

Ministry of the Environment,
Conservation and Parks
Drinking Water and Environmental
Compliance Division
West Central Region
Guelph District Office

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September 12th, 2023

Ms. Brooke Lambert
Chief Administrative Officer
The Township of Wellington North
PO Box 125
7490 Sideroad 7W
Kenilworth, Ontario
N0G 2E0

Dear Ms. Lambert,

SUBJECT : 2023 MECP Inspection Report – Mt. Forest Well Supply (DWS # 220000068)

Please find enclosed the Ministry of the Environment, Conservation and Parks ('MECP' or the 'Ministry') Inspection Report for the inspection of the Mt. Forest WS, which was recently conducted.

Enclosed is a copy of the inspection report prepared for the Mt. Forest Well Supply system under the Ministry's focused inspection protocol to assess compliance with the Safe Drinking Water Act (SDWA) legislation. The report is based on conditions encountered at the time of inspection / subsequent follow-up.

Any items under the heading "*Non-Compliance with Regulatory Requirements and Actions Required*" are linked to incidents of non-compliance with regulatory requirements contained within the Act, a Regulation, or site-specific Approvals, Licences, Permits, Orders or instructions.

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

<http://www.ontario.ca/environment-and-energy/taking-care-your-drinking-water-guide-members-municipal-councils>.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts.

2023 Mt. Forest Inspection Report
Page 2.

The Inspection Risk Rating report (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 regarding any other aspects of this report, please feel free to contact myself or the Drinking Water Supervisor (Lisa Williamson) at this office at (519) 826-4255.

Thankyou.

Yours truly,

A handwritten signature in black ink, appearing to read 'Rick Neubrand', written in a cursive style.

Rick Neubrand
Senior Environmental Officer / Inspector
Ministry of the Environment, Conservation and Parks
Drinking Water and Environmental Compliance Division
Guelph District Office

Encl: Reports (1)

CC

: Shari Dahmer - GRCA
: Phil Wong – WDGHU
: Corey Schmidt - TWN
: Sara McDougall – TWN
: Lisa Williamson - MECF



MOUNT FOREST DRINKING WATER SYSTEM
393 PARKSIDE DR, WELLINGTON NORTH, ON, N0G 2L3
INSPECTION REPORT

System Number: 220000068
Entity: CORPORATION OF THE COUNTY
OF WELLINGTON
Inspection Start Date: August 17, 2023
Inspection End Date: September 12, 2023
Inspected By: Rick Neubrand
Badge #: 773



(signature)

INTRODUCTION

Purpose

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

Scope

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

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

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

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

Facility Contacts and Dates

This drinking water system (DWS) is owned and operated by; The Township of Wellington North

The system serves an estimated population of 5040 people and is categorized as a Large Municipal Residential System. Information reviewed for this inspection covered the time period of August 25th, 2022 to August 24th, 2023.

Systems/Components

All locations associated with primary disinfection were visited as part of this inspection, as well as some distribution system components. These included the following locations;

- Pumphouse # 3 with Well 3
- Pumphouse # 4 with Well 4
- Pumphouse # 5 with Well 5
- Pumphouse # 6 with Well 6
- Booster Station at Well 3 pumphouse
- Standpipe at Well 3 pumphouse

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 (DWL) # 113-102, Issue #3
- Municipal Drinking Water Works Permit (DWWP) #113-202, Issue # 3
- Permit To Take Water (PTTW) # 4453-ANMHPC

NON-COMPLIANCE

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

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

No non-compliance noted in this inspection.

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 | Question ID: DWMR1116000 Were the inspection questions sufficient to address other identified best practice issues? | <p>The following issue was also noted during the inspection:</p> <p>In all pumphouses, it is noted that the raw water sample tap is in close proximity to the chlorination injection point. If a raw water sample is taken when the well pump is not running, it may get chlorinated water backfeeding from the water line after the injection point. The owner has advised that they are aware of this and have developed a procedure which is written in the 'Mount Forest Operations Manual' under section 3.4.</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 | 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. Primary disinfection occurs in 4 pumphouses in the drinking water system (DWS) and consists of chlorination utilizing sodium hypochlorite. | | | |

| 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. All wells are located within pumphouses having concrete floors surrounding the wellheads, so are protected from external elements. The original water well records (WWR) for Well 3 (WWR #A001055 (formerly #6701749), Well 4 (WWR #6701750), Well 5 (WWR #6703148), and Well 6 (WWR #6706988), did not include information on annular seals. Records for modifications made to Well 3 in 2005 show that the bottom of the well was sealed with 'benseal' and cement from 73.8 m to 123 m. WWR #2515102 shows partial abandonment of Well 5, with pea stones and hole plug from 140 ft to 394 ft. Raw water sample results do not indicate the influence of surface water for any of the production wells. Sections 16.2.8 - 16.2.9 of Schedule B in the MDWL requires that an inspection schedule for all wells (associated with the drinking water system) be included in the operations and maintenance manual. There must be inspection and maintenance procedures for the entire well structure of each well including all above and below grade components, and remedial action plans for | | | |

situations where an inspection indicates non-compliance with respect to regulatory requirements and/or risk to raw well water quality.

The Township of Wellington North has established a well inspection program that includes inspections of the production wells on an annual basis. A detailed assessment of the wells, including below grade components, is to be scheduled approximately every 10 years, if feasible. Below grade assessments were last completed for Wells 3, 4, 5, and 6 in 2022, 2012, 2018 and 2011 respectively.

| Question ID | DWMR1009000 | Question Type | Legislative |
|---|-------------|---------------|-------------|
| 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. | | | |

| Question ID | DWMR1014000 | Question Type | Legislative |
|--|-------------|---------------|-------------|
| 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. Each well is equipped with one flow meter, which serves to measure both the raw and treated water volumes, since the treatment system is simple and water basically flows directly from the wells through to the contact mains, after being injected with sodium hypochlorite for disinfection. | | | |

| 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.

Schedule C, Section 1.0 of the MDWL lists the following rated capacities for the wells in the Mount Forest DWS:

Wellhouse 3 - 1,637 m³/day

Wellhouse 4 - 1,964 m³/day

Wellhouse 5 - 3,928 m³/day

Wellhouse 6 - 3,928 m³/day

Records provided indicate these rated capacities were not exceeded during the inspection review period, except during momentary periods of routine maintenance, water main flushing or water main repairs / breaks.

| 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. A comparison of equipment on site to that what is listed in the DWWP did match. | | | |

| Question ID | DWMR1020000 | 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. Two form 1's were prepared for water main installations on Cork Street, as well as Jack and Birmingham Streets. | | | |

| Question ID | DWMR1021000 | 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 2 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 2 documents as required by their Drinking Water Works Permit during the inspection period.

One Form 2 was prepared for the replacement of a water well pump at Well 3.

| Question ID | DWMR1114000 | Question Type | Legislative |
|---|-------------|---------------|-------------|
| Legislative Requirement(s): | | | |
| SDWA 31 (1); | | | |
| Question: | | | |
| Does the owner have evidence that, when required, all legal owners associated with the DWS were notified of the requirements of the Licence & Permit? | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): | | | |
| The owner had evidence that required notifications to all legal owners associated with the Drinking Water System had been made during the inspection period. | | | |
| The owner has advised that all engineers / developers must comply with the Township's Municipal Servicing Standards, which states the following under section E2: "Developer's Engineer must comply with the requirements of the Ontario Safe Drinking Water Act (SDWA) and all applicable regulations made in accordance to the act, including but not limited to the Drinking Water Works Permits (DWWP) and the Municipal Drinking Water Licence (MDWL). The DWWP and MDWL are available from the Township's Water Department and it is the responsibility of the developer's engineer to obtain copies as necessary." | | | |
| Please see link below to Township of Wellington North Municipal Servicing Standards on the township website. | | | |
| https://www.wellington-north.com/sites/default/files/2023-04/WN%20Municipal%20Standards-2023%20Update-Final.pdf | | | |

| Question ID | DWMR1025000 | 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.

Staff provided documentation (3 incidents) which indicates that they follow all required American Water Works Association (AWWA) procedures and the 'Ontario Watermain Disinfection Procedure' (OWDP).

| Question ID | DWWMR1023000 | 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. The Mount Forest DWS obtains water from ground water sources. The treatment system consists of disinfection using chlorine (sodium hypochlorite) and is capable of achieving an overall performance that provides, at a minimum, 2-log (99%) removal or inactivation of viruses prior to the first consumer. An examination of records indicated that proper treatment appeared to have occurred during the inspection period. | | | |

| Question ID | DWWMR1024000 | 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. Chlorination pumps appear to have been working as required. If they fail, the free chlorine residual (FCR) continuous analyzers will detect low chlorine values and shut down well pumps if | | | |

such values drop below their pre-programmed limits.

| 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. Distribution system FCRs were measured on a daily basis (grab samples) during the inspection review period. Sampling locations varied within the distribution system. | | | |

| 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. All chlorination injection points are in the main piping header before water gets directed to the contact chambers outside the pumphouses. Free chlorine residuals are monitored at each of the pumphouses by two continuous analyzers. The first being at the inlet of the contact main ('pre'-chlorination continuous analyzer) and the second at the outlet of the contact main ('post'-chlorination continuous analyzer). The post chlorine analyzers are considered as the ones for regulatory assessment purposes. | | | |

| 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 check the Supervisory Control and Data Acquisition (SCADA) system daily and write notes in the site logbooks of their reviews. As well, the SCADA system creates a daily printout (at main office) which the operators check and sign as well. If issues arise, the operators print out the trending of the data and label such trending according to logbook notes.

| 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. Data is recorded at both 1 minute and 5 minute intervals. In reviewing Supervisory Control and Data Acquisition (SCADA) system data, the owner provided backup data from on-site historians for any omissions from broadcast channel data as well. | | | |

| 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. Low chlorine residual alarms are programmed for both pre-contact piping and post-chlorine contact piping to alert the operator if the chlorine residual level drops. If the pre or post-contact piping FCR levels drop below 0.65 mg/L, a remote alarm will occur and the well pumps are programmed to lock out. An operator will respond to the DWS as well. | | | |

| 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. Portable colourimeters are used to calibrate the FCR continuous analyzers. Portable colourimeters are professionally calibrated annually and were last calibrated on February 14, 2023. The FCR online analyzers were last professionally checked on February 22, 2023. All were found to be operating within acceptable standards. | | | |

| 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. | | | |

| Question ID | DWMR1099000 | Question Type | Information |
|---|-------------|---------------|-------------|
| Legislative Requirement(s): Not Applicable | | | |
| 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)? | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): Records did not 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).

As mentioned earlier in this report, an AWQI occurred in which a drinking water sample had elevated total coliform (TC) bacteria count (TC=2). A resample of this sampling location found it to be at 0 TC.

| 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. Schedule 10 of Reg 170 requires this site to be taking at least 12 distribution samples per month. The owner was averaging 16 - 20 samples per month. | | | |

| 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 of Reg 170 requires this site to be taking four treated water samples per week (one from each pumphouse). The owner was performing this sampling. | | | |

| 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.

| 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. Inorganic parameters were previously sampled for on January 11, 2016 and January 14, 2019 at all 4 pumphouses. The latest sampling occurred on January 24, 2022. No exceedances were noted. Inorganic parameters are required to be tested once every 36 months. | | | |

| 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. Organic parameters were previously sampled for on January 11, 2016 and January 14, 2019 at all 4 pumphouses. The latest sampling occurred on January 24, 2022. No exceedances were noted. Organic parameters are required to be tested once every 36 months. | | | |

| Question ID | DWMR1086000 | 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.

HAAs were sampled last in the distribution system on the following dates:

- Nov 7, 2022
- Feb 13, 2023
- and
- May 8, 2023

All samples were found to be at 5.3 ug/L, same as the last two inspections.

HAAs are required to be sampled every calendar quarter.

| Question ID | DWMR1087000 | 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. | | | |
| THMs were sampled last in the distribution system on the following dates: | | | |
| <ul style="list-style-type: none"> - Nov 7, 2022 - Feb 13, 2023 and - May 8, 2023 | | | |
| The Annual Running Average (ARA) was found to be 17.75 ug/L. | | | |
| This sample parameter is required to be sampled every 3 months. | | | |

| Question ID | DWMR1088000 | 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.

Nitrates / Nitrites were sampled last at the treated water entry points of both pumphouses on the following dates:

- November 7, 2022
- February 13, 2023
- and
- May 8, 2023

The nitrate levels ranged from 0.0006 mg/L to 2.17 mg/L. Well 5 had the highest levels of nitrates at 2.17 mg/L. The limit is 10 mg/L.

This parameter is required to be sampled for every three months.

| Question ID | DWMR1089000 | 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. Sodium was last sampled at all pumphouses on September 10, 2018, and results exceeded the 20 mg/L reportable limit at well 5 (61.2 mg/L) and well 3 (21.3 mg/L). An adverse water quality incident (AWQI) was reported (# 142905), with resampling conducted on September 18, 2018. Resample results confirmed the levels were greater than 20 mg/L (63.4 and 21.1 mg/L) at wellhouses 3 and 5. Sodium levels at Well 4 and Well 6 were within acceptable limits at 12.3 mg/L and 11.7 mg/L respectively. Sodium levels are required to be tested once every 5 years. | | | |

| Question ID | DWMR1090000 | 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.

Sampling for fluoride was last conducted at all pumphouses on September 9, 2013 and September 10, 2018. No exceedances were noted. The maximum level noted was 1.34 mg/L at Well 6. The limit is 1.5 mg/L. Fluoride is required to be tested once every 5 years.

| Question ID | DWMR1101000 | Question Type | Legislative |
|--|-------------|---------------|-------------|
| Legislative Requirement(s): | | | |
| 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; | | | |
| 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? | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): | | | |
| 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 | DWMR1104000 | Question Type | Legislative |
|---|-------------|---------------|-------------|
| Legislative Requirement(s): | | | |
| 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); | | | |
| Question: | | | |
| Were all required verbal notifications of adverse water quality incidents immediately provided as per O. Reg. 170/03 16-6? | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): | | | |
| All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6. | | | |

| Question ID | DWMR1113000 | Question Type | Legislative |
|-------------------------------------|-------------|---------------|-------------|
| Legislative Requirement(s): | | | |
| SDWA O. Reg. 170/03 10.1 (3); | | | |

Question:

Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?

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

All changes to the system registration information were provided within ten (10) days of the change.

| Question ID | DWMR1059000 | Question Type | Legislative |
|---|-------------|---------------|-------------|
| Legislative Requirement(s): SDWA O. Reg. 128/04 28; | | | |
| Question: Do the operations and maintenance manuals contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system? | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system. These manuals were checked in detail in a previous inspection. The owner reported no new changes to the DWSs or the Operations Manuals during this inspection period. | | | |

| 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): 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 | DWMR1061000 | Question Type | Legislative |
|---|-------------|---------------|-------------|
| Legislative Requirement(s): 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); | | | |
| Question: Are logbooks properly maintained and contain the required information? | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): | | | |

Logbooks were properly maintained and contained the required information.

| 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. Pumphouses are well illuminated and have remote-notification security systems in place. Some pumphouses are protected within fenced-in compounds. All pumphouses also have updated SCADA systems in place which also provide remote notifications of any process upsets. Operators also keep vigilant for security concerns and possible changes when visiting sites. | | | |

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

| Question ID | DWMR1076000 | 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. | | | |

| Question ID | DWMR1116000 | 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): The following issue was also noted during the inspection: In all pumphouses, it is noted that the raw water sample tap is in close proximity to the chlorination injection point. If a raw water sample is taken when the well pump is not running, it may get chlorinated water backfeeding from the water line after the injection point. The owner has advised that they are aware of this and have developed a procedure which is written in the 'Mount Forest Operations Manual' under section 3.4. | | | |

DWS – Stakeholder Guidance Material Reference Sheet

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 |

DWS – DWS Inspection Rating Report and Risk Methodology statement

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

DWS Name: MOUNT FOREST DRINKING WATER SYSTEM
DWS Number: 220000068
DWS Owner: CORPORATION OF THE COUNTY OF WELLINGTON
Municipal Location: GUELPH

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Aug-17-2023
Ministry Office: Guelph District Office

Maximum Risk Rating: 515

| Inspection Module | Non Compliance Risk (X out of Y) |
|--------------------------------|----------------------------------|
| Capacity Assessment | 0/30 |
| Certification and Training | 0/42 |
| Logbooks | 0/18 |
| Operations Manuals | 0/28 |
| Reporting & Corrective Actions | 0/74 |
| Source | 0/14 |
| Treatment Processes | 0/197 |
| Water Quality Monitoring | 0/112 |
| Overall - Calculated | 0/515 |

| | |
|--------------------------------|--------------|
| Inspection Risk Rating: | 0.00% |
|--------------------------------|--------------|

| | |
|---------------------------------|----------------|
| Final Inspection Rating: | 100.00% |
|---------------------------------|----------------|

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

DWS Name: MOUNT FOREST DRINKING WATER SYSTEM
DWS Number: 220000068
DWS Owner Name: CORPORATION OF THE COUNTY OF WELLINGTON
Municipal Location: GUELPH

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Inspection Date: Aug-17-2023
Ministry Office: Guelph District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 515

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 100.00%

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:

RISK = LIKELIHOOD × 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).

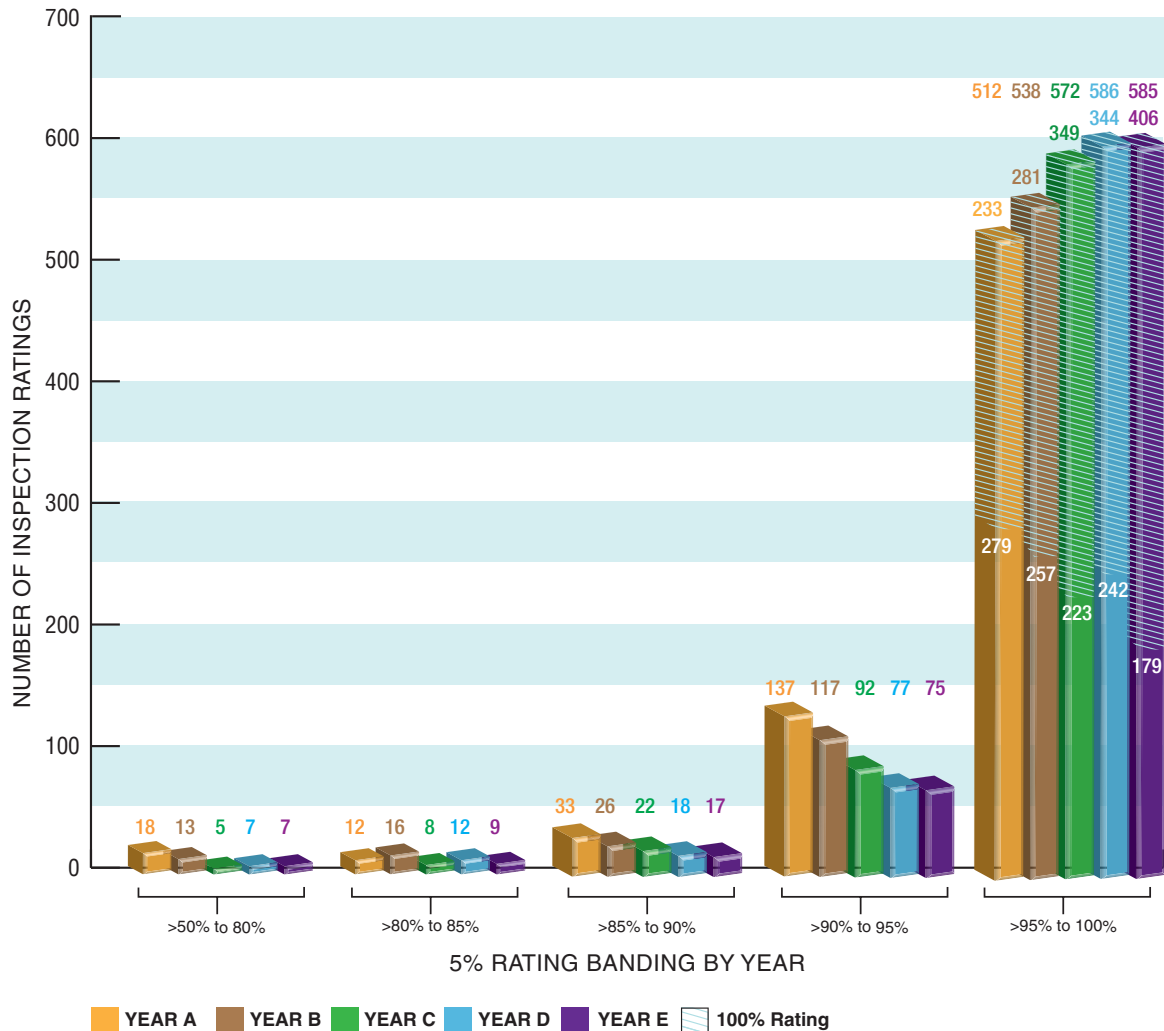
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

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

2. Permit to Take Water

3. Capacity Assessment

4. Treatment Processes
5. Treatment Process Monitoring

6. Process Wastewater

7. Distribution System

8. Operations Manuals
9. Logbooks

10. Contingency and Emergency Planning

11. Consumer Relations

12. Certification and Training
13. Water Quality Monitoring

14. Reporting, Notification and Corrective Actions

15. Other Inspection Findings

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