



February 28, 2020

Tri-County Water Board
c/o: Magda Badura
22413 Hoskins Line
Rodney, ON N0L 2C0

Re: Requirement under the Safe Drinking Water Act for a Summary Report

Dear Ms. Badura;

Attached is the 2019 Summary Report for the Tri-County Drinking Water System. This report is completed in accordance with Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act.

This Summary Report is to be provided to the members of the Tri-County Water Board. Please ensure this distribution by March 31st, 2020.

We recently forwarded a copy of the 2019 Annual Report for the Tri-County Drinking Water System required under Section 11 of O. Reg. 170/03. Section 12 of O. Reg. 170/03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Please feel free to contact me should you require any additional information regarding these reports. I can be reached at 226-377-3563.

Sincerely,

A handwritten signature in black ink that reads "Cindy Sigurdson". The signature is written in a cursive, flowing style.

Cindy Sigurdson
Safety, Process and Compliance Manager

cc. Mike Taylor, Senior Operations Manager
Dale LeBritton, Regional Hub Manager
Stephanie Baronette, Process and Compliance Technician



**Ontario Clean Water Agency
Agence Ontarienne Des Eaux**

**Annual Summary Report
For the
Tri-County Drinking Water System
2019**

Prepared for the Tri-County Water Board

By the Ontario Clean Water Agency

Table of Contents

Section Number	Contents	Page Number
1	Overview of System	1
2	Compliance with Regulations Schedule 22-2 (2)(a) List the requirements of the Act, the regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report	1
3	Corrective Actions Schedule 22-2 (2)(b) For each requirement referred to in section 2 that was not met, specify the duration of the failure and the measures that were taken to correct the failure.	2
4	Flow Summary Schedule 22-2 (3) 1. A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows. 2. A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.	3
APPENDICES		
APPENDIX A	Raw flows for January 1, 2019 to December 31, 2019	
APPENDIX B	Treated Flows for January 1, 2019 to December 31, 2019	

SECTION 1: Overview

This summary report for the Tri-County Drinking Water System is published in accordance with Schedule 22 of Ontario's Drinking Water Systems Regulation for the reporting period of January 1, 2019 to December 31, 2019. The Tri-County Drinking Water System (DWS) is categorized as a Large Municipal Residential Drinking Water System.

The DWS is owned by the Tri-County Water Board. The system is made up of the Tri-County Water Treatment Plant, the transmission main and the West Lorne Standpipe.

The Tri-County DWS operated in accordance with the Municipal Drinking Water Licence 043-101, Drinking Water Works Permit 043-201 and Permit to Take Water 0515-8L9GX7 (Issued September 1, 2011).

This report was prepared by The Ontario Clean Water Agency on behalf of the Tri-County Water Board and must be supplied to the Tri-County Water Board by March 31st, 2020.

SECTION 2: Compliance

The Tri-County DWS was operated and maintained in such a manner that treated water supplied to the consumers serviced by the system satisfied Ontario Drinking Water Quality Standards. However, some of the regulatory requirements were not met as identified below.

There was a routine inspection conducted by the Ministry of the Environment, Conservation and Parks (MECP) on December 11, 2019. There were three non-compliances with regulatory requirements identified in the inspection report. The non-compliance as written in the final inspection report is as follows:

- 1. Where an activity has occurred that could introduce contamination, all parts of the drinking water system were not disinfected in accordance with Schedule B, Condition 2.3 of the Drinking Water Works Permit.**

Drinking Water Works Permit #043-201 - Issue #5 Section 2.3 of Schedule B stipulates that all parts of the drinking water system in contact with drinking water that are added, modified, replaced, extended or taken out of service for inspection, repair or other activities that may lead to contamination, shall 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:

- a) The Ministry's Watermain Disinfection Procedure, effective no later than October 31, 2017;*
- b) AWWA C652 – Standard for Disinfection of Water-Storage Facilities;*
- c) AWWA C653 – Standard for Disinfection of Water Treatment Plants; and*
- d) AWWA C654 – Standard for Disinfection of Wells.*

The Owner/Operating Authority submitted two (2) internal forms for the replacement of two (2) treated water highlift discharge PRV valves located within the Tri-County Water Treatment Plant. A review of the documentation submitted, indicated that Owner/Operating Authority failed to ensure that AWWA Standard C653 – Disinfection of Water Treatment Plants was accurately followed in order to satisfy the conditions imposed by the Director in the Drinking Water Works Permit. In addition to the aforementioned, the forms lacked appropriate details such as but not limited to the following; which approved disinfection method was followed, accurate times of activities performed, the length of contact time and the level of free chlorine. The Owner/Operating Authority also failed to ensure that bacteriological samples were collected, and acceptable results received prior to putting the valve into service.

Action(s) Required: *From herein, the Owner/Operating Authority shall ensure that that the procedures listed in the most current issue of the Drinking Water Works Permit #043-201, Section 2.3 of Schedule B is*

accurately followed, and activities are properly documented in order to satisfy the conditions imposed by the Director. The Owner/Operating Authority shall provide training to the operators on the requirements of the most current issue of the Drinking Water Works Permit #043-201 and shall submit documentation to ensure compliance with the aforementioned including an operator sign off sheet to the undersigned inspector no later than February 28, 2020.

2. Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test.

In accordance with Ontario Regulation 170/03 Schedule 6-5(1) if a drinking water system uses continuous monitoring equipment for sampling and testing that is required under this Regulation, or under an approval, municipal drinking water licence, drinking water works permit, or order, for a parameter set out in the Table to this section the owner of the system and the operating authority for the system shall ensure that the test results recorded under paragraph 1 or 2 must be examined, within 72 hours of the tests are conducted by a (i) Certified operator in the case of a Large Municipal Residential System. At the time of the inspection, the Owner/Operating Authority proactively notified the Ministry that a review of continuous monitoring equipment for the treatment plant occurred on the morning of Friday November 29, 2019 but did not occur again until late afternoon on Monday December 2, 2019 which exceeded the 72 hour review period. The Owner/Operating Authority currently have procedures in place to ensure that the 72 hour review is completed, however, an oversight occurred on the Friday and the trends were not reviewed prior to operators leaving for the weekend. The Owner/Operating Authority proactively reviewed the procedures with the operators.

Action(s) Required:

From herein, the Owner/Operating Authority shall take such steps necessary to prevent future exceedances of the 72 hour review as per Schedule 6-5(3) of O.Reg 170/03. No further action required at this time. Compliance shall be assessed during the next inspection period.

3. The following instance(s) of non-compliance were also noted during the inspection:

Municipal Drinking Water Licence #043-101 – Issue #7 Section 1.5 of Schedule C states that in respect of an effluent discharged into the natural environment from the Tri-County Water Treatment Plant shall not exceed the Annual Average Concentration of 25 mg/L of Total Suspended Solids at the point of discharge from the settling lagoons to the natural environment. On February 15, 2019, the Owner/Operating Authority notified the Ministry that the Annual Average Concentration for Total Suspended Solids was exceeded with a result of 89 mg/L. The exceedance was reported as a Legislative Non-compliance under Municipal Drinking Water Licence #043-101. The Owner/Operating Authority suspect that the exceedance was due to incorrect sampling technique. Corrective actions included reviewing sampling techniques with operators.

Action(s) Required:

From herein, the Owner/Operating Authority shall take such steps necessary to prevent future exceedances of Total Suspended Solids at the point of discharge from the settling lagoons to the natural environment. No further action required at this time. Compliance shall be assessed during the next inspection period.

There were one adverse water quality incidents in 2019. The first was AWQI # 144444 on January 2nd, 2019. The results of the sample indicated the presence of Total Coliform of 1cfu/100mL. Notifications were provided to the Spills Action Centre, MECP and the Medical Officer of Health as required by O. Reg. 170/03. Re-samples were collected and submitted for analysis. Re-sample results met the Ontario Drinking Water Quality Standards.

SECTION 3: Corrective Action

The routine MECP Inspections have an Inspection Rating Record, which evaluates the system to provide information for the owner/operator on areas that need to be improved. The particular areas that were evaluated for the Tri-county Drinking Water System were: Capacity Assessment, Treatment Process, Operations Manuals, Logbooks, Certification and Training, Water Quality Monitoring, Reporting and Corrective Actions, and Treatment Process Monitoring. This system received 35 out of 510 non-compliance ratings and as such received 93.14% for the Final Inspection Rating.

In response to the non-compliance, training was provided on February 27th, 2020, to the operators regarding the procedures listed in the most current issue of the Drinking Water Works Permit #043-201, Section 2.3 of Schedule B. The training included: sampling, notifications, documentation as well as a review of the AWWA C653 Standard. The MECP was notified of this corrective action on February 28th, 2020.

For the AWQIs resamples were obtained upstream, at the location of the adverse and downstream of the adverse. All results showed no total coliform and no E. coli. All reporting and sampling was completed as requirement by O. Reg. 170/03.

SECTION 4: Summary and Discussion of Quantity of Water Supplied

In accordance with Schedule 22-2(3) find a summary and discussion of the quantity of water supplied during the reporting period compared to the rated capacity specified in the MDWL, DWWP and Permit to Take Water, including monthly average and maximum daily flows.

Attached as Appendix A, find a summary of the raw flows including total, average, and maximum daily flows, and peak flow rates for the reporting period. As well, a comparison of flows to the Permit to Take Water limits is provided. The Permit to Take Water (PTTW) specifies flow rates and total water takings permitted. For the Tri-County DWS the maximum flow rate limit is 9,400L/min. The total daily water taking is 13,500m³/day. The overall daily taking of water was not exceeded. The Tri-County DWS is at 31% capacity for the average daily water taking limit, which is up by 2.6% from last year.

Attached as Appendix B, find a summary of treated water flows including total, average, and maximum daily flows for the reporting period. As well, a comparison of flows to the Municipal Drinking Water Licence (MDWL) rated capacities is provided. The rated capacity of the plant is 12,160m³/day of treated water as specified in the MDWL. The daily average flow for the reporting period was 3,832m³/day, which is a decrease by 0.3% from 2018. The maximum daily flow for the reporting period was 6,547m³/day. The plant is operating at 31.5% of its rated capacity; this is down from 2018 by 0.3%.

The Tri-County DWS is capable of meeting its current uses for the system. It is operating at well below the limits set out in the Permit to Take Water and the design capacity for the plant.

APPENDIX A

Raw Flows for the Tri-County DWS compared to the specified limits in the Permit to Take Water. The maximum flow rate specified is 9,400L/min (156.7L/s) with a total water taking of 13,500,000L/day.

Month	Total Flow (m³)	Average Day Flow (m³/day)	% of PTTW Limit	Max Day Flow (m³/day)	% of PTTW Limit	Max Day Flow Rates (L/s)	% of PTTW Limit
January	112,361	3,625	26.9	5,440	57.9	138.5	88.4
February	95,629	3,415	25.3	5,083	54.1	137.6	87.8
March	109,123	3,520	26.1	4,696	50.0	141.3	90.2
April	108,848	3,628	26.9	5,076	54.0	140.1	89.4
May	119,750	3,863	28.6	5,144	54.7	143.0	91.3
June	146,427	4,881	36.2	7,085	75.4	142.8	91.1
July	150,273	4,848	35.9	6,653	70.8	139.0	88.7
August	149,231	4,814	35.7	6,265	66.6	141.3	90.2
September	135,600	4,520	33.5	5,800	61.7	141.3	90.2
October	130,044	4,195	31.1	6,681	71.1	141.3	90.2
November	120,506	4,017	29.8	5,767	61.4	140.0	89.3
December	151,222	4,878	36.1	7,806	83.0	134.1	85.6
Total	1,529,014						
Average		4,189	31.0				
Maximum				7,806	82.0	143.0	91.3

APPENDIX B

Treated flows for the Tri-County DWS compared to the specified rated capacity of 12,160m³/day in the Municipal Drinking Water Licence.

Month	Total Flow (m³)	Average Day Flow (m³/day)	% of Rated Capacity	Max Day Flow (m³/day)	% of Rated Capacity
January	102,419	3,304	27.2	4,774	39.3
February	85,683	3,060	25.2	4,652	38.3
March	105,822	3,307	27.2	4,707	38.7
April	102,910	3,430	28.2	4,526	37.2
May	114,739	3,701	30.4	4,612	37.9
June	138,440	4,615	38.0	6,547	53.8
July	147,361	4,754	39.1	6,120	50.3
August	140,177	4,522	37.2	5,751	47.3
September	124,716	4,157	34.2	5,225	43.0
October	122,185	3,941	32.4	4,815	39.6
November	114,019	3,801	31.3	5,196	42.7
December	104,120	3,359	27.6	4,694	38.6
Total	1,402,589				
Average		3,832	31.5		
Maximum				6,547	50.3