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

119 King Street West, 9th Floor Hamilton, Ontario L8P 4Y7 Tel.: 905 521-7650 Fax: 905 521-7806 Ministère de l'Environnement de la Protection de la nature et des Parcs Division de la conformité en matière d'eau potable et d'environnement Direction régionale du Centre-Ouest Bureau de district de Hamilton

119 rue King Ouest, 9e étage Hamilton (Ontario) L8P 4Y7 Tél.: 905 521-7650 Téléc.: 905 521-7806



July 26, 2024

Darrin Wills Engineering Technologist, DWQMS Town of Niagara-on-the-Lake 1593 Four Mile Creek Rd Virgil, ON Darrin.Wills@notl.com

Re: MECP Inspection - Niagara-on-the-Lake Distribution System (DWS# 260001380)

Dear Mr. Wills,

Please find the enclosed copy of the inspection report # 1-369368476 for the Niagara-on- the-Lake Distribution System completed under the Ministry's focused inspection protocol to assess compliance with Safe Drinking Water legislation. The report is based on conditions encountered at the time of inspection, and subsequent follow-up.

If applicable, any items with found within the section entitled "Non-Compliance/Non-Conformance Items" which have sections under legislative requirements outline non- compliance with regulatory requirements contained within an Act, a Regulation, or site- specific approvals, licenses, permits, orders, or guidelines. Please ensure that the required actions are completed within the prescribed timeframe, if applicable.

The items with "Not Applicable" legislative requirements provide information to the owner or operating authority outlining practices or standards established through existing and emerging industry standards that should be considered in order to advance current efforts. These items do not, in themselves, constitute violations. More recommendations may also be provided within the body of the report.

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

Summary Rating Record (IRR), included as an Appendix of the inspection report, provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. IRR ratings are published (for the previous inspection year) in the Ministry's Chief

Drinking Water Inspectors' Annual Report. Please note, the IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).

Thank you for your time and assistance during the inspection process. If you have any questions or concerns, do not hesitate to contact me or Elizabeth Chee Sing, Water Compliance Supervisor, West Central Region at 519-400-6731 or Elizabeth.cheesing@ontario.ca.

Sincerely,

Karl Van Heyst

Karl VanHeyst Provincial Officer Drinking Water and Environmental Compliance Division

CC:

Darren Mackenzie- Manager Of Public Works, Town of Niagara-on-the-Lake Colin Horne - Niagara Public Health Department Jason Wolf - Niagara Public Health Department Leilani Lee-Yates - Niagara Peninsula Conservation Authority Thomas Proks- Niagara Peninsula Conservation Authority Elizabeth Chee Sing – Water Compliance Supervisor, MECP

File

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NIAGARA-ON-THE-LAKE DISTRIBUTION SYSTEM

INSPECTION REPORT

System Number: 260001380 Entity: CORPORATION OF THE TOWN OF NIAGARA-ON-THE-LAKE Inspection Start Date: July 08, 2024 Inspected By: Karl VanHeyst Badge #: 1143

Karl Van Heyst

(signature)

We want to hear from you. How was my service? You can provide feedback at 1-888-745-8888 or Ontario.ca/inspectionfeedback



Ministry of the Environment, Conservation and Parks

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INTRODUCTION

Scope

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.

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 is a virtual focused (desktop) inspection, there was no site visit for this inspection.

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

On June 17, 2024, water compliance officer Karl VanHeyst contacted the Town of Niagara-onthe-Lake that he was planning an announced virtual (desktop) focused inspection of the Niagara-on-the-Lake Distribution System, DWS # 260001380.

During the Inspection, the Inspector liaised with Darrin Wills, Engineering Technologist to obtain the required documentation and information. The water compliance officer asked that the requested documentation be available for inspection by July 8, 2024.

The inspection period was from September 1st, 2023 – June 15, 2024.

Systems/Components

The Town of Niagara-on-the-Lake is the Owner and Operator of the Town's two separate drinking water distribution systems:

•The Niagara-on-the-Lake Distribution System (DS), DWS # 260001380, which receives treated water from the St. Catharines (DeCew) Water Treatment Plant and the Niagara Falls Water Treatment Plant.

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•The Bevan Heights Distribution System, DWS # 260062452, receives treated water from the City of Niagara Falls Distribution System. This water is treated by the Niagara Falls Water Treatment Plant which is owned and operated by the Region of Niagara. Both Niagara-on-the-Lake Distribution Systems utilize the same management system (i.e. same operations and maintenance manual, procedures, and staff) and much of the information is similar, however, this report focuses solely on the Niagara-on-the-Lake Distribution System.

The Niagara-on-the-Lake Distribution System is a Class 1 large municipal residential drinking water distribution system and serves approximately 15,000 residents through approximately 201 km of Town and 48 km of Regional watermains which range in size from 100 mm to 300 mm. The system consists primarily of asbestos cement, ductile iron, PVC, and PE watermains. There are approximately 1,410 fire hydrants and approximately 1,383 valves located throughout the system.

Permissions/Approvals

DRINKING WATER WORKS PERMIT Permit Number: 069-202, Issue Number: 5

MUNICIPAL DRINKING WATER LICENCE Licence Number: 069-102, Issue Number: 4



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.

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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.

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INSPECTION DETAILS

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

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

		1		
Question ID DWMR1020001	Question Type	Legislative		
Legislative Requirement(s): SDWA 31 (1);				
Question:				
Were Form 1 documents prepared as required?				
Compliance Response(s)/Corrective Action(s) Form 1 documents were prepared as required.	/Observation(s):			
Two (2) form 1's were completed during the inspe	ection period as foll	ows:		
 September 28, 2023- The Town of Niagara-on-the-Lake is replacing the existing 150mm asbestos cement watermain on Line 5 Road from Concession 2 Road to Concession 1 Road with 1110m of new 200mm PVC DR18 watermain. The Town is also extending the watermain along Concession 1 Road between Line 5 Road and Larkin Road to make it a loop, rather then a dead end with 435m of New 200mm PVC DR18 watermain. This included eleven (11) new services to be connected with type "K" copper, including eleven (11) new curb boxes. Ten (10) new hydrant sets will be installed. January 30, 2024- The Town of Niagara-on-the-Lake is replacing the existing 150mm dia. asbestos cement watermain on Hunter Road from Four Mile Creek Road to Concession 4 Road with 1410m of new 200mm dia. PVC DR18 watermain. This includes thirty-nine (39) new services to be connected with type "k" copper complete with thirty-nine (39) new curb 				
station will be installed at the intersection of Hunte	station will be installed at the intersection of Hunter Road and Four Mile Creek Road.			
Question IDDWMR1025001Question TypeLegislative				
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?				
 September 28, 2023- The Town of Niagara-on asbestos cement watermain on Line 5 Road from with 1110m of new 200mm PVC DR18 watermain along Concession 1 Road between Line 5 Road a then a dead end with 435m of New 200mm PVC I new services to be connected with type "K" copper Ten (10) new hydrant sets will be installed. January 30, 2024- The Town of Niagara-on-the asbestos cement watermain on Hunter Road from Road with 1410m of new 200mm dia. PVC DR18 new services to be connected with type "k" coppe boxes. Ten (10) new hydrants sets will be installed station will be installed at the intersection of Hunter Question ID DWMR1025001 Legislative Requirement(s): SDWA 31 (1); Question: Were all parts of the drinking water system that ca disinfected in accordance with a procedure listed 	e-the-Lake is replace Concession 2 Roa and Larkin Road to DR18 watermain. The r, including eleven e-Lake is replacing n Four Mile Creek F watermain. This in r complete with thi d. One (1) eclipse er Road and Four M Question Type	cing the existing 150mm ad to Concession 1 Road o extending the watermai make it a loop, rather This included eleven (11) o (11) new curb boxes. If the existing 150mm dia Road to Concession 4 includes thirty-nine (39) rty-nine (39) new curb No. 88-SS sampling Mile Creek Road.		

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

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



The Ministry's Watermain Disinfection Procedure (WDP) was updated and approved in August 2020. As per Condition 2.3.2, the town of Niagara-on-the-Lake is required to follow the requirements of the updated Watermain Disinfection Procedure, August 2020.

The town's watermain commissioning and watermain repairs documentation met the requirements of the 2020 Ontario Watermain Disinfection Procedure.

Question ID	DWMR1033001	Question Type	Legislative	
-	Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (3); SDWA O. Reg. 170/03 7-2 (4);			
Question: Was seconda distribution sy	Was secondary disinfectant residual tested as required for the large municipal residential			
Compliance	Response(s)/Corrective Action(s) sinfectant residual was tested as rec	• • •		
The following	chlorine residual sampling is require	ed:		
One sample	per day will be taken and tested for	both free and total	chlorine residual, or:	
	• At least seven distribution samples will be taken and tested per week for both free and total chlorine residuals.			
	samples will be taken and tested o e was taken in the previous week.	ne day of the week	k, at least 48 hours after	
	 At least three samples will be taken and tested on a second day of the week, at least 48 hours after the last sample was taken earlier in the week. 			
• All seven sa	mples taken in a week will be from o	different locations.		
The Town has opted to take two sets of free chlorine residual (FCR) samples per week, at least 48 hours apart.				
According to the records provided the Town has met the chlorine sampling requirements.				
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 not all water sample results met the Ontario Drinking Water Quality Standards.

During the inspection period there were 2 sample results reported under 2 Adverse Quality Incidents (AWQI's) that exceeded the values under O.Reg.169/03 of the Ontario Drinking Water Quality Standards as follows:

1) AWQI 163656; TC = 1 on September 26, 2023.

2) AWQI 164265; TC = 7 on December 27, 2023

Flushing and resampling resolved the issues.

 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.

 The Niagara-on-the-Lake Distribution System is required to take 23 microbiological samples per month, including at least 1 per week. In addition, at least 25% of these samples must also be tested for Heterotrophic Plate Count (HPC). All bacteriological

samples were tested for HPC.

Question ID	DWMR1096001	Question Type	Legislative
•	equirement(s): eg. 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.

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 |

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(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.

Haloacetic Acid (HAA) samples were collected and tested on a quarterly basis with an annual running average of 17.5 ug/L. The limit for this parameter is 80 ug/L.

Question ID	DWMR1087001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6 (1); SDWA O. Reg. 170/03 13-6 (2); SDWA O. Reg. 170/03 13-6 (3); SDWA O. Reg. 170/03 13-6 (4); SDWA O. Reg. 170/03 13-6 (5); SDWA O. Reg. 170/03 13-6 (6);			
Question: Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Trihalomethane sampling requirements were met.			
Trihalomethane (THM) samples were collected and tested on a quarterly basis with an annual running average of 35.7 ug/L.			

The drinking water standard for THMs is 100 ug/L, expressed as a running annual average.

Question ID	DWMR1104001	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 immediate verbal notification requirements for adverse water quality incidents met?

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

Immediate verbal notification requirements for adverse water quality incidents were met.



Question ID	DWMR1101001	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 large municipal residential systems, were corrective actions, including any steps directed by the Medical Officer of Health, taken to address adverse conditions?

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

Corrective actions were taken to address adverse conditions.

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.				
•	and maintenance (O&M) manual do vever, the operators have access via		•	

most recent drawings on the Town's GIS system.

Question ID	DWMR1062001	Question Type	Legislative

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

Question:

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

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

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



Question ID DWMR1071001	Question Type	BMP	
Legislative Requirement(s): Not Applicable			
Question: Did the owner provide security measures to prote system?	ect components of t	he drinking water	
Compliance Response(s)/Corrective Action(s))/Observation(s):		
The owner provided security measures to protect	t components of the	e drinking water system.	
Walker Rd and one at 627 Concession Rd 5 in N	The Niagara-on-the-Lake Distribution System has two bulk filling stations, one located at 11 Walker Rd and one at 627 Concession Rd 5 in Niagara-on-the-Lake. Both stations are locked, inspected monthly and monitored by security cameras. However this could not be verified for this inspection.		
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.			
According to the DWQMS Personnel Coverage document provided, (PW-DW-PRO-007001- Revision 6, Dated May 2017). The Town has designated the Engineering Technologist, DWQMS as the Primary ORO for both of the Town of Niagara-on-the-Lake's DWS's. In the absence of the ORO (i.e., training, vacation, illness, etc.), the Lead Hand - Water/Wastewater acts as a Backup ORO for the Town.			
In the absence of both the Primary and Backup ORO, another qualified operator will act as the back-up ORO, as appointed by the Department Supervisor.			
Niagara-on-the-Lake DS is classified as a Class 1 Distribution System which received Certificate #1293 on July 13, 2005. The designated ORO is Darrin Wills, who holds a valid Class 2 license, expiring Aug 31, 2025.			

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.

According to the DWQMS Personnel Coverage document provided, (PW-DW-PRO-007-001-Revision 6, Dated May 2017).

The Lead Hand - Water/Wastewater is appointed as the principal OIC for both of the Town of Niagara-on-the-Lake's DWS's and fills this role during regular business hours and as per the On-Call Schedule (see Section 5.4 of this procedure). If the Lead Hand Water/Wastewater is unavailable during regular business hours (i.e., training, vacation, illness, etc.), another qualified operator acts as a Backup OIC for the Town.

Question ID	DWMR1075001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Were all opera	Question: Were all operators certified as required?		
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators were certified as required.			



Ministry of the Environment & Climate Change Waste Water System Inspection Report

Appendix A

A. Stakeholder Appendix

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 riskbased 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 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 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.

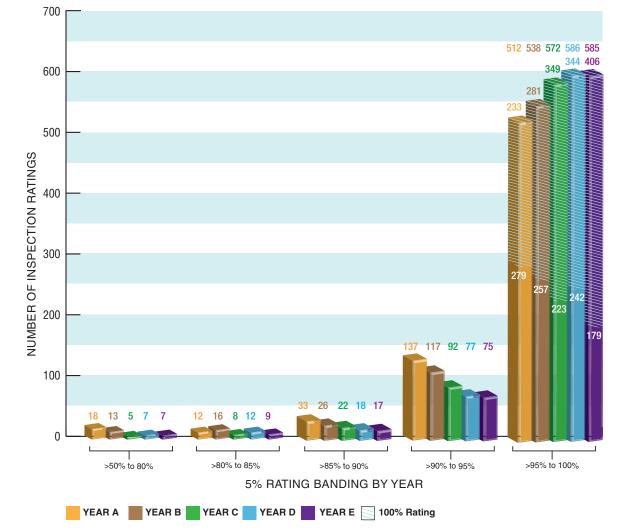


Figure 1: Year Over Year Distribution of MRDWS Ratings

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 15 possible modules of the inspection protocol,

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



Ministry of the Environment, Conservation and Parks

Appendix B

B. MOE Inspection Summary Rating Record

DWS Number: DWS Owner:	NIAGARA-ON-THE-LAKE DISTRIBUTION SYSTEM 260001380 CORPORATION OF THE TOWN OF NIAGARA-ON-THE-LAKE NIAGARA-ON-THE-LAKE
Regulation:	O.REG. 170/03 DW Municipal Residential
Type of Inspection: Compliance Assessment Start Date:	Focused
-	Niagara District Office

Maximum Risk Rating: 198

Inspection Module	Non Compliance Risk (X out of Y)
Certification and Training	0/28
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/45
Treatment Processes	0/46
Water Quality Monitoring	0/51
Overall - Calculated	0/198

Inspection Risk Rating: 0.00%

Final Inspection Rating: 100.00%

DWS Number:	
Municipal Location:	CORPORATION OF THE TOWN OF NIAGARA-ON-THE-LAKE NIAGARA-ON-THE-LAKE
DWS Category:	O.REG. 170/03 DW Municipal Residential
Type of Inspection: Compliance Assessment Start Date:	
Ministry Office:	Niagara District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 198

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 100.00%