reg. 128/04 27 (5); SDWA O. Reg. 128/04 27 (6); SDWA O. Reg. 128/04 27 (7);		
Observation Logbooks were properly maintained and contained the required information.			

Question ID	MRDW1062001	Question Type	Legislative
Question: Do records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment is being done by a certified operator, water quality analyst, or person who meets the requirements of O. Reg. 170/03 7-5?			
Legislative Requirement	SDWA O. Reg. 170/03 7-5;		
Observation Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.			

Question ID	MRDW1071000	Question Type	BMP
Question: Has the owner provided security measures to protect components of the drinking water system?			
Legislative Requirement	Not Applicable		
Observation			
The owner had provided security measures to protect components of the drinking water system.			
Perimeter fencing with a lockable access gate surrounds the pump house and treatment facility which has lockable doors and is equipped with an intruder alarm and signage restricting access to the site. All Wells are locked restricting unauthorized access. At the time of inspection, the OA reported no unauthorized access, vandalism and/or cyber security issues impacting the DWS.			

Question ID	MRDW1073001	Question Type	Legislative
Question: Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
Legislative Requirement	SDWA O. Reg. 128/04 23 (1);		
Observation			
The overall responsible operator had been designated for each subsystem.			
The ORO for the Huron Woods DWS is James Learn, with backup being provided by Andrew Bellamy.			

Question ID	MRDW1074001	Question Type	Legislative
Question: Have operators-in-charge been designated for all subsystems for which comprise the drinking water system?			
Legislative Requirement	SDWA O. Reg. 128/04 25 (1);		
Observation			
Operators-in-charge had been designated for all subsystems which comprise the drinking water system.			

Question ID	MRDW1075001	Question Type	Legislative
Question: Do all operators possess the required certification?			
Legislative Requirement	SDWA O. Reg. 128/04 22;		
Observation			
All operators possessed the required certification.			
Operator certification is posted at the water treatment plant where the drinking water subsystems are managed. Operator certification was verified, and all operators were in possession of valid certificates.			

Question ID	MRDW1076001	Question Type	Legislative
Question: Do only certified operators make adjustments to the treatment equipment?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (2);		
Observation			
Only certified operators made adjustments to the treatment equipment.			

Question ID	MRDW1007001	Question Type	Legislative
Question: Is the owner maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (1);		
Observation			
The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials.			
The Huron Woods DWS water wells include Wells 1, 2 and 3, Test Well 2 and Well No. 6. Of the aforementioned wells, Well No. 6 remains in use as the sole primary production well. The remaining water wells are not in use and have been removed as DWS source water wells in MECP Permit To Take Water No. 5437-BTFNDL.			
The owner shall maintain all wells in accordance with Ontario Regulation 903, s.20 (1) under the Ontario Water resources Act which states that, "The well owner shall maintain			

the well at all times after the completion of the well's structural stage in a manner sufficient to prevent the entry into the well of surface water and other foreign materials."

At the time of inspection, a visual assessment was made of the exposed structural portions of the aforementioned wells. The wells appeared to be maintained in such a manner to prevent the entry into the wells of surface water and other foreign materials.

Question ID	MRDW1009001	Question Type	Legislative
Question:			
Are measures in place to protect the groundwater and/or GUDI source in accordance with any MDWL and DWWP issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation			
Measures were in place to protect the groundwater and/or GUDI source in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.			

Question ID	MRDW1014001	Question Type	Legislative
Question:			
Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation			
There was sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.			

Question ID	MRDW1016001	Question Type	Legislative
Question:			
Is the owner in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the MDWL issued under Part V of the SDWA?			
Legislative Requirement	SDWA 31 (1);		
Observation			
The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of			

the SDWA.

Condition 1.1 of Schedule C of the MDWL identifies that the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system at the Huron Woods Water Treatment Plant shall not exceed 743 m³/day. Records reviewed during the inspection review time period identified that the maximum day flow of treated water was 116.3 m³ on September 3, 2022, representing approximately 15.6% of the approved rated capacity.

Question ID	MRDW1023001	Question Type	Legislative
Question:			
Do records indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a DWWP and/or MDWL issued under Part V of the SDWA at all times that water was being supplied to consumers?			
Legislative Requirement	SDWA O. Reg. 170/03 1-2 (2);		
Observation			
Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.			
Records reviewed indicate that the Huron Woods DWS was operated to achieve the necessary CT requirements and UV performance criteria for primary disinfection during the inspection time period.			

Question ID	MRDW1026001	Question Type	Legislative
Question:			
If primary disinfection equipment that does not use chlorination or chloramination is provided, is the equipment equipped with alarms or shut-off mechanisms that satisfy the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03?			
Legislative Requirement	SDWA O. Reg. 170/03 1-6 (1);		
Observation			
The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of O. Reg. 170/03.			
See Inspection Report Question No. MRDW1059000 respecting UV Disinfection SCADA Alarming.			

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Question ID	MRDW1030000	Question Type	Legislative
Question:			
Is primary disinfection chlorine monitoring being conducted at a location approved by MDWL and/or DWWP issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved?			
Legislative Requirement	SDWA O. Reg. 170/03 7-2 (1); SDWA O. Reg. 170/03 7-2 (2);		
Observation			
Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved.			

Question ID	MRDW1032001	Question Type	Legislative
Question:			
If the drinking water system obtains water from a surface water source and provides filtration, is continuous monitoring of each filter effluent line being performed for turbidity?			
Legislative Requirement	SDWA O. Reg. 170/03 7-3 (2);		
Observation			
Continuous monitoring of each filter effluent line was being performed for turbidity.			

Question ID	MRDW1039000	Question Type	Legislative
Question:			
If primary disinfection equipment that does not use chlorination or chloramination is provided, has the owner and operating authority ensured that the equipment has a recording device that continuously records the performance of the disinfection equipment?			
Legislative Requirement	SDWA O. Reg. 170/03 1-6 (3);		
Observation			
The owner and operating authority ensured that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.			

Question ID	MRDW1109001	Question Type	Legislative
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Question:	
If the system uses equipment for primary disinfection other than chlorination or chloramination and the equipment has malfunctioned, lost power or ceased to provide the appropriate level of disinfection, causing an alarm or an automatic shut-off, did a qualified person respond in a timely manner and take appropriate actions?	
Legislative Requirement	SDWA O. Reg. 170/03 1-6 (1);
Observation	
When failure(s) of primary disinfection equipment, other than that used for chlorination or chloramination, caused an alarm to sound or an automatic shut-off to occur, a certified operator responded in a timely manner and took appropriate actions.	

Question ID	MRDW1042001	Question Type	Legislative
Question:			
If UV disinfection is used were duty sensors and reference UV sensors checked and calibrated as per the requirements of Schedule E of the MDWL or at a frequency as otherwise recommended by the UV equipment manufacturer?			
Legislative Requirement	SDWA 31 (1);		
Observation			
All UV sensors were checked and calibrated as required.			
Records provided by the OA identify that duty UV sensors were checked monthly against a reference UV sensor, with the calibration ratio (intensity measured with the duty sensor/intensity measured with the reference UV sensor) documented to be less than or equal to 1.2, in compliance with Schedule E of the MDWL. Reference UV sensors shall be checked against a Master Reference Assembly at a minimum frequency of once every three years or on a more frequent basis depending upon the recommendations of the equipment manufacturer.			

Question ID	MRDW1083001	Question Type	Legislative
Question:			
For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			
Legislative Requirement	SDWA O. Reg. 170/03 10-3;		
Observation			
All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met.			

The owner of a drinking-water system and the OA for the system shall ensure that a water sample is taken at least once every week prior to the treated water entering the distribution subsystem and tested for:

- (a) Escherichia coli;
- (b) total coliforms; and,
- (c) HPC.

This requirement has been met.

Question ID	MRDW1084001	Question Type	Legislative
Question:			
Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-2;		
Observation			
All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			
Sampling and testing for inorganic parameters has been conducted for the DWS in accordance with Schedule 13-2 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months, if the system obtains water from a raw water supply that is surface water for each parameter listed in Schedule 23; this requirement has been met when the most recent samples were collected on January 4, 2022. There were no concerns identified from the results.			

Question ID	MRDW1088000	Question Type	Legislative
Question:			
Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?			
Legislative Requirement	SDWA O. Reg. 170/03 13-7;		
Observation			
All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.			
Section 13-7 of Schedule 13, O.Reg.170/03 requires the Owner and OA to ensure that at least one water sample is taken every three months and tested for nitrates and nitrites. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the			

previous three month period. The Owner complied with these requirements when they conducted the required monitoring on January 4, April 4, July 4, and October 3, 2022. There were no concerns identified with the sample results.

Question ID	MRDW1089000	Question Type	Legislative
Question: Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-8;		
Observation			
All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			
Section 13-8 of Schedule 13, O.Reg.170/03 requires that the Owner and the OA ensure that a treated water sample is taken every 60 months and is tested for sodium. The Owner conducted sampling for sodium on January 6, 2022 and achieved a result of 7.57 mg\L, below the regulatory standard of 20 mg/L. The next sodium samples are due in January 2027.			

Question ID	MRDW1090000	Question Type	Legislative
Question: Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Legislative Requirement	SDWA O. Reg. 170/03 13-9;		
Observation			
All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.			
Section 13-9 of Schedule 13, O.Reg.170/03 requires the Owner and the Operating Authority to ensure that at least one water sample is taken every 60 months and tested for Fluoride. The Owner last conducted Fluoride sampling on January 6, 2022 and achieved a result of 0.15 mg/l, below the regulatory standard of 1.5 mg/L. The next fluoride samples are due in January 2027.			

Question ID	MRDW1085001	Question Type	Legislative
Question:			

Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?

Legislative Requirement

SDWA | O. Reg. 170/03 | 13-4 | (1); SDWA | O. Reg. 170/03 | 13-4 | (2); SDWA | O. Reg. 170/03 | 13-4 | (3);

Observation

All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

Sampling and testing for organic parameters has been conducted for the drinking water system in accordance with Schedule 13-4 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months, if the system obtains water from a raw water supply that is surface water for each parameter listed in Schedule 24; this requirement has been met when the most recent samples were collected on January 4, 2022. There were no concerns identified with the sample results.

Ministry of the Environment, Conservation and Parks - Inspection Summary Rating Record (Reporting Year - 2022-2023)

DWS Name: HURON WOODS DRINKING WATER SYSTEM
DWS Number: 220007775
DWS Owner: THE CORPORATION OF THE TOWN OF SOUTH BRUCE PENINSULA
Municipal Location: SOUTH BRUCE PENINSULA

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Nov-1-2022
Ministry Office: Owen Sound District Office

Maximum Risk Rating: 563

Inspection Module	Non Compliance Rating
Treatment Processes	0 / 39
Operations Manuals	0 / 28
Water Quality Monitoring	0 / 24
Reporting & Corrective Actions	0 / 21
Other Inspection Findings	21 / 451
Overall - Calculated	21 / 563

Inspection Risk Rating: 3.73%

Final Inspection Rating: 96.27%

Ministry of the Environment, Conservation and Parks - Detailed Inspection Rating Record (Reporting Year - 2022-2023)

DWS Name: HURON WOODS DRINKING WATER SYSTEM
DWS Number: 220007775
DWS Owner Name: THE CORPORATION OF THE TOWN OF SOUTH BRUCE PENINSULA
Municipal Location: SOUTH BRUCE PENINSULA

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Nov-1-2022
Ministry Office: Owen Sound District Office

Non-Compliant Question(s)	Question Rating
Other Inspection Findings	
Is continuous monitoring equipment that is being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format?	21
Overall - Total	21

Maximum Question Rating: 563

Inspection Risk Rating: 3.73%

FINAL INSPECTION RATING: 96.27%