



**Corporation de la ville de
Hawkesbury**

**Corporation of the Town of
Hawkesbury**

**Comité des services des travaux
publics et environnement**

**Public Works and Environment
Services Committee**

**12 juin 2015
13h00**

**June 12, 2015
1:00 p.m.**

Salle du conseil

Council Chambers

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From: "Poulin, Michel" <MichelPoulin@HydroHawkesbury.ca>
Date: 12 mai 2015 10:52:55 HAE
To: "Lavoie, Alain" <alavoie@Hawkesbury.ca>
Subject: Rue Genevieve

Alain

La présente est pour confirmer que les poteaux de la rue Geneviève appartiennent à hydro Hawkesbury. Bell et Cogeco s'y attachent selon une entente qui existe depuis plusieurs années. Si les poteaux appartiennent à Bell, alors Hydro s'y attache selon la même entente. C'est pour éviter la duplication de poteaux.

Michel Poulin
Gérant/Manager
613-632-6689



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From: "Charlebois, Marc" <mcharlebois@Hawkesbury.ca>

Date: 4 juin 2015 07:26:06 HAE

To: "Lavoie, Alain" <alavoie@Hawkesbury.ca>

Subject: Cn Main Ouest et Genevieve

Bonjour Alain

Le coin Main Ouest et Geneviève était un coin très dangereux. Les citoyens traversait la rue Main Ouest qui était pas bien éclairer. Beaucoup de personnes traversait cette rue avec plusieurs accident . Cette intersection était un danger les piétons qui traversait se chemin.

Pour rectifier cette situation, j'ai changé les deux cobra Head 150 Watt pour deux cobra Head 250 Watt. Après vérification de cette intersection, éclairage de cette intersection rencontre les normes.

Marc Charlebois

Maitre Electricien

Ville de Hawkesbury

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**Ministry of the Environment
and Climate Change**

Safe Drinking Water
Branch

Ottawa District Office
2430 Don Reid Drive
Ottawa ON K1H 1E1

**Ministère de l'Environnement et
de l'Action en matière de
changement climatique**

Direction du contrôle de la qualité de
l'eau potable

Bureau du district d'Ottawa
2430, chemin Don Reid
Ottawa (Ontario) K1H 1E1



April 21, 2015

Sent by Email: rguertin@hawkesbury.ca

Corporation of the Town of Hawkesbury
600 Higginson
Hawkesbury, Ontario
K6A 1H1

Attention: Mr. Richard Guertin
Superintendent, Environmental Management

Dear Mr. Guertin:

Re: 2014-2015 Inspection Report

The enclosed report documents findings of the inspection that was performed at the Hawkesbury drinking water system on January 29, 2015.

Two sections of the report, namely "Actions Required" and "Recommended Actions" cite due dates for the submission of information or plans to my attention.

Please note that "Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, licenses, permits, orders, or instructions. Such violations could result in the issuance of mandatory abatement instruments including orders, tickets, penalties, or referrals to the ministry's Investigations and Enforcement Branch.

"Recommended Actions" convey information that the owner or operating authority should consider implementing in order to advance efforts already in place to address such issues as emergency preparedness, the fulsome availability of information to consumers, and conformance with existing and emerging industry standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

In order to measure individual inspection results, the ministry continues to adhere to 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 Rating Record (IRR), appended to the inspection report, provides the ministry, the system owner and the local Public Health Unit with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. Please note the IRR methodology document, also appended to the inspection report, describes how the risk model

was improved to better reflect any health related and administrative non-compliance issues that may be cited in our inspection reports. IRR ratings are published in the ministry's Chief Drinking Water Inspector's Annual Report. If you have any questions or concerns regarding the rating, please contact Jim Mahoney, Water Supervisor, at 613-548-6902.

Section 19 of the *Safe Drinking Water Act, 2002* (Standard of Care) cites a number of obligations of individuals who exercise decision-making authority over municipal drinking water systems. The ministry encourages individuals, particularly municipal councilors, to take steps to be well informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "*Taking Care of Your Drinking Water: A guide for members of municipal council*" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater.

Thank you for the assistance afforded to me during the conduct of the compliance assessment. Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,



Jean Veilleux
Drinking Water Inspector/Provincial Officer
Ministry of the Environment and Climate Change, Safe Drinking Water Branch
Eastern Region, Ottawa District Office
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jean.veilleux@ontario.ca
JV

Enclosure

- cc: Martin Perron, Quality Management Representative, Corporation of the Town of Hawkesbury, 815 Main Street East, Hawkesbury, Ontario K6A 1H1 Email: mperron@hawkesbury.ca
- Jeanne Charlebois, Mayor, Corporation of the Town of Hawkesbury, 600 Higginson, Hawkesbury, Ontario K6A 1H1 jcharlebois@hawkesbury.ca
 - Tessa Di Iorio, Hydrogeologist, South Nation Conservation, PO Box 29, 38 Victoria Street, Finch, ON K0C 1K0 Email: tdiorio@nation.on.ca
 - Dr. Paul Roumeliotis, Medical Officer of Health, Eastern Ontario Health Unit, 1000 Pitt Street, Cornwall, ON K6J 5T1 Email: proumeliotis@eohu.ca
 - Caroline Kuate, Program Coordinator, Safe Water, Eastern Ontario Health Unit, 2229 Laurier Street, Rockland, ON K4K 0B7 Email: ckuate@eohu.ca
- c: File SI- PR- HA-MA-540 (2014-15)



Ministry of the Environment and Climate Change

HAWKESBURY DRINKING WATER SYSTEM

Inspection Report

Site Number:	220002832
Inspection Number:	1-BCA7X
Date of Inspection:	Jan 29, 2015
Inspected By:	Jean Veilleux

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OWNER INFORMATION:

Company Name:	HAWKESBURY, THE CORPORATION OF THE TOWN OF		
Street Number:	600	Unit Identifier:	
Street Name:	HIGGINSON St		
City:	HAWKESBURY		
Province:	ON	Postal Code:	K6A 1H1

CONTACT INFORMATION

Type:	Operating Authority	Name:	Richard Guertin
Phone:	(613) 632-0106 x2030	Fax:	(613) 632-5861
Email:	rguertin@hawkesbury.ca		
Title:	Superintendent - Environmental Management		

Type:	Operating Authority	Name:	Martin Perron
Phone:	(613) 632-0106	Fax:	
Email:	mperron@hawkesbury.ca		
Title:	Quality Management Representative		

Type:	Owner	Name:	Jeanne Charlebois
Phone:	(613) 632-0106 x2223	Fax:	(613) 636-2096
Email:	jcharlebois@hawkesbury.ca		
Title:	Mayor		

Type:	Conservation Authority	Name:	Tessa Di Iorio
Phone:	(613) 984-2948 x305	Fax:	(613) 984-2872
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Title:	Hydrogeologist, South Nation Conservation		

Type:	Medical Officer of Health	Name:	Paul Roumeliotis
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Title:	Medical Officer of Health - Eastern Ontario Health Unit		

Type:	Health Unit	Name:	Caroline Kuate
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Title:	Program Coordinator, Safe Water - Eastern Ontario Health Unit		

INSPECTION DETAILS:

Site Name:	HAWKESBURY DRINKING WATER SYSTEM
Site Address:	670 MAIN ST W HAWKESBURY K6A 2J3
County/District:	Hawkesbury
MOECC District/Area Office:	Cornwall Area Office
Health Unit:	EASTERN ONTARIO HEALTH UNIT
Conservation Authority	N/A
MNR Office:	N/A
Category:	Large Municipal Residential
Site Number:	220002832
Inspection Type:	Announced
Inspection Number:	1-BCA7X
Date of Inspection:	Jan 29, 2015
Date of Previous Inspection:	Sep 25, 2013

COMPONENTS DESCRIPTION

Site (Name):	RAW WATER		
Type:	Source	Sub Type:	Surface

Comments:

The Hawkesbury Water Treatment Plant (WTP) obtains its water from a surface water source, the Ottawa River. Raw water is drawn through a submerged intake structure (consisting of a 9.25 m square timber crib with rock fill) situated in the Ottawa River, drawn through a 1,650 mm diameter (5' 6") intake pipe to a wet well inside the raw water pumping station located on the south shore of the Ottawa River. The Ottawa River at the location of the Hawkesbury Intake is approximately 1000 metres wide. The intake extends approximately 40 metres from shore and is submerged approximately 4 to 5 metres. A 40 mm diameter polyethylene pipe is available for the addition of sodium hypochlorite at the mouth of the intake pipe for the control of Zebra Mussels if necessary. This function is not currently used. The low lift pump station consists of one low lift concrete wet well (including an inlet gate and dual removable screens with 10 mm stainless steel mesh at the inlet; two vertical centrifugal turbine pumps, equipped with variable frequency drives (VFDs) convey water to the water treatment plant via a 750 mm diameter forcemain. Each pump has a rated capacity of 27, 648 m³/day. Water is pumped to a custom built water treatment plant described below.

The raw water is monitored for the flow rate as it enters the WTP.

Raw water from the River contains elevated total coliform (2 - 4000) and E. coli (0 - 200), turbidity, nitrates, colour, alkalinity, Total Dissolved Solids (TDS) and total phosphorous. Raw water colour typically varies between 0 TCU and 100 TCU. Colour constituents do not readily settle out and are not removed by direct filtration alone. Coagulation is therefore a requirement of this treatment process. Raw water turbidity typically varied between 0 to 90 NTU. Therefore, filtration is required as part of the treatment process. Raw water alkalinity, is typically in the order of 35 mg/L CaCO₃ equivalent. Although sufficient alkalinity should exist to drive the coagulation process, the risk of pH swings are high and an alkalinity buffer (lime) is added to the raw water to ensure the coagulation process is achieved. Taste and odour problems (during the spring and fall) associated with algae formation and organic materials in the raw water has also been an ongoing problem. Based on historical sample results, Dissolved Organic Carbon (DOC) ranges between 2 and 10 mg/L which indicates that there is significant formation potential for Trihalomethanes (THMs). DOC can combine with chlorine and form disinfection by-products such as THMs. For 2012, raw water e. coli counts ranged from 0 to 200

Colony Forming Units (CFUs) per 100 mL, and total coliform up to 4000 CFU per 100 mL. No zebra mussels have been observed on the raw water intake structure, and the intake was reported to be in satisfactory condition. No rehabilitation work was recommended. Pre-chlorination can be provided by a 40 mm diameter chlorine solution pipe and diffuser at the river intake. No problems with Frazil ice formation have been reported for the raw water intake.

Site (Name): TREATED WATER (WTP)

Type: Treated Water POE

Sub Type:

Comments:

The WTP includes all the treatment equipment, instrumentation, pumps and other devices required to treat the raw water to meet the Ontario Drinking Water Quality Standards and to monitor and convey the treated water into the distribution system. Coagulation of the raw water is achieved by adding coagulant (PHAS - Pre Hydroxylated Aluminum Sulphate) into a flash mixing chamber. Enhanced flocculation is provided by the further addition of activated silica. The coagulant feed system consists of on-site bulk storage of PHAS and two chemical feed pumps which deliver coagulant at a rate paced to the raw water flow. The activated silica feed system consists of two chemical feed pumps, a modified silicator and a polyethylene storage tank. A new coagulant storage tank and chemical feed system has now been provided under the recent expansion. Flocculation and clarification is performed in two types of reactivator clarifiers.

The first unit consists of the original conventional reactor/clarifier, (the Infilco Acclerator Reactor Upflow Clarifier) in which raw water and the coagulant chemicals are mixed with the slurry of previously precipitated solids and allowed to settle. The Acclerator unit includes a basin having a raw water inlet and distribution duct; a primary mixing and reaction zone; a rotor impeller for mixing and pumping, driven by a motorized reducer; and effluent channel system and concentrators to accumulate and remove excess slurry.

The second unit is a solids upflow clarifier (Degremont Infilco Ultrapulsator). Raw water mixes with the coagulants in a contact chamber, enters a flocculation zone and is then distributed by a network of pipes which are connected to a vacuum chamber (sealed chamber and a vacuum pump). The pulses caused by the vacuuming effect, followed by a break in vacuum, causes the water in the network of pipes to flow through orifices positioned on the bottom of the pipes at high velocities. Sludge is continually drawn off from both units and deposited in a holding tank. The supernatant is discharged to a storm sewer and the sludge is discharged to a sanitary sewer. Composite sampling of this sludge effluent is performed monthly for suspended solids. The concentration of suspended solids is not to exceed 25 mg/L.

Filtration equipment includes three sand/anthracite high rate filters. The filters are equipped with an air scour blower and a backwash pump. Backwash water is collected and conveyed to two backwash settling tanks. The solids in the backwash water are allowed to settle out for a period of time before the supernatant is pumped to a local storm sewer and the settled backwash sludge is discharged to a local sanitary sewer.

Disinfection is achieved throughout the plant with chlorine gas (chlorination). The chlorine gas is stored in one tonne containers with two containers connected to two chlorinators. Chlorine can be injected into the flash mixer and/or after clarification to control algae growth in the plant works. For primary disinfection, chlorine is typically added in the filter effluent pipe before it enters the clear well; however, chlorine can be added to the high lift pump discharge system distribution piping. The chlorine is fed at a flow rate proportional to the incoming raw water flow. Chlorine analyzers monitor the chlorine concentrations in the water at various locations such as the booster station at the elevated tower on Spence Street and the treated water leaving the plant.

Site (Name): DISTRIBUTION (WATER INSPECTION)

Type: Other

Sub Type:

Comments:

The distribution system serves a population of approximately 10,154 and 4,644 households in the Town of Hawkesbury and approximately 4000 persons in Champlain Township comprising a total of approximately 2000 persons each from the former Villages of L'Original and Vankleek Hill (this distribution system will be discussed in a separate report). These figures were obtained from the municipal office for the Township of Champlain and are based on the population data recorded during the 2000 enumeration. The existing water distribution system for the Town of Hawkesbury currently serves the municipality through a network of local water mains East and West of Highway No. 34 and South of Highway No. 17 which traverses the south side of the Town. Service is provided to the villages of Vankleek Hill and L'Original via booster stations, the one for Vankleek Hill is located along Highway No. 34 just south of the Highway # 17 interchange and the one for L'Original is located at the Village's elevated tower site. Service is also provided to the Laurentian Park Subdivision on the east side of town; a system with no re-chlorination capacity. The distribution system augments 415 cubic meters of plant storage capacity with 1,575 cubic meters of elevated storage for a total of 1,990 cubic meters of water storage. The distribution system consists of a variety of water main piping materials such as PVC and metal pipes ranging in size from 100 mm (4 inches) to 750 mm (30 inches). The total length of piping in the Town of Hawkesbury is estimated at over 30 kilometers. A detailed pipe and appurtenances inventory was completed by AQUA DATA INC. in 2006, highlighting all valve/hydrant locations, deficiencies, problem areas, and priority concerns. GIS MAPPING of the system was completed by consulting engineering firm J. L. Richards Ltd., locating all pipes/valves/hydrants. A booster station located at the base of the standpipe, constructed in the mid 1990s increases the useable volume of stored water. The operation of the high lift pumps is controlled by the level of water in the recently relined standpipe.

INSPECTION SUMMARY

INTRODUCTION

- * The primary focus of this inspection is to confirm compliance with Ministry of the Environment legislation and authorizing documents such as Orders and Certificates of Approval, as well as evaluating conformance with Ministry drinking water related policies and guidelines during the inspection period.

The Ministry is implementing a rigorous and comprehensive approach in the inspection of drinking water systems that keys on the source, treatment and distribution components of the system 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 report is based on a "focused" inspection of your system. Although the inspection involved fewer activities than those normally undertaken by a detailed inspection, it contained most of the elements required to assess key compliance issues.

Your system was chosen for a focused inspection during this inspection cycle because inspection findings over the past three years were such that the number of violations were minimal or non-existent, there were few or no orders issued to you that were of significance in the maintenance of water potability and there were no deficiencies as defined in O. Reg. 172/03. The undertaking of a focused inspection at your drinking water system during this year's inspection cycle does not ensure that a similar type of inspection will be conducted at any point in the future.

A physical inspection of the Hawkesbury WTP and Water Distribution Sub-system (WDS) was conducted on January 29, 2015. MOE Inspector, Jean Veilleux (herein known as the inspector) was accompanied during the physical inspection by Mr. Richard Guertin, Superintendent-Environmental Management and Mr. Martin Perron, Quality Management Representative. The Corporation of the Town of Hawkesbury own and operate the Hawkesbury WTP and WDS. The inspection included a physical tour of the treatment plant and distribution facilities and a document review. Plant operators were interviewed and provided their overall perception as to how the system is equipped and operated. The period of October 1, 2013 to December 31, 2014 is referred to as the "inspection period" in this report.

The previous compliance inspection, conducted on September 25, 2013 did not identify non-compliance issues with regulatory requirements nor any actions required. One best management practice issue resulted from the previous inspection.

The inspection included a review and assessment of operating practices using the following documents:

- Drinking Water Systems Regulation (O. Reg. 170/03);
- Certification of Drinking Water System Operator and Water Quality Analyst Regulation (O. Reg. 128/04);
- Municipal Drinking Water License (MDWL) 177-101 Issue 1, issued June 20, 2011;

INTRODUCTION

- Drinking Water Works Permit (DWWP) 177-201 Issue 1, issued June 20, 2011
- Permit To Take Water (PTTW) # 6624-9KBRAJ;
- Various documentation provided by the Owner and Operating Authority.

The Mayor and staff members at the Hawkesbury WTP and WDS are helpful, knowledgeable and professional. All the inspector's requests were complied with.

CAPACITY ASSESSMENT

- * **There was sufficient monitoring of flow as required by the Permit and Licence or Approval issued under Part V of the SDWA**

According to the MDWL 177-101, Schedule C, raw and treated water daily volumes in and out of the WTP must be monitored and recorded. A raw water magnetic flowmeter (replaced in 2013) located on the inlet watermain of the WTP monitor the raw flow and a treated water magnetic flowmeter monitors the outlet of the plant. The process trains each have outlet flow meters. Each filter effluent line and the backwash pumps have magnetic flow meters. The Hawkesbury Elevated Storage tank also has a magnetic flow meter monitoring flow into and out of the tank. Additional magnetic flowmeters are located at the VanKleek Hill Pressure Booster Station, the L'Original Metering Chamber and the Laurentian Park subdivision.

- * **The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Permit and Licence or Approval issued under Part V of the SDWA.**

PTTW # 6624-9KBRAJ limits the raw water taking from the Ottawa River to 20,000 M3/d and 25 M3/min. The PTTW expires May 21, 2024.

The MDWL 177-101 rates the outlet capacity of the WTP at 27,275 M3/d.

Data provided by the WTP's SCADA system indicates that none of the above limits were exceeded.

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.**
- * **Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Permit, Licence or Approval issued under Part V of the SDWA at all times that water was being supplied to consumers.**

Monitoring of the chemicals used to assist filtration is performed by the SCADA system. A review of the data for the inspection period indicates that all chemical feeds were continuously operated during production.

Filtration provides further log removal credits for giardia and viruses. A review of the monthly data for the inspection period indicates that the filters consistently provided water that stayed below 0.3 NTU 95% of the time.

Gaseous chlorine mixed with water and injected at the clear well inlet provides primary disinfection. Data indicates that chlorine gas was dosed into the system consistently while the plant was producing. Continuous free chlorine analyzers ensure CT for primary disinfection is achieved. The continuous free chlorine analyzers between the clear wells alarms if the free cl₂ residual drops, permitting the operators to react pro-actively to chlorine feed failure. A free chlorine analyzer at the point where treated water enters the WDS monitors the secondary residual.

The SCADA system monitors and calculates real time CT achieved and compares it with the CT required. Alarms for process monitoring, chemical feed flows, reservoir contents, free chlorine levels, and flow rates inform the operators if CT levels do not meet at a minimum 2-log (99%)

TREATMENT PROCESSES

removal or inactivation of *Cryptosporidium* oocysts, a 3-log (99.9%) removal or inactivation of *Giardia* cysts and a 4-log (99.99%) removal or inactivation of viruses prior to the first consumer.

Turbidity monitoring of the raw water, filter effluents and treated water ensure optimal process control during the WTP's operation.

Free chlorine residual analyzers in the distribution system monitor the levels to ensure proper secondary disinfection.

Alarms on equipment failures ensure timely response from operators.

The SCADA system provides all the required data to ensure compliance is attained and recorded. The following are some of the parameters identified by the report:

- Daily raw usage and flow;
- Daily filter production, effectiveness and flow;
- Daily distribution usage and flow;
- Backwash treated water usage;
- Daily wastewater volume;
- Turbidity;
- Free, total and combined chlorine residual;

Daily operator laboratory testing provides information on the following parameters:

- Raw, clarifiers, filters and treated water temperature, pH, alkalinity, turbidity (NTU) and color (TCU);
- Clarifier sludge levels and solids concentrations and aluminum residuals,;
- Filter wash times;
- Clearwell pH and free chlorine residuals;
- Treated water hardness, aluminum residual, free, total and combined chlorine residuals;
- Raw and treated water usage meter readings, chemical use and dosages, sludge extraction times, electricity, natural gas and service water usage.

These tests and calculations help the operators monitor the continuous injection of chemicals to maintain good process throughout the plant.

- * **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.**

The Process Data Report provided to the inspector indicates the WDS did not require any notification regarding the level of free chlorine in the WDS.

- * **The primary disinfection equipment was equipped with alarms or shut-off mechanisms that satisfied the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03.**

Operators perform plant operation checks on a daily basis. Data is reviewed, equipment is verified and process is maintained. This plant is manned 7 days per week from 07:00 to 15:30.

- * **The Operator-in-Charge had ensured that all equipment used in the processes was monitored, inspected, and evaluated.**

TREATMENT PROCESS MONITORING

TREATMENT PROCESS MONITORING

- * **Primary disinfection chlorine monitoring was being conducted at a location approved by Permit, Licence or Approval issued under Part V of the SDWA, or at/near a location where the intended CT had just been achieved.**

- * **Continuous monitoring of each filter effluent line was being performed for turbidity.**

Each filter is monitored continuously by a turbidity analyzer on each effluent line.

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

Continuous free chlorine analyzers are located in the WDS and are displayed on the SCADA Human Machine Interface (HMI). Operators collect free and total chlorine residuals simultaneously with the WDS regular sampling. The continuous chlorine residual analyzers are alarmed and report back to the SCADA system.

- * **Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.**
- * **All continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or approval or order, were equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6.**
- * **Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.**
- * **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

OPERATIONS MANUALS

- * **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 did meet the requirements of the Permit and Licence or Approval 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.**

SECURITY

SECURITY

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

Fencing surrounds the properties and entry alarms are located at all the WDS's facility entrances.

CERTIFICATION AND TRAINING

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

Richard Guertin Operator Certificates WT Class 4, # 5031 expiry March 31, 2015. Martin Perron, WDS Class 3 # 64942 expiry February 29, 2016.

- * **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**

The following operators have been designated as OICs:

- Richard Guertin Operator Certificates WT Class 4, # 5031 expiry March 31, 2015. WDS Class 3 # 18050 expired February 28, 2014.
 - Marc Desroches, WT Class 3 # 64871 expiry September 30, 2017; WDS Class 2 # 64915 expiry April 30, 2016;
 - Claude Nolet, WT Class 4 # 5740 expiry September 30, 2017;
 - Michel M.G. Giroux, WT Class 4 # 60638 expiry June 30, 2016;
 - Martin Perron, WT Class 3 # 64940 expiry February 29, 2016, WDS Class 3 # 64942 expiry February 29, 2016;
 - Richard R. Carriere, WQA # 14795, expiry September 30, 2015, WT, Class 2 # 11663 expiry September 30, 2015, WDS Class 3 # 9585, expiry September 30, 2015;
 - Thomas P. Slovacek, WT Class 1 # 85691 expiry June 30, 2017, WDS Class 1 # 85692, expiry June 30, 2017;
 - Gilles Charbonneau, WDS Class 2 # 18226 expiry May 31, 2016;
- * **Only certified operators made adjustments to the treatment equipment.**

WATER QUALITY MONITORING

- * **All microbiological water quality monitoring requirements for distribution samples were being met.**

The Town of Hawkesbury WDS must collect at least 30 samples per month with at least one sample taken weekly. On average, 8 samples are collected every week thus at least 32 samples per month. After verifying the data from the system, the inspector noticed that no samples were submitted during the week of December 29, 2013 to January 5, 2014. The operators informed the inspector that distribution samples were collected that week however no samples were delivered to the laboratory.

- * **All microbiological water quality monitoring requirements for treated samples were being met.**

The Town of Hawkesbury WDS must collect at least one treated water sample weekly. After verifying the data from the system, the inspector noticed that no samples were submitted during the week of December 29, 2013 to January 5, 2014. The operators informed the inspector that distribution samples were collected that week however no samples were delivered to the laboratory.

WATER QUALITY MONITORING

- * All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.
- * All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.
- * All trihalomethanes water quality monitoring requirements prescribed by legislation were conducted within the required frequency.

The Hawkesbury DWS distributes potable water to three stand-alone systems owned by the Township of Champlain: Laurentian Park; Vankleek Hill; L'Original. The Village of L'Original's drinking water is consistently at or over the THM limit of 100 ug/L set by the Ontario Drinking Water Quality Standards (ODWQS) however, THM levels at the point of entry to the system are within standard.

The MOECC compliance reports (2013/2014) for the L'Original and Hawkesbury DWS suggested that "concrete measures must be implemented to reduce the formation of THMs in the (L'Original) drinking water". Both Municipalities were encouraged to work together to reduce the formation of THMs.

Representative of the Township of Champlain, Town of Hawkesbury, MOECC, Genivar (now WSP) and OCWA met on April 17, 2013 to develop an action plan to lower THMs throughout the system.

Minutes of the meeting contained the following items:

- Long term exposure to THM are a health hazard;
- THM are considered carcinogenic;
- Many drinking water systems deal with THM effectively by using chloramination for secondary disinfection;
- Hawkesbury drinking water testing demonstrates that THM levels in the Hawkesbury DWS are within ODWQS.

The supplying DWS mentioned the following:

- Organic compounds could be reduced at the source;
- The Hawkesbury WTP requires upgrades;
- The Hawkesbury WTP will be provided with an optimization report this year;
- The Hawkesbury WTP will keep optimizing process;
- Once the optimization report is complete, options will be reviewed and implemented within budgetary capabilities.

"The meeting concluded with the agreement that Genivar/OCWA/Hawkesbury would look at various options for short term improvements and that once Hawkesbury has the optimization report from its engineers later this year, they can determine what can be done for the whole system." No further progress has occurred.

On March 30, 2015, the inspector met with Mr. Gary Barton, Mayor, Paula Knudson, CEO, James McMahon, Director of Public Works all of Champlain Township; Mario Vincelly, Manager of Infrastructure Planning, WSP Canada Inc.; Mr. Jean-Pierre Gelin, Operations Manager and Michelle Gordon, Process Compliance Technician of OCWA. All were concerned and candid about the need to rectify the THM issue in L'Original.

- Action is required since THM are a health hazard and considered carcinogenic;
- The public is at risk;

WATER QUALITY MONITORING

- Champlain is at a standstill and would like to know what the Town of Hawkesbury require from the Township to resolve the issue other than treatment at the municipal borders;
- Champlain is actively searching to expand their use of Hawkesbury water supply;
- Best timeline and financial solution is chloramination at the source.

The inspector informed the meeting participants he hoped the issue could be resolved within a year if parties worked together. lined the benefits of chloramination for secondary disinfection:

- THMs are a health concern;
- Consumers benefit from low levels;
- Chloramination is endorsed in the "Procedure for Disinfection of Drinking Water in Ontario";
- Decrease of THM by optimization may have reached a maximum;
- Supplies from the Hawkesbury DWS may be limited since THM formation is likely;
- The ODWQS may be lowered from 100 ug/L to 80 ug/L.

A document titled "The Strategies of Minimizing the Disinfection By-Products Trihalomethanes and Haloacetic Acids" is added as an appendix to this report. The inspector encourages both municipalities to keep communicating to agree on a plan to lower THMs and appreciates all the candid input received and believes both communities are concerned about this issue and willing to work at resolving it.

- * **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**
- * **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**
- * **The required daily samples were being taken at the end of the fluoridation process.**
- * **All water quality monitoring requirements imposed by the Permit and Licence or Approval issued under Part V of the SDWA were being met.**
MDWL 177-101 Schedule C sets a maximum concentration of suspended solids from the WTP at an annual average of 25 mg/L.
- * **All sampling requirements for lead prescribed by schedule 15.1 of O. Reg. 170/03 were being met.**
The requirements for lead sampling have ceased to apply to the Hawkesbury WTP system as indicated in Schedule 15.1 (9). Total alkalinity and pH are performed every 12 months during each period. Lead sampling is performed every third 12 month during each period.
- * **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**

REPORTING & CORRECTIVE ACTIONS

- * **Corrective actions (as per Schedule 17) had been taken to address adverse conditions, including any other steps that were directed by the Medical Officer of Health.**

Two AWQI related to total coliform occurred in the DWS.

REPORTING & CORRECTIVE ACTIONS

- * **Corrective actions as directed by the Medical Officer of Health had been taken by the owner and operating authority to address exceedances of the lead standard.**

- * **All required notifications of adverse water quality incidents were immediately provided as per O. Reg. 170/03 16-6.**

- * **Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.**

The "Facility Logbook" notes call-ins, diagnostics and corrective actions. The logbook indicates that operators are diligent to respond to alarms in a timely fashion.

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:

Jean Veilleux

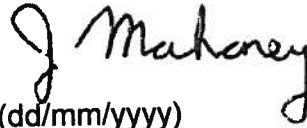
Signature: (Provincial Officer):



Reviewed & Approved By:

James Mahoney

Signature: (Supervisor):



Review & Approval Date: 21/04/2015 (dd/mm/yyyy)

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.