Ontario Clean Water Agency
Agence Ontarienne Des Eaux
Northeastern Ontario Region

McGarry Water & Wastewater Systems
Quarterly Operations Report

Prepared By: The Ontario Clean Water Agency | Prepared for: The Township of McGarry

SYSTEM OVERVIEW | January 01 to March 31, 2025

Highlights

Virginiatown-Kearns Drinking Water System

- Looking at the Langelier Index, which is an indicator of corrosivity, through jar testing which will guide process changes at the plant. We have recommended they install a corrosion control system in order to reduce the negative impacts to infrastructure. Adjusting the pH of the water could save the township a significant amount of money and time in water main repairs and replacement.
- Internal system electronic communication issues have been causing false flow rate values for source water wells at the Pump-house. Distorted data is displaying values above the Permit to Take Water limitations. This issues is believed to be caused by power fluctuations from a Hydro-Transformer failure that occurred on December 31st, 2024. Ministry and town foreman has been made aware system error, and troubleshooting and corrective actions underway.

McGarry Wastewater Treatment Lagoon

- Leakages and cracks around control gates in-between lagoon cells and outfall chamber are causing short-circuits effecting laboratory results on effluent quality. Corrective maintenance is planned and scheduled in coordination with township workers/supervisors.
- Active On-Going Bypass event (SAC#: 1-H8WX98) placed into effect by the MECP regarding the Leakages into outfall chamber effecting effluent results. Active Bypass status will remain in effect until repairs are completed and documentation is provided to MECP local inspector Janet Colbourne.

Capital Plan Progress

The list of approved capital expenditures for 2025 was provided by the Township. Approved items are in the planning stages if not already underway.

Status of capital work for this quarter of 2025 is captured in Appendix A

Incidents

Virginiatown DWS:

No Incidents to report for this quarter.

McGarry Lagoon:

January 2025 On-going Active Bypass Event (SAC#: 1-H8WX98): Due to leaking separation components in the Lagoon system, Cell# 3 has water discharging into outfall chamber, effective effluent results. This event has influenced the following incidents:

January 2025 ECA Effluent Limit Exceedance (SAC#: 1-IAM38K): Total Phosphorous Monthly Average 0.530 mg/L (Limit: 0.5 mg/L), due to on-going bypass event.

February 2025 ECA Effluent Exceedance (SAC#: 1-IA1TVZ): Total Phosphorous Monthly Average 0.650 mg/L (Limit: 0.5 mg/L), Total Ammonia Nitrogen Monthly Average 6.36 mg/L (Limit: 5.0 mg/L), due to on-going bypass event.

March 2025 ECA Effluent Exceedance (SAC#: 1-N6H9CA): Total Ammonia Nitrogen Monthly Average 6.41 mg/L (Limit: 5.0 mg/L), Total Ammonia Nitrogen Average Monthly Loading 7.45 kg/d (Limit: 5.7 kg/d), due to on-going bypass event.

COMPLAINTS

No complaints were documented this quarter.

CALL-OUT SUMMARY

Number of Call-outs this Quarter:	0
Total Call-outs to Date (2025):	0
Annual Call-out Allowance:	8
Details of the Call-outs:	Refer to Appendix B for a call-out summary, if applicable

Note: Not all call backs are billed to the Owner; depends on the nature of the call.

REGULATORY

Inspections

- There was one (1) inspection for Virginiatown Drinking Water System on January 28th, 2025 by the MECP local Inspector Janet Coulbourne, a final inspection rating of 100% was achieved.

Quality & Environmental Management System (QEMS)

- No Internal or External audits were performed in the 1st quarter of 2025.

Sampling, Testing and Monitoring

- Refer to Appendix B for Quarterly Data Summaries.

Reporting

- 2024 Management Review Minutes submitted to township on February 3rd, 2025.
- 2024 Annual Drinking Water was submitted to all required parties on February 25th, 2025.
- 2024 Annual Lagoon performance report was submitted to all required parties on March 31st, 2025.
- First quarter ECA exceedances for the McGarry Lagoon were reported to all required parties in accordance to legislative requirements.

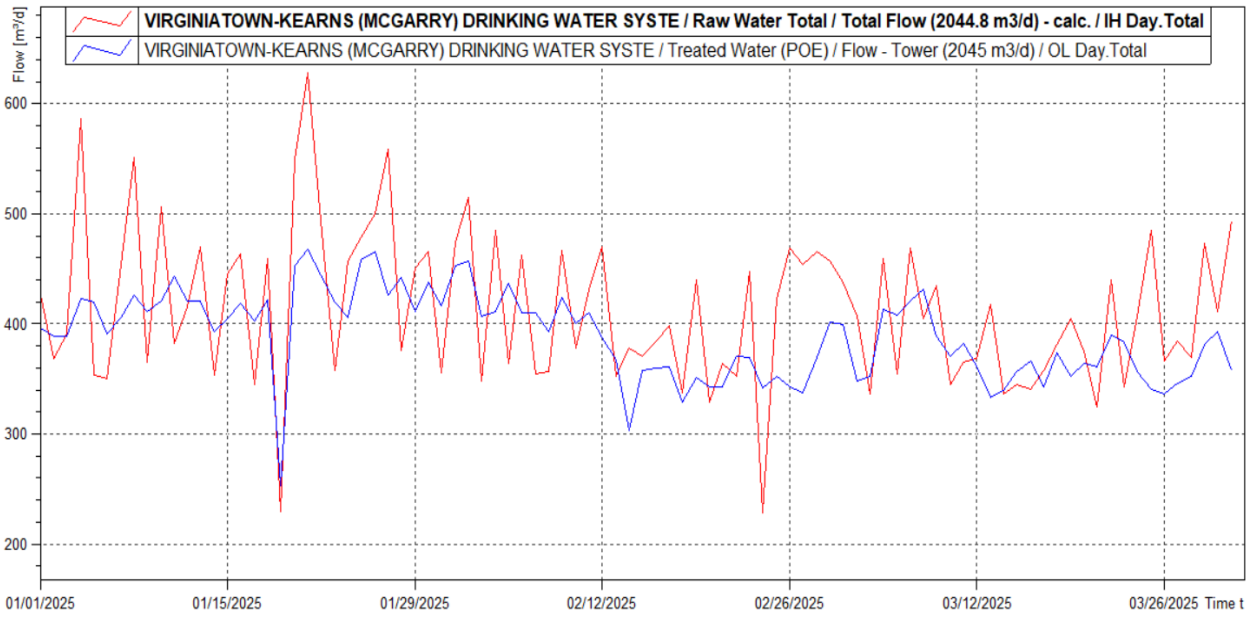
FLOW SUMMARIES

Virginiatown-Kearns Water Treatment Plant (Tower Flows)

	Total Raw Flows (m^3)	**Total Treated Flows** (m^3)	**Average Daily Treated Flow** (m^3/d)	**Maximum Treated Flow** (m^3/d)
January	13,585	12,899	416.1	467.4
February	11,299	10,600	378.6	457.1
March	12,294	11,506	371.1	431.0
Compliance	-	-	-	2,045

Raw Flow verses Treated Flow

January 1 to March 31, 2025

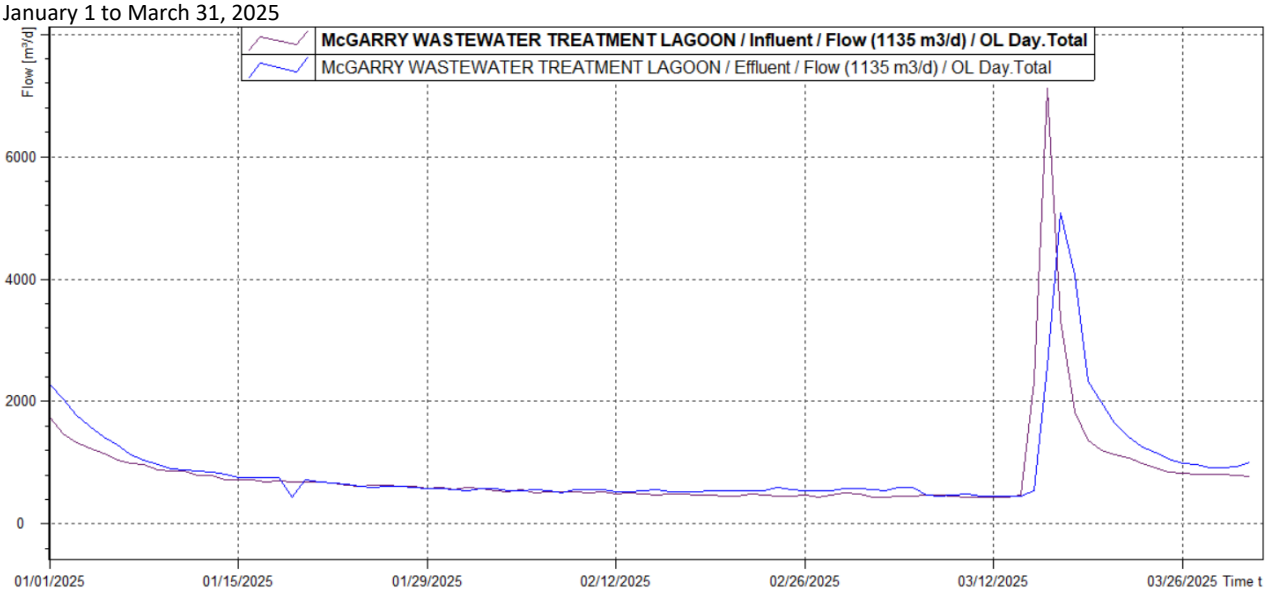


McGarry Lagoon

Year	Total Effluent Flow (m^3)	Total Influent Flow (m^3)	Maximum Influent Flow (m^3/d)	Average Daily Influent Flow (m^3/d)
January	28,764	25,840	1,745	833.6
February	15,316	13,936	591	497.7
March	36,010	33,392	7,116	1,077.2
Compliance	-	-	-	1,135

Influent Flow verses Effluent Flow

January 1 to March 31, 2025



HEALTH AND SAFETY

- All safety equipment at the plant was checked monthly to ensure that they are in good working order.
- Health and Safety Training/Sessions completed this quarter include:
  - ✓ Hot Work Program Safety Training
  - ✓ Gas Hazards in the Workplace Training

APPENDIX A

Capital Plan Progress

Capital Plan Progress Update (based on information kept on file by Eric Nielson, Regional Hub Manager)

Project Number	Project Name	Maximo WO#	Capital Letter	Estimated Completion Date	Billing Date	Quotation	Billed Revenue
MCGARN5085-25ZZ	hypo pump spare parts kit	4381451	yes	April		$800	
	new well gauge for well #1		yes			$400	
	DWQMS third party audit		yes			$2,500	
	wellhouse genset replacement		yes			$70,000	
	spare chemical injectors		yes			$1,200	
	chemical transfer pump		yes			$4,000	
	silent check valve replacement		yes			$5,000	
	VFD drive for well#1		yes			$10,000	
	genset servicing		yes			$800	
	well #1 inspection		yes			$20,000	
	CLI items		yes			$5,000	
	membranes and electrolyte for analyzers		yes			$1,000	

	fire extinguisher maintenance		yes			$200	
	lagoon LS electrical upgrades		yes			$7,500	
	lagoon flow meter replacement		yes			$8,000	
	sludge testing at lagoon		yes			$600	
	air relief valve		yes			$1,500	
	diffuser repairs		yes			$4,000	
	spare pump for PS		yes			$35,000	
	lifting device inspections		yes			$500	
	chemical pump spare parts		yes			$600	
	Alum transfer pump		yes			$4,500	

APPENDIX B

Call Out Summary (None-To-Report)

APPENDIX C

Quarterly Data Summaries

VIRGINIATOWN-KEARNS (McGarry) **DRINKING WATER SYSTEM**

Quarterly Data Report

Q1: January 1 to March 31, 2025

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Virginiatown-Kearns Drinking Water System		January	February	March	Compliance
Flows					
Total Raw Flow - Max. Daily Volume	m^3/d	628	515	493	Max. = 2044.8
Well 1 Flow - Maximum Daily Volume	m^3/d	628	474	489	Max. = 2044.8
Well 1 Flow - Maximum Flow Rate	L/min	1,877[6]	2,000[6]	1,966[6]	Max. = 1420
Well 2 Flow - Maximum Daily Volume	m^3/d	114	127	132	Max. = 1500
Well 2 Flow - Maximum Flow Rate	L/min	1078	1620[6]	1752[6]	Max. = 1105
Tower Flow - Maximum Daily Volume	m^3/d	467	457	431	Max. = 2045
Raw Water					
Well 1 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 1 *E.coli* - Maximum	c/100mL	0	0	0	N/A
Well 2 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 2 *E.coli* - Maximum	c/100mL	0	0	0	N/A
Well 1 Turbidity - Maximum	NTU	0.20	0.34	0.28	N/A
Well 2 Turbidity - Maximum	NTU	1.70	0.88	0.42	N/A
Treated Water					
Free Chlorine Residual - Minimum	mg/L	1.06	1.20	0.98	Min. = 0.10 (CT) [1]
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
E. coli - Maximum	c/100mL	0	0	0	Max. = 0
Nitrate	mg/L	0.07	-	-	Max. = 10
Nitrite	mg/L	<0.01	-	-	Max. = 1
Distribution Water					
Free Chlorine Residual - Minimum	mg/L	0.85	0.76	0.70	Min. = 0.05
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
E. coli - Maximum	c/100mL	0	0	0	Max. = 0
Trihalomethanes (THMs)	µg/L	3.0	-	-	N/A
Running average	ug/L	3.1	-	-	Max. = 100 µg/L [2]
Haloacetic Acids (HAAs)	µg/L	8	-	-	N/A

VIRGINIATOWN-KEARNS (McGarry) DRINKING WATER SYSTEM

Quarterly Data Report

Q1: January 1 to March 31, 2025

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Virginiatown-Kearns Drinking Water System		January	February	March	Compliance
Running average	ug/L	10	-	-	Max. = 80 µg/L [3]
Lead – Maximum	µg/L	2025/26	-	-	Max. = 10 µg/L [4]
Alkalinity - Maximum	mg/L	-	-	-	N/A [5]

Notes:

1 CT is the concentration of chlorine in the water times the time of contact that the chlorine has with the water. It is used to demonstrate the level of disinfection treatment in the water. CT calculations are performed for the Virginiatown-Kearns water plant if the free chlorine residual level drops below 0.10 mg/L to ensure primary disinfection is achieved. Primary disinfection was achieved this quarter.

2 Maximum Allowable Concentration (MAC) for Trihalomethanes (THMs) = 100 ug/L (Four Quarter Running Average).

3 Maximum Allowable Concentration (MAC) for Haloacetic Acids (HAAs) = 80 ug/L (Four Quarter Running Average).

4 Lead testing required every 3 years.

5 Alkalinity testing required twice per year. Sampling is done in March/April and September/October of each year.

6 Internal system electronic communication issues have been causing false flow rate values for source water wells at the Pump-house. Distorted data is displaying values above the Permit to Take Water limitations. This issue is believed to be caused by power fluctuations from, a Hydro-Transformer failure that occurred on December 31st, 2024. Ministry and Town-foreman has been made aware system error, and troubleshooting and corrective actions underway. Well #1 and Well #2 show normal flow rates when data is not effected by electronic distortion.

McGARRY WASTEWATER SYSTEM
Quarterly Data Report
Q1: January 1 to March 31, 2025

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

McGarry Waste Water System		January	February	March	Compliance
Flows					
Influent – Average Daily Flow	m^3/d	834	498	1,077	Average = 1135
Influent – Maximum Daily Flow	m^3/d	1,745	591	7,116	N/A
Effluent – Average Daily Flow	m^3/d	928	547	1,162	Average = 1135
Effluent – Maximum Daily Flow	m^3/d	2,273	592	5,086	N/A
Influent					
BOD_5 – Average	mg/L	2.2	4.3	13.0	N/A
Total Kjeldahl Nitrogen (TKN) – Average	mg/L	2.3	3.5	4.8	N/A
Total Phosphorus (TP) – Average	mg/L	0.38	0.29	0.5	N/A
Total Suspended Solids (TSS) – Average	mg/L	4.0	7.0	24.0	N/A
Effluent					
$cBOD_5$ – Average	mg/L	4.80	5.53	17	Monthly Average = 25
$cBOD_5$ Loading	kg/d	4.45	3.02	19.75	Monthly Average = 28.4
TSS – Average	mg/L	4.4	2.93	5.13	Monthly Average = 25
TSS Loading	kg/d	4.08	1.60	6.0	Monthly Average = 28.4
TP – Average	mg/L	0.53[1]	0.65[1]	0.49	Monthly Average = 0.5
TP Loading	kg/d	0.49	0.35	0.58	Monthly Average = 0.6
Total Ammonia Nitrogen (TAN) – Average	mg/L	3.35	6.36[2]	6.41[2]	Monthly Average = 5
TAN Loading	kg/d	3.1	3.48	7.45[3]	Monthly Average = 5.7

Notes:

1 Total Phosphorus Monthly Average Exceedances reported, refer to "**Incidents – McGarry Lagoon"** on pages 1 & 2 of this report for further details.

2 Total Ammonia Nitrogen (TAN) Monthly Average Exceedances reported, refer to "**Incidents – McGarry Lagoon"** on pages 1 & 2 of this report for further details.

3 TAN Monthly Average Loading Exceedance reported, refer to "**Incidents – McGarry Lagoon"** on pages 1 & 2 of this report for further details.