Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Tri County Drinking Water System
Operations Report
First Quarter 2025

Ontario Clean Water Agency, Southwest Region
Sam Smith, Sr. Operations Manager
Date: April 9, 2025

Facility Description

Facility Name:	Tri-County Drinking Water System
Regional Manager:	Sam Sianas (519) 319-2233
Sr. Operations Manager:	Sam Smith (226) 377-1540
Business Development Manager:	Robin Trepanier (519) 791-2922
Facility Type:	Municipal
Classification:	Class 2 Water Distribution, Class 2 Water Treatment
Title Holder:	Municipality

Service Information

Area(s) Serviced:	West Elgin, Dutton/Dunwich, Southwest Middlesex, Newbury and Bothwell
Population Serviced:	9,985
No. of Connections:	
Water Meters:	Commercial / Residential
In Service Date:	2009

Capacity Information

Total Design Capacity:	12.160 (1000 m^3/day)
Total Annual Flow:	1,381 (1000 m^3/year)
Average Day Flow:	3.770 (1000 m^3/day)
Maximum Day Flow:	5.380 (1000 m^3/day)

Operational Description

Water treatment with intake in Lake Erie, 4 low lift pumps, lifting up to the treatment plant. Membrane filtration followed by injection with Sodium Hypochlorite for primary disinfection and into the 2 Storage Tanks. Pumping to tower & distribution system with 4 high lift pumps.

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance issues to report during the first quarter.

SECTION 2: INSPECTIONS

FIRST QUARTER:

On February 20th, a routine MECP inspection was conducted at the Tri-County Drinking Water System by Provincial Officer, Meghan Morgan. The draft report was received for comment and had no non-compliances or best management practices identified.

SECTION 3: QEMS UPDATE

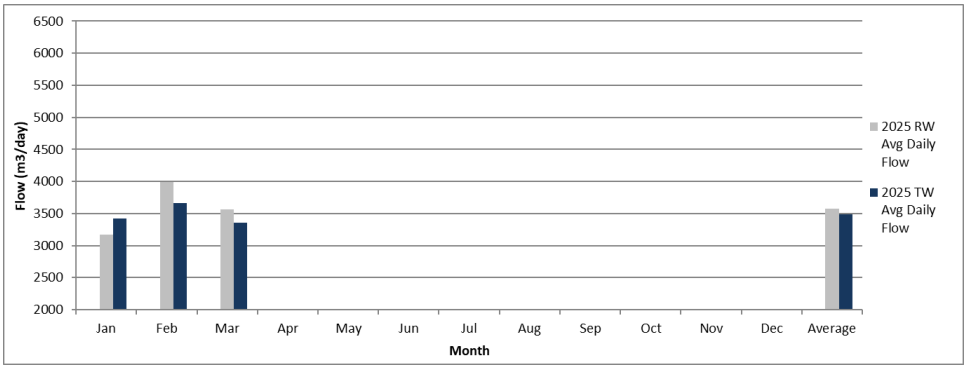
FIRST QUARTER:

On February 11th , the Essential/Emergency Service and Supply Contact List was updated to include changes to OCWA staff contacts as well as client contacts. The contact list is currently in its 38th revision and is reviewed annually.

SECTION 4: PERFORMANCE ASSESSMENT REPORT

The Tri-County Drinking Water System is currently operating at 97.37% efficiency with the water taken from Lake Erie that is treated and sent to the distribution systems. Chart 1 below shows the raw water takings compared to the treated water distributed to the distribution system so far in 2025.

Chart 1: Average daily water takings compared to treated water distributed to the distribution system



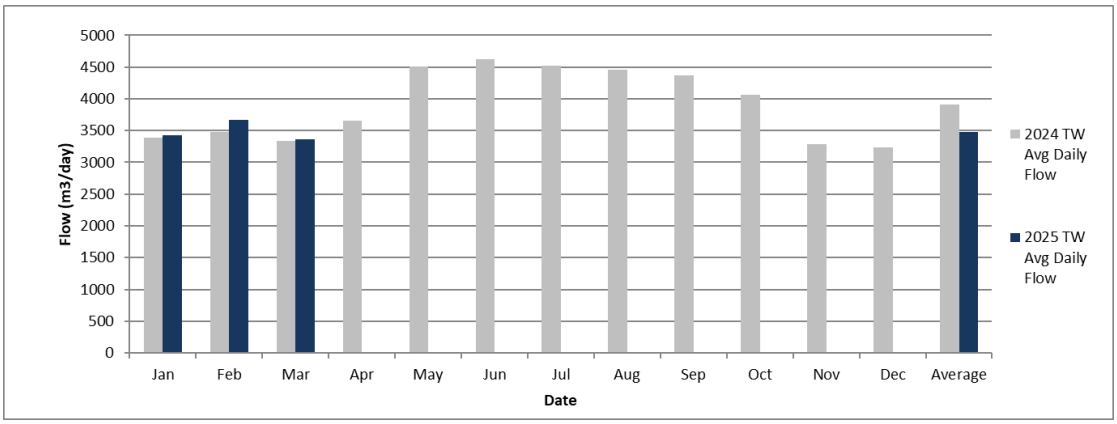
Raw water is sampled on a weekly basis and tested for E. coli and Total coliforms as per regulatory requirements. There are no limits identified in the regulations for E. coli and total coliform found in the raw water source. Table 1 below identifies the sample results for the first quarter.

Table 1: Raw water sample results 2025

	# Samples	E. Coli Range (cfu/100mL)	Total Coliform Range (cfu/100mL)
January	4	2 - 50	6 - 700
February	4	<2 – <10	4 - 50
March	4	<10 - <100	210 - 2400

The raw water is treated through membrane filtration and chlorine disinfection. The treated water is distributed to the systems it serves through the high lift pumps. The average daily treated water sent to the distribution in 2025 so far is 3,481.9 m^3/d. The average treated water flow in the first quarter of 2025 is up 2.4% when compared against the average daily flow in the first quarter of 2024. The Tri-County Drinking Water System is currently at 28.6% of its rated capacity. Chart 2 below depicts the treated water flow for 2025 compared to 2024 average daily flows.

Chart 2: Treated water average daily flow in 2025 compared to 2024



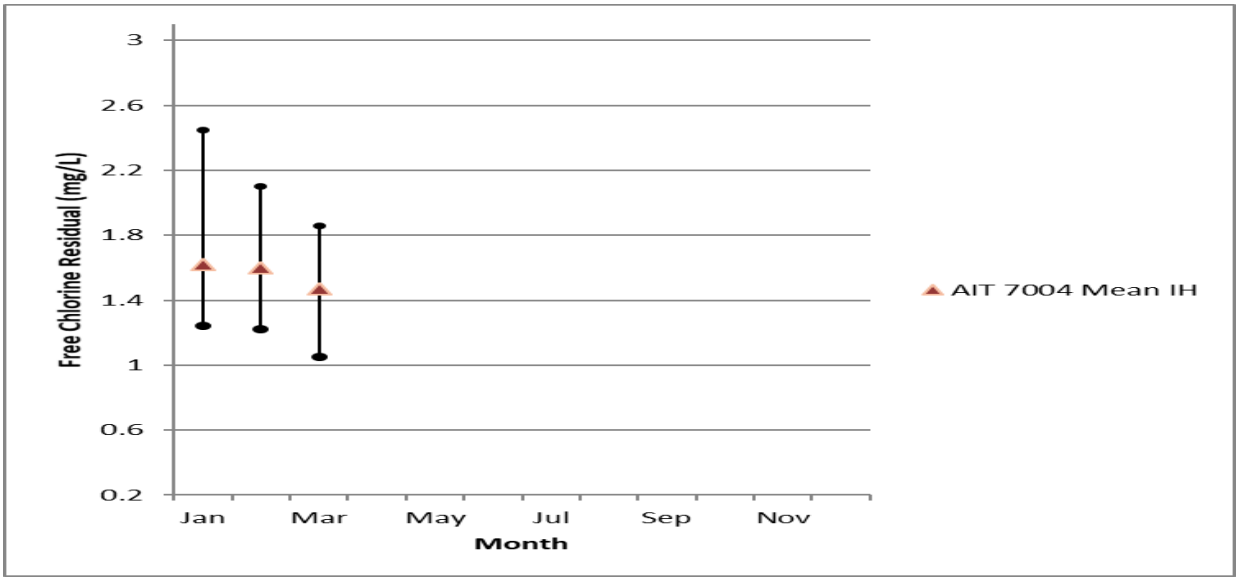
To ensure inactivation of viruses, bacteria and microorganisms the membrane filtration system is required to meet performance criteria for filtered water turbidity of less than or equal to 0.1 NTU in 99% of the measurements each month. The Tri-County Water Treatment Plant has met all regulatory requirements for inactivation in 2024. Table 2 below shows the performance of each filter rack and the overall filter rack performance.

Table 2: Filter Rack Performance in 2025

	Rack 1 % Readings <0.1ntu	Rack 2 % Readings <0.1ntu	Rack 3 % Readings <0.1ntu	Rack 4 % Readings <0.1ntu	Overall Filter Performance (% readings <0.1ntu)
January	100.00	100.00	100.00	99.90	99.98
February	100.00	100.00	100.00	99.80	99.95
March	100.00	100.00	100.00	99.90	99.98

Along with turbidity, chlorine residuals are monitored throughout the treatment process by continuous online free chlorine analyzers. Residuals are maintained in order to provide adequate primary disinfection to meet inactivation of viruses, bacteria and microorganisms. The chlorine also provides adequate residuals in the distribution systems the treatment plant serves (secondary disinfection). Chart 3 below provides the online minimum, maximum and average readings of free chlorine provided to the distribution systems. All results have met regulatory requirements.

Chart 3: Distribution System Free Chlorine Residuals



On a weekly basis the treated water is tested for E. coli, Total Coliforms and heterotrophic plate count (HPC). The limit for Total Coliform and E. coli is zero. There is no limit specified for heterotrophic plate count (HPC) as this is an operational guide to initiate an action plan if HPC results are continuously high. Table 3 below shows the number of samples taken each month along with the range of results. All samples have met regulatory requirements.

Table 3: Treated water sample results for 2025

	# Samples	Total Coliform Range (cfu/100mL)	E. coli Range (cfu/100mL)	HPC (cfu/100mL)
January	4	0 - 0	0 - 0	<10 – <10
February	6	0 - 0	0 - 0	<10 – 10
March	4	0 - 0	0 - 0	<10 – <10

The transmission main (distribution system) is sampled on a weekly basis at two locations for E. coli, Total Coliforms and heterotrophic plate count (HPC) to meet regulatory requirements. As with the treated water the limit for Total Coliform and E. coli is zero, heterotrophic plate count (HPC) doesn't have a limit. This is an operational guide to initiate an action plan if HPC results are continuously high. Table 4 below shows the number of samples taken each month along with the range of results.

Table 4: Distribution system sample results for 2025

	# Samples	Total Coliform Range (cfu/100mL)	E. coli Range (cfu/100mL)	HPC (cfu/100mL)
January	8	0 - 0	0 - 0	<10 – <10
February	8	0 - 0	0 - 0	<10 – 10
March	10	0 - 0	0 - 0	<10 – <10

On a quarterly basis trihalomethanes are tested at two locations in the system. The first location is at the treatment plant prior to the water leaving the facility. The second location is at the end of the system, at the West Lorne Standpipe. Sampling from both locations provides information on how the THMs are forming in the system with retention time. There is an issue with elevated THMs in the distribution systems that the Tri-

County Drinking Water System provides water to. Table 5 below provides the running average quarterly results; the running average limit for THMs is 100µg/L. All results are within regulatory requirements. However, THMs increase with increased retention time therefore THMs in the distribution system the WTP serves can be much higher, even reaching the regulatory limit.

Table 5: Trihalomethane sampling results

	Limit (µg/L)	Treated Water THM Result (µg/L)	West Lorne Standpipe THM Result (µg/L)
April 2024		14	28
July 2024		26	46
October 2024		52	90
January 2025		16	20
Running Average	**100**	**27.00**	**46.00**

On a quarterly basis Haloacetic Acids (HAAs) are tested as per regulatory requirements. They are sampled at two locations in the system. The first location is at the treatment plant prior to the water leaving the facility. The second location is at the end of the system, at the West Lorne Standpipe. Sampling from both locations provides information on how the HAAs are forming in the system with retention time. Table 6 below provides the current running average quarterly results; the running average limit for HAAs is 80µg/L. All results are within regulatory requirements.

Table 6: Haloacetic Acid sampling results

	Limit (µg/L)	Treated Water HAA Result (µg/L)	West Lorne Standpipe HAA Result (µg/L)
April 2024		5.3	15.1
July 2024		8	25
October 2024		28	55.2
January 2025		5.3	5.3
Running Average	**80**	**11.65**	**25.15**

SECTION 5: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER:

On March 3rd the annual occupational health and safety inspection was completed. There were no issues identified. There were no additional Health & Safety issues identified in the first quarter.

SECTION 6: GENERAL MAINTENANCE

FIRST QUARTER:

JANUARY:

8: Greatario repaired small leak on south storage tank T- 6020.

16: Gerber electric Fixed the caustic heater, eagle west panel heater, confirmed silver clay chamber and pioneer line chamber will need new heaters. Installed new limit switch in eagle east chamber.

27: Syntec onsite to investigate PRVs and demonstration on proper maintenance.

31: Southwest mechanical on site to replace PHC 4736 air regulator.

FEBRUARY:

5: Nevtro onsite to repair pin hole leaks on high lift line and RFR line.

10: Plasco Welding & Fabrication onsite to look at Caustic tank.

19: Martins lift truck service on site and completed service on forklift, WO #4353632 Vehicle Lift Truck Clar Insp/Service.

MARCH:

4: Flowmetrix onsite for annual meter reads.

13: Plasco on site to perform repair on Caustic Tank.

18: Levitt safety onsite for air pack inspection and fit testing.

18: Eramosa on site to Fix PDP pump.

19: Ontario Compressor on site to inspect compressors.

21: Southwest Mechanical onsite to see if they can get the low lift sample pumps pulling water again.

25: Gerber's onsite to look at faulting PDP-9010.

25: Waddick onsite for diesel delivery.

SECTION 7: ALARM SUMMARY

FIRST QUARTER:

JANUARY :

3: Received call for main generator running inlet valve fault now normal. Found all low lift pumps faulted and MV7041 stuck blower A is faulted. Put MV7041 in manual and now normal. Arrived at the low lift building and reset all 4 pumps. LLP 1010 and 1020 turned on due duty two request. Plant switched back to hydro power, Compressor A still faulted.

4: Faulted low lift pumps have been reset, LLP 1010 and 1030 are both running. Plant running on compressor B and running well.

16: Received alarm for HI-HI turbidity on AIT- 7003 most likely caused from opening cooling lines on UV and stirring up sediment in those lines.

21: received call from spectrums for storage tank fault now normal.

23: Received text from spectrums "FILTRATE STORAGE TANK FULL" logged on remotely to find tanks were filling and level at 7.24m. After reviewing trending at 11:13 the tank hit 3.09m and at 11:20 the tank was back up 7.21m most likely caused by ice forming in tank and falling into water causing ripples in the water affecting the transducer.

23: Received call from spectrums for storage tank fault. logged on remotely and level was normal at 8.00m. After reviewing trending at 1935 the tank hit 4.78m and at 19:41 the tank was back up 7.96m. most likely caused from ice forming in tank and falling into water causing ripples in the water affecting the transducer.

24: Received call from spectrums for Wallacetown tower fault. Logged onsite and found Wallacetown tower at 8.14m. Placed PRV-7051 into manual and changed manual set point. Flow now at 46 l/s. Wallacetown tower

now at 8.30m placed PRV-7051 back into auto and flow is now at 40 l/s, level now at 9.79m PRV-7051 still running normally with flow at FIT-7052 at 40 l/s. Syntec coming Monday to look at both PRVs.

25: Received call from spectrums for storage tank fault. Arrived onsite alarm most likely caused from freezing on the transducer, lo and lo lo alarms on LIT-6010 as tank 6020 and LIT-6021 are now in duty. Started plant back up and everything looks normal.

27: Received call from Spectrums for Rodney tower general alarm. found Rodney tower LIT2 HIHI Alarm; stop setpoint 9m but tank filled to 9.75m and holding. Received call for Wallacetown critical alarm, tower level at 8.09. Spoke with OIC, close the bypass valve on Wallacetown line. Rodney tower current level 9.66m and out of HIHI alarm. Level will continue to drop with consumption. Leaving site.

28: Received call from Spectrum for Rodney tower general alarm. Rodney tower appears to have filled after West Lorne and reached level greater than 9.60m. Tower back to 9.48m and alarm call now normal.

31: Received call from Spectrums for chemical containment high level or low temp for caustic tank. high level float tripped from ongoing leak. Will discuss with OIC/ORO.

FEBRUARY:

1: Received alarm for caustic tank hi level or low temp. Arrived on site; containment float tripped due to high level. Spoke with OIC CR, was instructed to disable the alarm for the weekend due to the ongoing issue. Alarm now disabled.

1: Received call from Spectrums for caustic high temp. Arrived onsite, caustic tank temp 35.0 degrees and within setpoint range. Heater is disabled.

2: Received call for Rodney tower. Arrived on site, PRV7061 faulted several times. Stopped high lifts, put PRV 7061 into manual then back to auto. High lifts and low lifts are currently off. Rodney tower is now down to 9.68m and out of HIHI alarm. Rodney tower Isolation valve ISV301 failed to close and in HI alarm again. Switched to manual and closed valve. Spoke with ORO SS, changed West Lorne tower setpoints to start at 33m from 34m, and stop at 35m from 36m.

12: Received alarm call for storage fault, alarm was for storage tank LO level, tanks currently at 6.50 and 6.39, two high lifts currently running, shut one down to reduce flow leaving plant, storage tanks came out of LO level.

17: Received call for generator running and all low lift pumps are faulted. Reset progress drain pump, reset all four low lift pumps, plant now making water. Hydro is still out at WP and low lift, repaired at approx. 6pm. Utility power is now back to both buildings, generators are off, reset low lift pump faults and brought PALL system back online.

22: Received call from spectrums for high distribution turbidity. Arrived onsite and restarted high lifts turbidity now at 0.23. Collected sample from north tank overflow. isolating tank until we have lab results back.

25: Received alarm call for PALL system critical failure and remotely saw alarm was for too few racks, plant is still currently making water, rack 2 was in idle state, no alarms as to why rack is shut down, placing into forward flow and now making water.

25: Received alarm call for turbidity analyzer fault, logged in remotely, distribution turbidity is bouncing around 0.65/0.70, increased Hi-Hi alarm to 0.85.

MARCH:

8: Received alarm for Rodney tower general alarm PUC. Rodney tower in HIHI at 9.78, west Lorne standpipe at 36.45, HL still sending water. Changed HL set point from 36.5 to 36 as directed by ORO.

8: Received alarm for Rodney tower general alarm. Rodney tower in HI level, called out and began coming down, west Lorne tower is currently at 35.96. High lifts have stopped sending water, Rodney level coming down out of HI currently at 9.68, West Lorne standpipe at 35.50.

10: Received alarm for filtrate storage tank fault, found both storage tanks in LO alarm at 6.36m and 6.46m. Hit all 3 low lift page reset buttons. Low lifts duty 1 and 2 started and out of LO alarm.

13: Received alarm for less than 3 HighLift pumps available, seems there was a CP2000 power loss and high lift pump 2 and low lift pump 2 are faulted. Arrived onsite, reset HighLift pump 7020 and closed MV-7041 as it was stuck open. Reset low lift Pumps.

14: Received alarm call for filtrate storage, noticed alarms other than storage tanks LO, Communication failure alarm CP1000 – CP2000 Low lift PLC to PALL comms failure. storage tanks are at 6.31 and 6.41 with west Lorne train taking water. Hit all 3 low lift resets, cleared pall alarms, toggled low lift pumps in and out of auto, reset individual low lift pump alarm page. Two low lifts are now running and the storage tank out of LO alarm.

15: Received alarm for generator running, high lift 7010 fault, MV- 2002 faults, and CP2000 power fail most likely due to storm. All alarms are normal when logging on, all the PALL equipment is faulted and plant is not making water, plant is switching back to Utility power. Reset PALL equipment, hit low lift and HighLift resets, and put the racks into auto filter, now the plant is making water and turn off the generator power.

SECTION 8: COMMUNITY COMPLAINTS & CONCERNS

FIRST QUARTER:

There were no complaints or concerns reported during the first quarter.