



Ministry of the Environment and Climate Change

**SOUTH HURON DISTRIBUTION SYSTEM
Inspection Report**

Site Number:	220001520
Inspection Number:	1-F9FHR
Date of Inspection:	Dec 29, 2017
Inspected By:	Paul Tersteegen

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OWNER INFORMATION:

Company Name:	SOUTH HURON, THE CORPORATION OF THE MUNICIPALITY		
Street Number:	322	Unit Identifier:	
Street Name:	MAIN St S		
City:	EXETER		
Province:	ON	Postal Code:	N0M 1S6

CONTACT INFORMATION

INSPECTION DETAILS:

Site Name:	SOUTH HURON DISTRIBUTION SYSTEM
Site Address:	82 NELSON ST EXETER N0M 1S6
County/District:	South Huron
MOECC District/Area Office:	Sarnia District
Health Unit:	HURON COUNTY HEALTH UNIT
Conservation Authority:	
MNR Office:	
Category:	Large Municipal Residential
Site Number:	220001520
Inspection Type:	Unannounced
Inspection Number:	1-F9FHR
Date of Inspection:	Dec 29, 2017
Date of Previous Inspection:	Dec 20, 2016

COMPONENTS DESCRIPTION

Site (Name):	DISTRIBUTION	
Type:	Other	Sub Type:
Comments:		

The South Huron Distribution System obtains its drinking water supply via 5 connections to the donor's system – the Lake Huron Primary Water Supply System (LHPWSS). The donor's water treatment plant is located within South Huron, as are over 40 km of mains, a secondary reservoir and booster pumping station, and a number of chambers housing valves and other appurtenances. Note: The donor's infrastructure is subject to separate inspections.

The South Huron Distribution System supplies water to approximately 8,200 residents. Further, the system supplies some of Bluewater's residents along the Municipality's northern boundary. Some consumers along the Municipality's southern boundary are supplied by the North Middlesex Distribution System (which also obtains its drinking water from the LHPWSS).

The system consists of ~180 km of distribution watermains ranging in size from 50mm to 400mm diameter. The 50mm mains are polyethylene (PE); the 100mm to 300mm mains are polyvinylchloride (PVC) and the larger mains are mix of cast iron, ductile iron, and steel reinforced concrete pressure pipe.

There are seven pressure zones within the South Huron Distribution System. (The Municipality's Annual Drinking Water Reports typically contain a detailed description of the zones, the connections between them, and the supply of

zones during normal and emergency feed situations.)

The distribution system includes two booster pumping stations, two reservoirs and two water towers. Continuous monitoring equipment, coupled with computerized Supervisory, Control and Data Acquisition Systems (SCADA) both monitor and control the operation of this distribution system.

INSPECTION SUMMARY:

Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection 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 report is based on an inspection of a "stand alone connected distribution system". This type of system receives treated water from a separately owned "donor" system. This report contains elements required to assess key compliance and conformance issues associated with a "receiver" system. This report does not contain items associated with the inspection of the donor system, such as source waters, intakes/wells and treatment facilities.

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.

On December 29, 2017, the Officer made an unannounced inspection of the Municipality's drinking water system and sewage works. During his inspection, he checked the security of various components of the water system including the Crediton Booster Pumping Station, the Exeter Water Tower, and the Huron Park Water Tower. The Officer also checked a number of monitoring stations, chambers and candy cane vents in the distribution system to ensure they were locked, free of damage and/or screened (as applicable to each).

During the course of his unannounced inspection, the Officer encountered the Water/Wastewater Foreman who was servicing a monitoring station. Subsequently, they attended a few locations and informally discussed the Municipality's water and sewage infrastructure.

The Officer returned on January 9, 2018 to meet with the Environmental Services Director and the Water/Wastewater Foreman to conduct an onsite inspection and collect and/or inspect documents related to the operation of the drinking water system. That said, given some capital improvements that were underway, the Officer deferred the completion of this inspection until the end of the Ministry's fiscal year, i.e., March 31, 2018.

The Officer understood a new mixing system and valve had been installed at the Exeter Tower. However, work was still underway with respect to the installation of an actuator, SCADA controls and programming. It was understood an engineering consultant would finalize a narrative for this equipment once work had been completed.

Unfortunately, due to competing priorities which arose (e.g., the need for work at the MacNaughton Drive Reservoirs and Booster Pumping Station, etc.), it was not possible to complete the SCADA programming by the end of March. Ideally, the Officer would have liked to bookend his inspection with a supplementary data review documenting the efficacy of these changes. While that was not possible, the Officer is confident the Municipality will complete this work shortly, and that the improvements from their changes will be evident during the 2018-2019 inspection.

Capacity Assessment

- **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.**

Unlike with Municipal Drinking Water Licences governing drinking water systems that provide primary disinfection, the Municipality's Licence does not include explicit flow-monitoring requirements. However, Schedule A of the Municipality's Drinking Water Works Permit identifies several locations where flow meters were installed.

In order to manage this drinking water system, eight SCADA tags are used to capture data regarding flows at various points in the Municipality's infrastructure. This includes capturing data from,

- 3 meters monitoring flows from the MacNaughton Drive Reservoirs and Pumping Station
- 2 meters monitoring flows from the donor's pump station
- 1 meter monitoring flows entering the southwest corner of Exeter
- 1 meter monitoring flows from the Stephen/Crediton Booster Pumping Station, and
- 1 meter monitoring flows from the Huron Park Water Tower.

- **The flow measuring devices were calibrated or verified in accordance with the requirements of the Municipal Drinking Water Licence issued under Part V of the SDWA.**

In keeping with the absence of flow-monitoring requirements, the Municipality Licence does not include explicit requirements related to the calibration of flow meters. Despite that omission, the Municipality produced records demonstrating several calibrations had been performed on flow meters in April 2017.

- **Appropriate records of flows and any capacity exceedances were made in accordance with the Municipal Drinking Water Licence issued under Part V of the SDWA.**

While the Municipality's Licence does not include explicit conditions related to flow monitoring, eight SCADA tags are used to capture data regarding flows at various points in the Municipality's infrastructure.

Treatment Processes

- **The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.**

The Ministry expects all of the treatment equipment described in Schedule A of the Owner's Permit, as may be amended by alterations identified in Schedule C, to be (and to remain) installed. As indicated in Schedule A of their Permit, the Municipality has one location where they provide secondary disinfection:

Huron Park Water Tower – 69751 Airport Line, Huron Park

The treatment system includes a gas chlorination system, circulation pumps, and 3 continuous chlorine residual analyzers measuring the chlorine residual in water entering the tower, following treatment, and exiting the tower.

The Municipality advised had been no changes since the last inspection; however, they noted that in 2018, they envisioned possibly altering the current disinfection process by replacing the chlorine gas system with a sodium hypochlorite system.

While Schedule A of their Permit identifies 3 locations where the disinfection residual is monitored, eight SCADA tags are used to capture data regarding the chlorine residual in water at various points in the Municipality's infrastructure. This includes capturing data from,

- 3 analysers at the Huron Park Water Tower,
- 2 analysers monitoring the residual in water from the donor's pump station,
- 1 analyser monitoring the residual in water entering the southwest corner of Exeter,
- 1 analyser monitoring the residual in water passing through the Stephen/Crediton Booster Pumping Station, and the

Treatment Processes

- 1 analyser monitoring the residual in water discharging from the Exeter Water Tower.

- **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.**

The Municipality provided copies of three Form 1 documents they had completed in 2017.

- **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.**

The Municipality provided a copy of the form used to document upgrades to the Exeter Water Tower. The upgrades included the installation of a mixing system, the replacement of a valve, and the installation of pressure switches, a pressure transmitter and PLC upgrades.

- **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.**

Regardless of whether owners provide secondary disinfection themselves, Section 1-5 in O. Reg. 170/03 requires them to ensure the provision of treatment capable of providing a free chlorine residual of 0.2 mg/L at all locations within the distribution system. Further, Section 1-2 requires the free chlorine residual to be ≥ 0.05 mg/L.

Per the regulatory relief provided in Schedule D of the Municipality's Licence, these provisions do not apply to the northeastern extremity of the distribution system where the Municipality has opted to provide consumers point-of-entry ultraviolet disinfection systems.

Aside from some outliers in the continuous monitoring data related to communication losses and servicing equipment, the Officer did not note any adverse incidents.

- **The owner had evidence indicating that all chemicals and materials that come in contact with water within the drinking water system met the AWWA and ANSI standards in accordance with the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.**

In addition to product labelling, the Municipality maintains a copy of the relevant MSD sheets in their Operations and Maintenance Manual.

- **Up-to-date plans for the drinking-water system were kept in a place, or made available in such a manner, that they could be readily viewed by all persons responsible for all or part of the operation of the drinking water system in accordance with the Drinking Water Works Permit and Municipal Drinking Water Licence issued under Part V of the SDWA.**

As-built drawings are maintained at the Municipality's Operations Center. Further, copies of a number of drawings are also reported to be available on the Municipality's service.

- **Where a potential bypass of primary or secondary treatment equipment existed, measures were taken to ensure that raw or partially treated water was not directed to the distribution system.**

If needs be, the Municipality reported they have the ability to bypass the Huron Park Water Tower. In the event they needed to bypass the Tower, they have the ability to monitor the chlorine residual being supplied to the southeast corner of the distribution system via the analyser at the Stephen/Crediton Booster Pumping Station.

Treatment Process Monitoring

- **The secondary disinfectant residual was measured as required for the distribution system.**

Treatment Process Monitoring

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

Where continuous monitoring equipment is used to fulfil chlorine or turbidity testing requirements, Section 6-5 in O. Reg. 170/03 requires an examination of results captured by continuous monitoring equipment within 72 hours of the tests.

The Municipality's SCADA system generates a Daily Report at the end of each day summarizing chlorine residual, pressure, flow, water level and equipment runtimes data. On weekday mornings, operators review the Daily Report(s) from the previous day (or weekend), at which time they manually enter the date/time of their review, and sign their initials. Further, they may make notations regarding any irregularities they identify on the Daily Report and/or in the calendar they use as a logbook.

Lastly, the Municipality advised they have a protocol in place covering holidays in order to ensure the reviews occur within 72 hours.

- **Samples for chlorine residual analysis were tested using an acceptable portable device.**

Where testing is not performed by continuous monitoring equipment, Subsection 6-7 (1) of O. Reg. 170/03 requires the use of an electronic direct readout colorimetric or amperometric analyzer (or an alternate device with proven accuracy, reliability and ease of use).

The Municipality's operators use Hach Pocket Colorimeters, a standard device in the water industry, to conduct chlorine residual testing on the grab samples they collect.

- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

The Municipality provided a worksheet confirming they were checking the calibration of their continuous analysers on a monthly basis. They noted were considering having their operators schedule monthly tests their handheld units.

Currently, the Municipality possess gel standards, and operators can test the calibration of these units on an as-needed basis. Further, documents indicated an outside vendor is used annually to service and verify the calibration of these units.

Distribution System

- **There is a backflow prevention program, policy and/or bylaw in place.**

Part 7 of By-Law 56 - 2014, entitled A By-Law to provide for the Regulation of Water Services, prohibits connections that could allow a contaminant to enter the distribution system. The Officer understands that following the passage of the previous by-law, some owners of pre-existing commercial and industrial services were required to install backflow preventers.

- **The owner had a program or maintained a schedule for routine cleanout, inspection and maintenance of reservoirs and elevated storage tanks within the distribution system.**

The Municipality advised their current schedule calls for an inspection of their reservoirs and the two water towers on a five-year cycle.

- **Existing parts of the distribution system that are taken out of service for inspection, repair or other activities that may lead to contamination, and all new parts of the distribution system that come in contact with drinking water, were disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit, or an equivalent procedure (i.e. the Watermain Disinfection Procedure).**

Distribution System

Per Section 31 of the Safe Drinking Water Act, the establishment and alteration of municipal drinking water systems must comply with the Permit. Condition 2.3 in Schedule B of the Permit requires all new and/or altered equipment to be disinfected before being put into service in accordance with a procedure approved by the Director or in accordance with the applicable provisions of the following documents:

- The ministry's Watermain Disinfection Procedure, effective November 19, 2016
- AWWA C652 – Standard for Disinfection of Water-Storage Facilities
- AWWA C653 – Standard for Disinfection of Water Treatment Plants
- AWWA C654 – Standard for Disinfection of Wells

The Municipality advised that they maintain a copy of the first document in their service trailer. Further, they produced worksheets prepared by operators documenting watermain failures/breaks.

- **The owner had implemented a program for the flushing of watermains as per industry standards.**
- **Records confirmed that disinfectant residuals were routinely checked at the extremities and "dead ends" of the distribution system.**

The Municipality provided records of chlorine residual testing being performed within the distribution system. They have a number of locations they test on a rotating basis.

Note: With respect to the northeastern extremity of the distribution system, the watermains, which once supplied water from wells to Exeter, are oversized for this current role as distribution mains. This makes it difficult to maintain the chlorine residual at a consistent level. Consequently, the Municipality has opted to supply point-of-entry treatment equipment to several consumers served by these mains.

- **A program was in place for inspecting and exercising valves.**

To ensure all stop valves will function when required, the Ministry recommends municipalities adopt a program for inspecting/exercising valves (e.g., per Section 4.2.5 of AWWA Standard G200-09). To that ends, the Municipality advised they attempt to exercise critical valves on their main supply mains twice per year, and the rest of the valves on a three-year rotation.

- **There was a program in place for inspecting and operating hydrants.**

The Ministry recommends a formal program (e.g., per Section 4.2.6 in AWWA Standard G200-09) that includes,

- targeting a percentage of the hydrants to be inspected and tested.
- developing procedures for opening and closing hydrants.
- developing procedures for fire flow testing and marking.

The Municipality advised all hydrants are serviced and flushed at least once per year (with some being flushed more regularly as part of system flushing). Further, the Municipality noted the addition of new hydrant markers in 2017.

- **There was a by-law or policy in place limiting access to hydrants.**

The Ministry recommends municipalities implement measures to protect their water system by limiting access to their hydrants. Condition 4.5 of By-Law 56-2014 states, "Except for water used for fire fighting and Municipality approved maintenance or operations, any other use of a Municipal fire hydrant or hydrant on private property for water supply is prohibited."

- **The owner was able to maintain proper pressures in the distribution system and pressure was monitored to alert the operator of conditions which may lead to loss of pressure below the value under which the system is designed to operate.**

Distribution System

The Drinking Water Works Permit prohibits additions or alterations that would "adversely affect a distribution system's ability to maintain a minimum pressure of 140kPa at ground level at all points in the distribution system under maximum day demand plus fire flow conditions." To avoid contamination related to a significant loss in pressure, the Ministry recommends pressure monitoring to alert operators of potential concerns.

As indicated by the description of the drinking water system in Schedule A of the Permit, pressure sensors are located at the two pumping stations, the two water towers, and at two monitoring chambers. In addition to capturing data, the Municipality's SCADA system is designed to convey alarms in the event pressure loss is detected within the system.

- **The donor had provided an Annual Report to the receiver drinking water system.**

Where systems supply all of the water for other drinking water systems, Section 11 of O. Reg. 170/03 requires donors to provide a copy of their Annual Reports to the owner of the receiving systems. The Officer understands the Donor continues to circulate copies of their Annual Report, and to post a copy on their website.

Operations Manuals

- **Operators and maintenance personnel had ready access to operations and maintenance manuals.**

Section 28 of O. Reg. 128/04 requires owners and operating authorities to ensure operators have ready access to comprehensive operations and maintenance manuals. A copy of the manual and other documents was readily available to operators at their Operations Center. In the absence of significant alterations, the Municipality noted there had been no significant changes to the document since it was last revised in 2016. That said, they advised that they periodically review the list of contacts and suppliers in the appendices to ensure that in the event of an incident, operators have current information to rely on.

- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**
- **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.**

Logbooks

- **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.**
- **For every required operational test and every required sample, a record was made of the date, time, location, name of the person conducting the test and result of the test.**
- **The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.**

To ensure records of adjustments to treatment processes are documented pursuant to Subsection 26 (2) (c) of O. Reg. 128/04, the Municipality advised their operators-in-charge make use of the logbook and log sheets at each facility.

- **Logs or other record keeping mechanisms were available for at least five (5) years.**

Pursuant to Subsection 27 (6) of O. Reg. 128/04, the Municipality has committed to ensuring that their logs and related records are retained for a minimum of five years. I.e., their record retention bylaw calls for a minimum 7-

Logbooks

year retention period.

Contingency/Emergency Planning

- **Spill containment was provided for process chemicals and/or standby power generator fuel.**

The description of the drinking water system in Schedule A of the Permit identifies locations where generators were installed. Secondary fuel containment is provided at each pump station where a diesel generator is located.

Crediton Booster Pumping Station – 100 Victoria Avenue West, Crediton

MacNaughton Drive Pumping Station – 62 MacNaughton Drive, Exeter

Secondary fuel containment is not required at the water towers as natural gas generators are available to provide standby power.

Operations Centre/Exeter Water Tower – 82 Nelson Street, Exeter

Huron Park Water Tower – 69751 Airport Line, Huron Park

Similarly, secondary containment is not required for the chlorination system at the Huron Park Water Tower as it makes use of two 150 lb chlorine gas tanks. A chlorine gas detector has been installed to detect leaks.

- **Clean-up equipment and materials were in place for the clean up of spills.**

The Ministry recommends maintaining materials appropriate to the type and volume of fuel and/or chemicals stored at facilities, to allow operators to respond to potential spills. The Municipality noted that they maintain small kits, and that they have ready access to additional materials from an industrial supplier in Exeter.

- **Standby power generators were tested under normal load conditions.**

Generators must not only start; when required, generators must deliver the power necessary to operate the drinking water system. Consequently, the Municipality requires operators to conduct periodic starts throughout the year, and to have a contactor perform semi-annual inspection and maintenance.

Security

- **All storage facilities were completely covered and secure.**
- **Air vents and overflows associated with reservoirs and elevated storage structures were equipped with screens.**

To reduce the likelihood of contamination, the Ministry recommends the use of screens on air vents and overflows associated with water storage structures. Further, as screens are frequently not visible and/or accessible, the Ministry recommends periodic inspections to ensure they are free of any damage.

The Municipality advised the screens on their elevated storage are examined as part of the periodic inspections they have an outside contractor perform.

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

The Ministry recommends owners adopt various measures to secure their supplies, treatment and storage facilities from intruders and potential sources of contamination. Security measures protecting the various components in the system include weekly inspection, locked doors, and intruder alarms.

The Municipality noted the properties are not fenced due to the belief/experience that fences tend to promote curiosity and provide a challenge to be overcome. Aside from some minor graffiti, the Municipality did not report

Security

any incidents or concerns suggesting a need for additional security measures.

Consumer Relations

- **The owner and/or operating authority undertook efforts to promote water conservation and reduce water losses in their system.**

The Municipality produced a spreadsheet confirming they are tracking water losses. Unaccounted for water appears to be relatively high, i.e., > 20%.

Based upon work done to date, they are of the belief that watermain in Exeter are relatively tight, and that their primary sources of water loss appear to be related to watermain in parts of the western end of the distribution system. Therefore, they have been looking at a program to replace mains where they identify issues related to poor materials and/or construction.

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**

O. Reg. 128/04 prescribes a system for classifying municipal residential systems. On February 19, 2016, a certificate was issued indicating this drinking water system was classified as a Class III water distribution system. O. Reg. 128/04 also includes a corresponding system for certifying operators. Further, Subsection 23 (1) of the Regulation requires the appointment of an "overall responsible operator" for each subsystem.

The Environmental Services Department uses its personnel to operate both their water and wastewater infrastructure. Further, they make use of a daily worksheet to record when operators are on duty, on call, and are serving as the Overall Responsible Operator (ORO) or Operator-in-Charge (OIC). The Municipality's Water/Wastewater Foreman normally serves as the ORO. He possesses a Class III Water Distribution Certificate - which is appropriate for this system.

Should the Foreman be unavailable, the Municipality may call upon one of three other operators to serve in this capacity. One holds a Class II Water Distribution certificate. The others hold Class II and Class III Water Supply Certificates.

- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**
Subsection 25 (1) of O. Reg. 128/04 requires the appointment of one or more operators-in-charge for each subsystem. The Municipality advised they have three operators who routinely serve as operator-in-charge, i.e., the same individuals who may be called upon to serve as backup Overall Responsible Operator.
- **All activities that were undertaken by uncertified persons in the DW subsystems were overseen by persons having the prescribed qualifications.**

Subsection 11 (1) (5) of the Safe Drinking Water Act requires the placement of uncertified personnel under the supervision of persons having the prescribed qualifications.

The Municipality reported this duty normally falls to the Overall Responsible Operator or to the Operator-in-Charge.

- **All operators possessed the required certification.**
Each of the operators identified by the Municipality holds a drinking water certificate or a conditional drinking water certificate. Classification and certification documents were prominently displayed in the Operations Centre.
- **Only certified operators made adjustments to the treatment equipment.**

Certification and Training

The only treatment equipment in this system is the chlorination equipment at the Huron Park Water Tower.

The Municipality advised that pursuant to Schedule 1 of O. Reg. 170/03, subsection 1-2(2)5, all individuals who are appropriately certified as Drinking-Water System Operators under O. Reg. 128/04, are permitted to make adjustments to the treatment equipment. Their weekly checks of the various components in this system are documented on a worksheet.

- **An adequately licenced operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.**

Section 23 of O. Reg. 128/04 requires the appointment of an overall responsible operator (ORO). As operators cannot be available 365 days a year (e.g., whether it be due to vacations or illness), several subsections address the appointment of alternates during these absences.

The Municipality has additional qualified personnel who can be designated to serve in this capacity in the event the ORO is unavailable.

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for distribution samples were being met.**
- **All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.**

Certificates of Analysis available at the time of inspection confirmed the Municipality has been collecting samples for testing this new parameter. However, as the Municipality overlooked registering the use of SGS Environmental Services to test this new parameter, the laboratory has been unable to load the results onto the Ministry's Drinking Water Information System. This problem has since been remedied.

In 2017, samples for trihalomethanes (THMs) and haloacetic acids (HAAs) were collected from 82 Nelson Street – the Municipality's Operations Centre.

- **All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.**
- **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**
- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**
- **The drinking water system owner submitted written notices to the Director that identified the laboratories that were conducting tests for parameters required by legislation, Order, Drinking Water Works Permit or Municipal Drinking Water Licence.**

The Municipality appeared to have initially overlooked registering the use of SGS Environmental Services to test the new parameter Total Haloacetic Acids. As such, the laboratory was unable to load some results onto the Ministry's Drinking Water Information System (DWIS). However, this oversight has already been resolved, and the most recent test result was successfully loaded onto DWIS.

- **The owner indicated that the required records are kept and will be kept for the required time period.**

Section 13 of O. Reg. 170/03 prescribes a retention schedule for various water quality monitoring documents. To satisfy these requirements, the Municipality advised they archive historical records at the Municipality's Operations

Water Quality Monitoring

Centre.

Note: The Municipality's Operational Plan references Bylaw 50-2011. However, document retention is currently governed by Bylaw 61-2015. The record retention schedule in Schedule B of the Bylaw indicates the Municipality intends to meet and/or exceed the document retention requirements in Section 13 of O. Reg. 170/03.

Water Quality Assessment

- **Records showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03).**

Reporting & Corrective Actions

- **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.**

Where continuous chlorine residual monitoring equipment malfunctions, loses power, alarms or results in a shutdown, the Ministry requires prompt and appropriate action. The Officer noted operators appear to be documenting responses to alarms, and conditions which might give rise to unusual readings, e.g., servicing of analysers. Operators appeared to have acted promptly and appropriately, i.e., when not already at the site.

Note: The logs generally spoke to actual measured values (high or low) but did not generally did not speak to data gaps due to communications issues, etc.

- **Summary Reports for municipal council were completed on time, included the required content, and were distributed in accordance with the regulatory requirements.**

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

Not Applicable

SIGNATURES

Inspected By:

Paul Terstege

Signature: (Provincial Officer)

Reviewed & Approved By:

Marc Bechard

Signature: (Supervisor)

Review & Approval Date:

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

Appendix 1 - Inspection Summary Rating Record

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2017-2018)

DWS Name: SOUTH HURON DISTRIBUTION SYSTEM
DWS Number: 220001520
DWS Owner: South Huron, The Corporation Of The Municipality
Municipal Location: South Huron

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Standalone
Inspection Date: December 29, 2017
Ministry Office: Sarnia District

Maximum Question Rating: 376

Inspection Module	Non-Compliance Rating
Capacity Assessment	0 / 26
Treatment Processes	0 / 55
Distribution System	0 / 21
Operations Manuals	0 / 42
Logbooks	0 / 26
Certification and Training	0 / 57
Water Quality Monitoring	0 / 67
Reporting & Corrective Actions	0 / 25
Treatment Process Monitoring	0 / 57
TOTAL	0 / 376

Inspection Risk Rating 0.00%

FINAL INSPECTION RATING: 100.00%

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2017-2018)

DWS Name: SOUTH HURON DISTRIBUTION SYSTEM
DWS Number: 220001520
DWS Owner: South Huron, The Corporation Of The Municipality
Municipal Location: South Huron

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Standalone
Inspection Date: December 29, 2017
Ministry Office: Sarnia District

Maximum Question Rating: 376

Inspection Risk Rating	0.00%
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FINAL INSPECTION RATING:	100.00%
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