

Ministry of the Environment, **Conservation and Parks**

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

Drinking Water and Environmental

Division de la conformité en matière d'eau

Compliance Division

potable et d'environnement

Southwest Region 733 Exeter Road London, ON N6E 1L3 Phone: 519-873-5000

Région Sud-Ouest 733 rue Exeter London, ON N6E 1L3 Tél: 519-873-5000

October 29, 2024

The Corporation of the Township of Southwold 35663 Fingal Line Fingal, ON NOL 1K0

Attention: Aaron Vanoorspronk, Director of Infrastructure and Development Services

Re: Southwold Distribution System Inspection Report (#210001362)

Enclosed is the Drinking Water Inspection Report and the corresponding Inspection Rating Report (IRR) and Risk Methodology document for the above noted water system.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils" on the Drinking Water Ontario website at https://www.ontario.ca/environment-and-energy/taking-care-yourdrinking-water-quide-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 Mark Smith, Water Compliance Supervisor, at 519-317-8116.

Sincerely,

M.Morgan

Meghan Morgan Provincial Officer, Water Inspector London District Office Meghan.Morgan@ontario.ca

cc. Southwestern Public Health Unit Lower Thames Valley Conservation Authority





SOUTHWOLD DISTRIBUTION SYSTEM Physical Address: 35663 FINGAL LINE, ,

SOUTHWOLD, ON NOL 1K0

INSPECTION REPORT

Entity: ONTARIO CLEAN WATER

AGENCY

CORPORATION OF THE TOWNSHIP OF SOUTHWOLD

Inspection Start Date: July 30, 2024

Inspection End Date: September 17, 2024 Inspected By: Meghan Morgan

Badge #: 1315

(signature)

M. Morgan



INTRODUCTION

Purpose

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

Scope

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

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

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

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

Facility Contacts and Dates

The drinking water system is owned by The Corporation of the Township of Southwold and operated by the Ontario Clean Water Agency.

The system serves an estimated population of 4395 and is categorized as a Large Municipal Residential System. Information reviewed for this inspection covered the time period of October 1, 2023 to June 30, 2024.

Systems/Components

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

Event Number: 1-329621545 Page **2** of **13**

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



Treated water is received from the Elgin Area Primary Water Supply by way of the St. Thomas Area Secondary Water Supply System, St. Thomas Water Distribution System and the Central Elgin Distribution System. The Southwold Distribution System provides secondary disinfection boosting and pressure boosting for the drinking water system.

The Elgin Area Primary Water Supply system is inspected separately from this drinking water system.

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 #055-101, Issue #3 Drinking Water Works Permit #055-201, Issue #4

Event Number: 1-329621545 Page **3** of **13**



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.

Event Number: 1-329621545 Page **4** of **13**



RECOMMENDATIONS

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

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

Event Number: 1-329621545 Page **5** of **13**



INSPECTION DETAILS

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

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

| Question ID | DWMR1018001 Question Type Legislative | | | | | |
|--|---------------------------------------|--|--|--|--|--|
| Legislative Requirement(s): SDWA 31 (1); | | | | | | |
| Question: Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit? | | | | | | |
| Compliance Response(s)/Corrective Action(s)/Observation(s): The owner ensured that equipment was installed as required. | | | | | | |

| Question ID D | WMR1020001 | Question Type | Legislative |
|--|------------|----------------------|-------------|
| Legislative Requirement(s): SDWA 31 (1); | | | |

Question:

Were Form 1 documents prepared as required?

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

Form 1 documents were prepared as required.

The owner completed one "Form 1 – Record of Watermains Authorized as a Future Alteration" document for proposed new watermains within Phase 2 of the "Talbotville Meadows" subdivision.

| Question ID | DWMR1025001 | Question Type | Legislative |
|---|-------------|---------------|-------------|
| Legislative Requirement(s): SDWA 31 (1); | | | |

Question:

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

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

All parts of the drinking water system were disinfected as required.

A review of the disinfection records produced for new watermains the Owner/Operating

Event Number: 1-329621545 Page **6** of **13**



Authority demonstrated that the Ministry's Watermain Disinfection Procedure and AWWA procedure was followed.

| Question ID | DWMR1024001 | Question Type | Legislative | |
|-----------------------------|-------------|---------------|-------------|--|
| Legislative Requirement(s): | | | | |

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

Question:

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

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

Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.

Records confirmed that the water treatment equipment which provides chlorination 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.

|--|

Legislative Requirement(s):

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

Question:

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

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

Secondary disinfectant residual was tested as required.

Ontario Regulation 170/03, Schedule 7-2 requires the owner/operating authority of a large municipal residential system that provides secondary disinfection to ensure that at least seven distribution samples are taken each week and tested immediately for free chlorine residual. At least four of the samples must be taken on one day of the week, and at least three samples must be taken on a second day of the week, at least 48hrs after the samples taken on the first day.

Records reviewed indicate that secondary disinfection is maintained in the Southwold Distribution System. Secondary disinfection is measured in the distribution system by operators who take at least seven grab samples on two separate days every week. The chlorine residual results are documented on round sheets or in the logbook by the operator with measured results being above 0.05mg/L for free chlorine. In addition, the Shedden rechlorination station is equipped with two online chlorine analyzers which continuously measure the concentration of free chlorine and have alarm set points to ensure the free chlorine residual is maintained above 0.05mg/L.

Event Number: 1-329621545 Page **7** of **13**



| Question ID | DWMR1099001 | Question Type | Information |
|--------------------|-------------|----------------------|-------------|
|--------------------|-------------|----------------------|-------------|

Legislative Requirement(s):

Not Applicable

Question:

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

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

Records showed that all water sample results met the Ontario Drinking Water Quality Standards.

| Question ID | DWMR1081001 | Question Type | Legislative |
|-------------|-------------|---------------|-------------|
|-------------|-------------|---------------|-------------|

Legislative Requirement(s):

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

Question:

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

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

Distribution microbiological sampling requirements were met.

Ontario Regulation 170/03, Schedule 10-2 stipulates that distribution water samples are required to be collected for testing every week within the frequency prescribed by the Regulation. Based on service population of approximately 4,395 the owner/operating authority is required to take a minimum of twelve distribution samples every month. Every distribution system sample must be analyzed for: E.coli; total coliforms and 25% of the required samples must be tested for general bacteria population expressed as colony counts on a heterotrophic plate count. A review of the records for the inspection period indicate this requirement has been met, the operating authority typically took 5 samples per week.

| Question ID | DWMR1096001 | Question Type | Legislative | |
|-----------------------------|-------------|---------------|-------------|--|
| Legislative Requirement(s): | | | | |

SDWA | O. Reg. 170/03 | 6-3 | (1);

Question:

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

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

Records confirmed that chlorine residual tests were conducted as required.

Event Number: 1-329621545 Page **8** of **13**



| Question ID | DWMR1086001 | Question Type | Legislative |
|-------------|-------------|---------------|-------------|
|-------------|-------------|---------------|-------------|

Legislative Requirement(s):

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

Question:

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

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

Haloacetic acid sampling requirements were met.

In accordance with Section 5.(1) of Ontario Regulation 170/03, on the owner of a drinking water system that obtains all of its water from a large municipal residential system must sample in accordance with Section 13-6.1 (1). This section requires the owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system to ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water system's distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids. Further, (2) The owner of the drinking water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for haloacetic acids (HAAs). A review of the records provided for the inspection review period indicate that this requirement has been met and sample results are below the standard.

| Question ID | DWMR1087001 | Question Type | Legislative |
|-------------|-------------|---------------|-------------|
|-------------|-------------|---------------|-------------|

Legislative Requirement(s):

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

Question:

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

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

Trihalomethane sampling requirements were met.

All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location. Ontario Regulation 170/03, Schedule 13-6 requires the owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system to ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water system's distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of trihalomethanes.

Event Number: 1-329621545 Page **9** of **13**



Further, (2) The owner of the drinking water system and the operating authority for the system shall ensure that each of the samples taken under subsection (1) is tested for trihalomethanes. A review of the records provided for the inspection review period indicate that this requirement has been met and sample results are below the standard.

| Question ID | DWMR1113001 | Question Type | Legislative |
|-------------|-------------|----------------------|-------------|
| | | | |

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 10.1 | (3);

Question:

Were changes to the system registration information provided to the ministry within ten (10) days of the change?

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

Changes to the system registration information were provided as required.

| Question IDDWMR1114001Question TypeLegislative | | | | |
|--|--|--|--|--|
| Legislative Requirement(s): | | | | |
| SDWA 31 (1): | | | | |

SDWA | 31 | (1);

Question:

Did the owner have evidence that, when required, all legal owners associated with the drinking water system were notified of the requirements of the Municipal Drinking Water Licence and Drinking Water Works Permit?

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

The owner had evidence that the required notifications were made.

| Question ID | DWMR1045001 | Question Type | Legislative |
|-------------|-------------|---------------|-------------|
|-------------|-------------|---------------|-------------|

Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Did the owner update the document describing the distribution components within 12 months of completion of alterations to the system in accordance with the Drinking Water Works Permit?

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

The owner had up-to-date documents describing the distribution components.

Event Number: 1-329621545 Page **10** of **13**



| Question ID | DWMR1060001 | Question Type | Legislative |
|-----------------------------|-------------|---------------|-------------|
| Legislative Requirement(s): | | | |

SDWA | 31 | (1);

Question:

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

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

The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence.

Municipal Drinking Water Licence #055-101 – Issue # 3, Section 16 of Schedule B outline the requirements for the Operations and Maintenance Manuals. The Southwold Distribution System's Operations and Maintenance Manual contain the aforementioned requirements as stated in the MDWL including but not limited to; contingency plans, procedures to deal with emergencies, procedures for dealing with complaints associated with the drinking water system and copies of the current permit and licence.

| Question ID | DWMR1062001 | Question Type | Legislative | | |
|-----------------------------|-------------------|---------------|-------------|--|--|
| Legislative Requirement(s): | | | | | |
| SDWA O. Re | eg. 170/03 7-5; | | | | |

Question:

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

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

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

| Question ID | DWMR1071001 | Question Type | BMP | | |
|-----------------------------|-------------|---------------|-----|--|--|
| Legislative Requirement(s): | | | | | |

Not Applicable

Question:

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

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

The owner provided security measures to protect components of the drinking water system.

Event Number: 1-329621545 Page **11** of **13**



Question ID DWMR1073001 Question Type Legislative

Legislative Requirement(s):

SDWA | O. Reg. 128/04 | 23 | (1);

Question:

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

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

An overall responsible operator was designated for all subsystem.

Question ID DWMR1074001 Question Type Legislative

Legislative Requirement(s):

SDWA | O. Reg. 128/04 | 25 | (1);

Question:

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

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

Operators-in-charge were designated for all subsystems.

 Question ID
 DWMR1075001

 Question Type
 Legislative

Legislative Requirement(s):

SDWA | O. Reg. 128/04 | 22;

Question:

Were all operators certified as required?

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

All operators were certified as required.

Question ID DWMR1076001 Question Type Legislative

Legislative Requirement(s):

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

Question:

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

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

Adjustments to the treatment equipment were only made by certified operators.

Event Number: 1-329621545 Page **12** of **13**

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



Event Number: 1-329621545 Page **13** of **13**

Key Reference and Guidance Material for Municipal Residential Drinking Water Systems

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

To access these materials online click on their titles below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at 1-866-793-2588 or waterforms@ontario.ca.

For more information on Ontario's drinking water visit www.ontario.ca/page/drinking-water



Click on the publication below to access it

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



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 up to 14 inspection modules and consists of approximately 120 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 $32 (4 \times 8)$ and the lowest would be $0 (0 \times 1)$.

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

| TABLE 3: | | | | | | | |
|---|---|---------------------------------------|---------------------------------------|--|--|---------------------------------|---------------------------------------|
| Does the Opera | Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated? | | | | | | |
| | | I | Risk = Likelihoo | d × 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 noncompliance. 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).

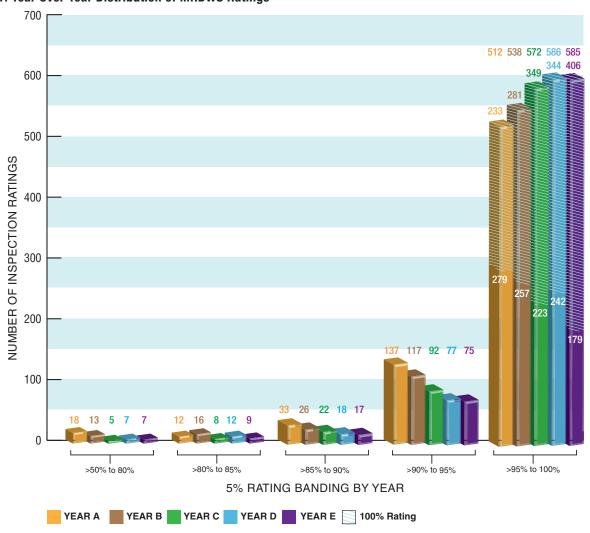
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

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 14 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 14 modules are:

1. Source

- 5. Process Wastewater
- 2. Permit to Take Water
- 6. Distribution System
- 3. Capacity Assessment4. Treatment Processes
- 7. Operations Manuals
- 8. Logbooks

- 9. Contingency and Emergency Planning
- 10. Consumer Relations
- 11. Certification and Training
- 12. Water Quality Monitoring
- 13. Reporting, Notification and Corrective Actions
- 14. Other Inspection Findings

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