

**Ministry of the Environment,
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**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**

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January 18, 2024

File no. SI-MI-TC-DO-540

The Corporation of the Municipality of Thames Centre
4305 Hamilton Road
Dorchester, ON
N0L 1G5

Attention: Kevin Willson, Environmental Services Superintendent

Re: Dorchester Drinking Water System (WW #220002146) Inspection Report
Inspection conducted on December 14, 2023

Dear Mr. Willson,

Enclosed is the 2023-24 inspection report for the Dorchester Drinking Water System, corresponding Inspection Rating Report (IRR) and Risk Methodology document.


Section 19 of the Safe Drinking Water Act (Standard of Care) creates 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 system(s) 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 Councils" on the Drinking Water Ontario website at <https://www.ontario.ca/environment-and-energy/taking-care-your-drinking-water-guide-members-municipal-councils>.

The IRR is a summarized quantitative measure of the drinking water system's annual inspection and is published in the Ministry's Chief Drinking Water Inspector's Annual Report. The Risk Methodology document describes the risk rating methodology which has been applied to the findings of the Ministry's municipal residential drinking water system inspection results.

If you have any questions or concerns regarding the rating, please contact Adam Grant, Water Compliance Supervisor, at Adam.Grant@ontario.ca or (226)268-6258.

I would be pleased to answer any questions or provide additional clarification regarding the report.

Yours truly,



Andrew Winkler
Provincial Officer
London District Office

cc. Middlesex London Health Unit
Upper Thames River Conservation Area
MECP London District File



DORCHESTER DRINKING WATER SYSTEM
2620 DORCHESTER RD, THAMES CENTRE, ON, N0L 1G3
INSPECTION REPORT

Entity: MUNICIPALITY OF THAMES
CENTRE
Inspection Start Date: December 14, 2023
Inspection End Date: December 14, 2023
Inspected By: Andrew Winkler
Badge #: 1908



(signature)

NON-COMPLIANCE

The following item(s) have been identified as non-compliance, based on a "No" response captured for a legislative question(s). For additional information on each question see the Inspection Details section of the report.

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

Item	Question	Compliance Response/Corrective Action(s)
NC-1	<p>Question ID: DWMR1060000</p> <p>Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?</p>	<p>Compliance Response The operations and maintenance manuals did not meet the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.</p> <p>Observations The system owner's Operation and Maintenance Manual did not include a contingency plan and procedures with respect to the UVT malfunction event that occurred in September 2023. See question DWMR1039000 for more information.</p> <p>Corrective Actions After the UVT malfunction event in September 2023, a contingency plan with procedures was created. No further actions required at this time.</p>
NC-2	<p>Question ID: DWMR1039000</p> <p>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?</p>	<p>Compliance Response The owner and operating authority did not ensure that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.</p> <p>Observations The Dorchester Drinking Water System is equipped with Ultraviolet (UV) treatment equipment as part of the primary disinfection water treatment process. The Ultraviolet Transmittance (UVT) monitoring equipment tests water quality and relays information to a central computer that automatically adjusts UV dosage depending on the quality of incoming</p>

water.

Condition 1.6 of the MDWL requires UV Dose, Flow Rate, UV Transmittance & UV Lamp Status to be tested at least every five (5) minutes.

In September 2022, the UVT equipment malfunctioned and was unable to perform tests at least every five minutes as required by Condition 1.6 of the MDWL. Certified operators performed mitigating actions to ensure water quality was maintained during this event.

Corrective Actions

The system owner shall ensure that UVT tests are performed in accordance with Condition 1.6.2 under Schedule C in the MDWL.

The system owner is reminded that a written application may be submitted to the MECP's Permissions Branch with respect to amending UVT monitoring conditions in MDWL. However, conditions written in the most current MDWL issued by the ministry shall be complied with at all times.

RECOMMENDATIONS

The following item(s) have been identified as non-conformance, based on a "No" response captured for a best management practice (BMP) question(s). For additional information on each question see the Inspection Details section of the report.

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

Item	Question	Recommendation(s)
R-1	<p>Question ID: DWMR1116000</p> <p>Were the inspection questions sufficient to address other identified best practice issues?</p>	<p>Recommendation</p> <p>It is strongly recommended that the individuals who exercise decision-making authority over the Dorchester Drinking Water System implement further disinfection byproduct reduction measures forthwith.</p> <p>Observations</p> <p>In 2020, the Province of Ontario implemented sampling and testing requirements for haloacetic acids (HAA). The Ontario Drinking Water Quality Standards prescribes a Running Annual Average (RAA) limit for HAA. To reduce disinfection by-products in the Dorchester Drinking Water System, the services of third-party consultants were obtained to evaluate source water, operational, and treatment options.</p> <p>At the time of the site inspection, exploratory wells had been drilled in search of improved source water quality, operations staff implemented recommended operational changes, and a bench scale study that included new filtration treatment equipment was performed.</p> <p>Test results demonstrate that the RAA for HAA during this inspection period were marginally below the limit prescribed by the Ontario Drinking Water Quality Standards.</p>

INSPECTION DETAILS

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

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

Question ID	DWMR1001000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: What was the scope of this inspection?			
Compliance Response(s)/Corrective Action(s)/Observation(s): <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>1) 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.</p> <p>2) 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.</p> <p>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.</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</p>			

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.

3) 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 (MDWL) #059-102, Issue #5, Dated: November 23, 2020,
- Drinking Water Works Permit (DWWP) #059-202, Issue #5, Dated: November 23, 2020, and
- Permit To Take Water (PTTW) # 4306-C4NL8N, Dated: July 14, 2021.

4) System Components:

All locations associated with primary disinfection were visited as part of this inspection. The following sites were visited as part of the inspection of the drinking water system:

- Dorchester Drinking Water Treatment, and
- Dorchester elevated storage tank.

5) Facility Contacts and Dates:

The drinking water system is owned and operated by the Municipality of Thames Centre.

The system serves an estimated population of 5,678 and is categorized as a Large Municipal Residential System. Information reviewed for this inspection covered the time period of December 1, 2022 to December 14, 2023.

The ministry's Water Compliance Officer met with municipal staff as part of the inspection process.

Question ID	DWMR1000000	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Does this drinking water system provide primary disinfection?			
Compliance Response(s)/Corrective Action(s)/Observation(s): This drinking water system provides for both primary and secondary disinfection and distribution of water.			

Question ID	DWMR1007000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (1);			

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Wells are equipped with locked protective steel covers. Adequate grading was observed that prevented water from pooling around well casings. No immediate concerns were noted with respect to sources of contamination in proximity to the wells.

Question ID	DWMR1009000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | 31 | (1);

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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

Schedule B of the MDWL requires:

16.2.8 An inspection schedule for all wells associated with the drinking water system, including all production wells, standby wells, test wells and monitoring wells;

16.2.9 Well inspection and maintenance procedures that consider the entire well structure of each well including all above and below grade well components; and

16.2.10 Remedial action plans for situations where an inspection indicates noncompliance with respect to regulatory requirements and/or risk to raw well water quality.

Section 7.2.1 of the Dorchester Drinking Water System's Operations and Maintenance Manual and corresponding Well Inspection and Maintenance Plan memo (dated: December 17, 2018) address condition 16.2.8 – 16.2.10 in Schedule B of the MDWL.

Condition 7.4.3 of the MDWL requires a person certified under the Technical Standards and Safety Authority (TSSA) to inspect the standby generator's diesel fuel system at least every 12 months.

Question ID	DWMR1014000	Question Type	Legislative
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Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Is there sufficient monitoring of flow as required by the MDWL or DWWP issued under Part V of the SDWA?

Compliance Response(s)/Corrective Action(s)/Observation(s):

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.

In accordance with the DWWP, each of the nine (9) production wells are equipped with a flow meter to monitor water taking. Treated water sent to the distribution system is monitored by a flow meter on the common high lift discharge header. Additional flow meters are installed between the clear wells and filter bypass line, filter back wash line and waste backwash supernatant recovery line. Raw water entering the water treatment system and treated water entering the distribution system were monitored in litres per second (L/s) and cubic meters per day (m3/d).

Question ID	DWMR1016000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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 the MDWL defines "Rated Capacity" as the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system. The rated capacity for the Dorchester Drinking Water System is 7,776 m3/day. Records show the greatest volume of treated water that flowed to the distribution system was 3,746 m3 and occurred on May 28, 2023.			

Question ID	DWMR1018000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Has the owner ensured that all equipment is 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 had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.			

Question ID	DWMMR1020000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Is the owner/operating authority able to demonstrate that, when required during the inspection period, Form 1 documents were prepared in accordance with their Drinking Water Works Permit?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner/operating authority was in compliance with the requirement to prepare Form 1 documents as required by their Drinking Water Works Permit during the inspection period.			

Question ID	DWMMR1025000	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 (added, modified, replaced or extended) 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 in accordance with a procedure listed in Schedule B of the Drinking Water Works Permit. Disinfection records were provided for the following projects: <ul style="list-style-type: none"> - New watermain installations. - Watermain repairs, - Reservoir #2 inspection, maintenance, and repair. - Rehabilitation of well 2PW-1 & 3PW-8. 			

Question ID	DWMMR1023000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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.			

Generally stated, source water is available from nine (9) wells. Three (3) of the wells are categorized as groundwater and six (6) are categorized as groundwater under the direct influence (GUDI) of surface water with effective in-situ filtration. Sodium hypochlorite (liquid chlorine) is added to raw water entering the water treatment facility for primary disinfection and oxidation. Oxidation assists with iron and manganese removal as water flows through pressure filters in the next stage of treatment. Water then travels through Ultraviolet (UV) equipment for enhanced disinfection before entering two (2) reservoirs used for storage and contact time associated with primary disinfection. Chlorine residual is continuously monitored prior to treated water entering the distribution system.

Primary disinfection

The Dorchester Drinking Water System uses UV and chlorination for primary disinfection.

UV disinfection requirements

- UV dose > 40 mj/cm².
- UV transmittance > 80%.
- Maximum flow rate = 90 L/s.

SCADA data records demonstrate that UV dose was maintained at a concentration greater than 40 mj/cm², UV Transmittance greater than 80%, and flow was less than 90 L/s, while UV equipment was treating water. Except for UV Transmittance during the first eight (8) to nine (9) minutes of UV equipment start-up. The operations staff advised that the proprietary software for the UV system automatically transmits a default UV Transmittance reading of 70% for the first several minutes of UV equipment start-up. While the actual reading is in the typical 86 – 88% range. It is understood that the UV equipment and corresponding software are due for replacement in 2024.

Chlorination Requirements

According to the operations manual and corresponding CT calculations documents, parameters for achieving CT chlorination under two (2) operational scenarios include:

- 1) Two (2) reservoirs in operation – Normal Operation (minimum CT required = 4 mg/L*min)
 - Minimum chlorine residual after the reservoirs = 0.5 mg/L.
 - Minimum reservoir depth = 1.0 m.
 - Maximum water taken from each of the two (2) reservoirs = 45 L/s (2.7 m³/min).

Calculations provided by the system owner / operating authority demonstrate that a CT of 11.9 mg/L*min is achieved while operating under these parameters with two (2) reservoirs in operation.

- 2) One (1) reservoir in operation – Abnormal Operation (minimum CT required = 4 mg/L*min)
 - Minimum chlorine residual after the reservoirs = 0.5 mg/L.
 - Minimum reservoir depth = 1.0 m.
 - Maximum water taken from one (1) reservoir = 90 L/s (5.4 m³/min).

Calculations provided by the system owner / operating authority demonstrate that a CT of 6.0 mg/L*min is achieved while operating under these parameters with one (1) reservoir in operation.

Records reviewed demonstrate that low chlorine residual readings on February 14, 2023, June 14, 2023, October 11, 2023 and November 15, 2023 were attributed to equipment maintenance while water was not being directed to water users. Overall, SCADA data demonstrates that CT was achieved for the duration of this inspection period.

Question ID	DWMR1026000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. UV disinfection equipment is equipped with a shut-down mechanism that automatically shuts off the water feed pump in the event of a critical fault. Further, UV equipment is equipped with an alarm that notifies operators of unusual test data or critical fault (e.g.. UV malfunction, loss of power, or inadequate disinfection).			

Question ID	DWMR1024000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Do records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes 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 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. Chlorine added to water at the drinking water treatment plant is used for both primary and secondary disinfection. Chlorine residual test results obtained from the distribution system throughout the inspection period demonstrate that chlorination equipment was operated as required.			

Question ID	DWMR1033000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Is the secondary disinfectant residual measured as required for the large municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The secondary disinfectant residual was measured as required for the large municipal residential distribution system. Records demonstrate that operators met or exceeded the minimum chlorine residual sampling and testing requirements.			

Question ID	DWMR1030000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (1); SDWA O. Reg. 170/03 7-2 (2);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. Free chlorine residual is continuously monitored by an on-line analyzer installed after the contact reservoirs and prior to treated water leaving the water treatment facility.			

Question ID	DWMR1035000	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: Are operators examining continuous monitoring test results and are they examining the results within 72 hours of the test?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test. Operators used the SCADA system to examine operational data for the previous 24 hours on a daily basis.			

Question ID	DWMR1038000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-5 (1)1-4;			
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?			
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 specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format. Schedule 6-5 requires the final treated chlorine residual to be tested at least every five (5) minutes. If a test is performed more often than is required, the minimum, maximum and mean results shall also be recorded. Minimum, maximum and average free chlorine residual test results were provided for this inspection in one (1) minute intervals.			

Question ID	DWMR1037000	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; SDWA O. Reg. 170/03 6-5 (1.1);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. Alarms setpoints are set in SCADA for critical parameters such as free chlorine residual, reservoir level, UV Dose, and discharge flow. The system is also equipped with a low chlorine interlock that can automatically stop flow to the distribution system. The waterworks is also equipped with additional alarms such as effluent turbidity, water tower level, power interruptions, door entry etc.			

Question ID	DWMR1040000	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:

Are 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, in accordance with the manufacturer's instructions or the regulation.

Question ID	DWMR1108000	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; 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, 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?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
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.			
The system owner created a Low Chlorine Emergency Response Procedure (document # ES-DWS-SOP-004-003) for operators to follow if unusual chlorine readings occur. Operators maintain an Alarm Log Form that includes a summary of events. Additional event details are recorded in the facility logbook.			

Question ID	DWMR1039000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 1-6 (3);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
Compliance Response			
The owner and operating authority did not ensure that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.			
Observations			
The Dorchester Drinking Water System is equipped with Ultraviolet (UV) treatment equipment			

as part of the primary disinfection water treatment process. The Ultraviolet Transmittance (UVT) monitoring equipment tests water quality and relays information to a central computer that automatically adjusts UV dosage depending on the quality of incoming water.

Condition 1.6 of the MDWL requires UV Dose, Flow Rate, UV Transmittance & UV Lamp Status to be tested at least every five (5) minutes.

In September 2022, the UVT equipment malfunctioned and was unable to perform tests at least every five minutes as required by Condition 1.6 of the MDWL. Certified operators performed mitigating actions to ensure water quality was maintained during this event.

Corrective Actions

The system owner shall ensure that UVT tests are performed in accordance with Condition 1.6.2 under Schedule C in the MDWL.

The system owner is reminded that a written application may be submitted to the MECP's Permissions Branch with respect to amending UVT monitoring conditions in MDWL. However, conditions written in the most current MDWL issued by the ministry shall be complied with at all times.

Question ID	DWMR1109000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-6 (1);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): 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. The system owner created a UV Critical Alarm Response (document #: ES-DWS-SOP-004-001) standard operating procedure for operators to follow. Operators maintain an Alarm Log Form that includes a summary of events. Additional event details are recorded in the facility logbook.			

Question ID	DWMR1042000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
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?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All UV sensors were checked and calibrated as required.

Records demonstrate that a third-party technician checked the UV sensors against a reference UV sensor every six (6) months (May & November 2023). Operators performed UV sensor checks monthly, for the remaining 10 months of the year. A third-party verifies the accuracy the reference sensors against a master reference assembly at least every three (3) years. Recent tests occurred in January 2020 and November 2022.

Question ID	DWMR1081000	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:			
For LMR systems, are all microbiological water quality monitoring requirements for distribution samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
All microbiological water quality monitoring requirements prescribed by legislation for distribution samples in a large municipal residential system were being met.			
Section 10-2. of O. Reg. 170/03 required at least eight (8) distribution samples taken for a system that serves a population less than 100,000, plus an additional sample for every 1,000 people served by the system, monthly. With at least one (1) of the samples collected each week. Each sample shall be tested for E.coli and total coliforms. While 25% of required samples shall be tested for general bacteria expressed as Heterotrophic Plate Count (HPC).			
Information provided to the ministry by the system owner indicated that a population of 5,678 was serviced by the drinking water system. Therefore, a minimum of 13 distribution samples shall be taken and tested in accordance with section 10-2 monthly.			

Question ID	DWMR1083000	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Reg. 170/03 10-3;			
Question:			
For LMR systems, are all microbiological water quality monitoring requirements for treated samples being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s):			
All microbiological water quality monitoring requirements prescribed by legislation for treated samples were being met.			

Schedule 10-3 of regulation 170/03 required at least one treated water sample taken and tested for E.coli, total coliforms & general bacteria expressed as Heterotrophic Plate Count weekly.

Question ID	DWMR1096000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-3 (1);			
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?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained. Operators record free chlorine residual test results on chain of custody paperwork submitted to the laboratory.			

Question ID	DWMR1084000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-2;			
Question: Are all inorganic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-2 of O. Reg. 170/03 requires the Dorchester Drinking Water System to collect at least one sample and test for the inorganic parameters identified in Schedule 23 every 12 months. Records demonstrate that the last two sampling events occurred on February 15, 2022, and February 15, 2023.			

Question ID	DWMR1085000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-4 (1); SDWA O. Reg. 170/03 13-4 (2); SDWA O. Reg. 170/03 13-4 (3);			
Question: Are all organic water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All organic water quality monitoring requirements prescribed by legislation were conducted			

within the required frequency.

Section 13-4 of O. Reg. 170/03 requires the Dorchester Drinking Water System to collect at least one sample and test for the organic parameters identified in Schedule 24 every 12 months. Records demonstrate that the last two sampling events occurred on February 15, 2022, and February 15, 2023.

Question ID	DWMMR1086000	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: Are all haloacetic acid water quality monitoring requirements prescribed by legislation conducted within the required frequency and at the required location?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All haloacetic acid water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Section 13-6.1 of O. Reg. 170/03 requires at least one sample taken from the distribution system or plumbing connected to the drinking water system in each calendar quarter and tested for haloacetic acids. Records demonstrate that samples were collected on November 15, 2022, February 15, 2023, May 16, 2023, August 15, 2023, and November 15, 2023.			

Question ID	DWMMR1087000	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: Have all trihalomethane water quality monitoring requirements prescribed by legislation been conducted within the required frequency and at the required location?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Section 13-6 of O. Reg. 170/03 requires at least one sample collected from the distribution system or plumbing connected to the drinking water system in each calendar quarter and tested for trihalomethanes. See question DWMMR1094000 in this report for additional monitoring requirements.			

Question ID	DWMMR1088000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-7;			
Question: Are all nitrate/nitrite water quality monitoring requirements prescribed by legislation conducted within the required frequency for the DWS?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-7 of O. Reg. 170/03 required at least one sample taken every three (3) months and tested for nitrate and nitrite. Records demonstrate that samples were collected on November 15, 2022, February 15, 2023, May 16, 2023, August 15, 2023, and November 15, 2023.			

Question ID	DWMMR1089000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-8;			
Question: Are all sodium water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-8 of O. Reg. 170 required at least one sample taken every 60 months and tested for sodium. Records demonstrate that a sodium sample was collected on February 21, 2020.			

Question ID	DWMMR1090000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-9;			
Question: Where fluoridation is not practiced, are all fluoride water quality monitoring requirements prescribed by legislation conducted within the required frequency?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency. Section 13-9 of O. Reg. 170 required at least one sample taken every 60 months and tested for fluoride. Records demonstrate that a fluoride sample was collected on February 15, 2022.			

Question ID	DWMR1094000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Are all water quality monitoring requirements imposed by the MDWL and DWWP being met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were being met. Table 5 in Schedule C of the Municipal Drinking Water Licence (MDWL) requires at least one water sample be taken from the farthest point in the distribution system and tested for trihalomethanes monthly.			

Question ID	DWMR1060000	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Compliance Response The operations and maintenance manuals did not meet the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA. Observations The system owner's Operation and Maintenance Manual did not include a contingency plan and procedures with respect to the UVT malfunction event that occurred in September 2023. See question DWMR1039000 for more information. Corrective Actions After the UVT malfunction event in September 2023, a contingency plan with procedures was created. No further actions required at this time.			

Question ID	DWMR1062000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;			
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?			

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 being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.

Question ID	DWMR1071000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Has the owner provided security measures to protect components of the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The owner had provided security measures to protect components of the drinking water system. Water stations are equipped with mechanical and electrical security measures.			

Question ID	DWMR1073000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Has the overall responsible operator been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The overall responsible operator had been designated for each subsystem.			

Question ID	DWMR1074000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Have operators-in-charge been designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge had been designated for all subsystems which comprise the drinking water system.			

Question ID	DWMR1075000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			

<p>Question: Do all operators possess the required certification?</p>
<p>Compliance Response(s)/Corrective Action(s)/Observation(s): All operators possessed the required certification.</p>

Question ID	DWMMR1076000	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Do only certified operators make adjustments to the treatment equipment?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Only certified operators made adjustments to the treatment equipment. Entries in the facility logbook demonstrate that only certified operators made process adjustments.			

Question ID	DWMMR1116000	Question Type	BMP
Legislative Requirement(s): Not Applicable			
Question: Were the inspection questions sufficient to address other identified best practice issues?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Recommendation It is strongly recommended that the individuals who exercise decision-making authority over the Dorchester Drinking Water System implement further disinfection byproduct reduction measures forthwith. Observations In 2020, the Province of Ontario implemented sampling and testing requirements for haloacetic acids (HAA). The Ontario Drinking Water Quality Standards prescribes a Running Annual Average (RAA) limit for HAA. To reduce disinfection by-products in the Dorchester Drinking Water System, the services of third-party consultants were obtained to evaluate source water, operational, and treatment options. At the time of the site inspection, exploratory wells had been drilled in search of improved source water quality, operations staff implemented recommended operational changes, and a bench scale study that included new filtration treatment equipment was performed. Test results demonstrate that the RAA for HAA during this inspection period were marginally below the limit prescribed by the Ontario Drinking Water Quality Standards.			



Key Reference and Guidance Material for Drinking Water Systems

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 in the table 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/drinkingwater



PUBLICATION TITLE	PUBLICATION NUMBER
FORMS: Drinking Water System Profile Information Laboratory Services Notification Adverse Test Result Notification	012-2149E 012-2148E 012-4444E
Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils	Website
Procedure for Disinfection of Drinking Water in Ontario	Website
Strategies for Minimizing the Disinfection Products Trihalomethanes and Haloacetic Acids	Website
Filtration Processes Technical Bulletin	Website
Ultraviolet Disinfection Technical Bulletin	Website
Guide for Applying for Drinking Water Works Permit Amendments, & License Amendments	Website
Certification Guide for Operators and Water Quality Analysts	Website
Guide to Drinking Water Operator Training Requirements	9802E
Community Sampling and Testing for Lead: Standard and Reduced Sampling and Eligibility for Exemption	Website
Drinking Water System Contact List	7128E01
Ontario's Drinking Water Quality Management Standard - Pocket Guide	Website
Watermain Disinfection Procedure	Website
List of Licensed Laboratories	Website

Principaux guides et documents de référence sur les réseaux résidentiels municipaux d'eau potable

De nombreux documents utiles peuvent vous aider à exploiter votre réseau d'eau potable. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants de réseaux résidentiels municipaux d'eau potable utilisent fréquemment. Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web. Communiquez avec le ministère au 1-866-793-2588, ou encore à waterforms@ontario.ca si vous avez des questions ou besoin d'aide.



Pour plus de renseignements sur l'eau potable en Ontario, consultez le site www.ontario.ca/eaupotable

TITRE DE LA PUBLICATION	NUMÉRO DE PUBLICATION
Renseignements sur le profil du réseau d'eau potable	012-2149F
Avis de demande de services de laboratoire	012-2148F
Avis de résultats d'analyse insatisfaisants et de règlement des problèmes	012-4444F
Prendre soin de votre eau potable - Un guide destiné aux membres des conseils municipaux	Site Web
Marche à suivre pour désinfecter l'eau potable en Ontario	Site Web
Stratégies pour minimiser les trihalométhanes et les acides haloacétiques de sous-produits de désinfection	Site Web
Filtration Processes Technical Bulletin (en anglais seulement)	Site Web
Ultraviolet Disinfection Technical Bulletin (en anglais seulement)	Site Web
Guide de présentation d'une demande de modification du permis d'aménagement de station de production d'eau potable	Site Web
Guide sur l'accréditation des exploitants de réseaux d'eau potable et des analystes de la qualité de l'eau de réseaux d'eau potable	Site Web
Guide sur les exigences relatives à la formation des exploitants de réseaux d'eau potable	9802F
Échantillonnage et analyse du plomb dans les collectivités : échantillonnage normalisé ou réduit et admissibilité à l'exemption	Site Web
Liste des personnes-ressources du réseau d'eau potable	Site Web
L'eau potable en Ontario - Norme de gestion de la qualité - Guide de poche	Site Web
Procédure de désinfection des conduites principales	Site Web
Laboratoires autorisés	Site Web

Ontario



**Ministry of the Environment, Conservation and Parks
Drinking Water System Inspection Report
Appendix B**

Risk Methodology and Inspection Summary Rating Record

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection

results since fiscal year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains 15 inspection modules consisting of approximately 100 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

ontario.ca/drinkingwater

The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system’s operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry’s annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

Determining Potential to Compromise the Delivery of Safe Water

The risk management approach used for MRDWS is aligned with the Government of Ontario’s Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

$$\text{RISK} = \text{LIKELIHOOD} \times \text{CONSEQUENCE}$$

(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:	
Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 – 10% (Unlikely)	L = 1
11 – 49% (Possible)	L = 2
50 – 89% (Likely)	L = 3
90 – 100% (Almost Certain)	L = 4

TABLE 2:	
Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:							
Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely)	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely)	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their “yes”, “no” or “not applicable” responses into the Ministry’s Laboratory and Waterworks Inspection System (LWIS) database. A “no” response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

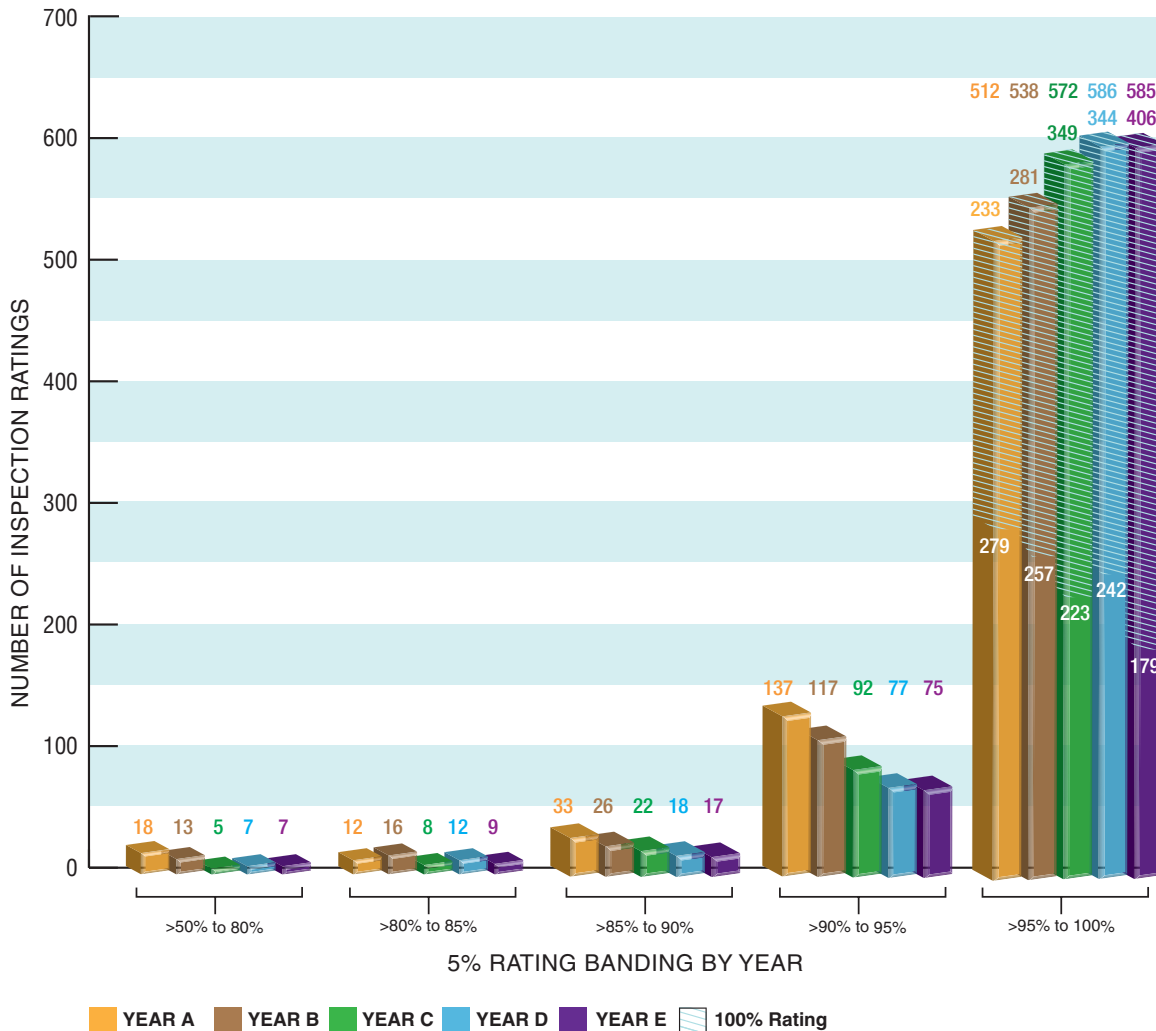
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry's Chief Drinking Water Inspector's Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 15 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 15 modules are:

- | | | | |
|-------------------------|---------------------------------|--|--|
| 1. Source | 5. Treatment Process Monitoring | 9. Logbooks | 13. Water Quality Monitoring |
| 2. Permit to Take Water | 6. Process Wastewater | 10. Contingency and Emergency Planning | 14. Reporting, Notification and Corrective Actions |
| 3. Capacity Assessment | 7. Distribution System | 11. Consumer Relations | 15. Other Inspection Findings |
| 4. Treatment Processes | 8. Operations Manuals | 12. Certification and Training | |

For further information, please visit www.ontario.ca/drinkingwater

Ministry of the Environment, Conservation and Parks - Inspection Summary Rating Record (Reporting Year - 2023-24)

DWS Name: DORCHESTER DRINKING WATER SYSTEM
DWS Number: 220002146
DWS Owner: MUNICIPALITY OF THAMES CENTRE
Municipal Location: THAMES CENTRE

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Dec-14-2023
Ministry Office: London District Office

Maximum Risk Rating: 500

Inspection Module	Non Compliance Risk (X out of Y)
Capacity Assessment	0/30
Certification and Training	0/42
Logbooks	0/14
Operations Manuals	14/14
Reporting & Corrective Actions	0/42
Source	0/14
Treatment Processes	4/232
Water Quality Monitoring	0/112
Overall - Calculated	18/500

Inspection Risk Rating: 3.60%

Final Inspection Rating: 96.40%

Ministry of the Environment, Conservation and Parks - Detailed Inspection Rating Record (Reporting Year - 2023-24)

DWS Name:	DORCHESTER DRINKING WATER SYSTEM
DWS Number:	220002146
DWS Owner Name:	MUNICIPALITY OF THAMES CENTRE
Municipal Location:	THAMES CENTRE

Regulation:	O.REG. 170/03
DWS Category:	DW Municipal Residential
Type of Inspection:	Focused
Inspection Date:	Dec-14-2023
Ministry Office:	London District Office

Non-Compliance Question(s)	Non Compliance Risk
Operations Manuals	
Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?	14
Treatment Processes	
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?	4
Overall - Total	18

Maximum Question Rating: 500

Inspection Risk Rating: 3.60%

FINAL INSPECTION RATING: 96.40%