



Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Rodney Wastewater Treatment Plant
Operations Report
Third Quarter 2024

Ontario Clean Water Agency, Southwest Region

Sam Smith, Senior Operations Manager

Date: November 15, 2024

Facility Information:

Facility Name: Rodney Wastewater Treatment Plant
Facility Type: Municipal
Classification: Class 2 Wastewater Collection, Class 2 Wastewater Treatment

Operational Description:

The collection system consists of sewers and one submersible pumping station. The treatment facility main elements are an extended aeration process designed for combined carbon removal and nitrification. The discharge of secondary clarifier: effluent is filtered and disinfected with ultraviolet light before being re-aerated and discharged to the Sixteen Mile Creek. The waste activated sludge is discharged to a lagoon for storage. Dual-point chemical addition alum: is used for phosphorus removal. Sodium hydroxide is added for control of alkalinity.

Service Information

Areas: Serviced: Village of Rodney

Design Capacity:

Total Design Capacity: 590 m³/day
Total Annual Flow (2022 Data): 96,548 m³/year
Average Day Flow (2022 Data): 264.5 m³/day
Maximum Day Flow (2022 Data): 1,834.5 m³/day

Treatment Process Features:

Effluent Receiver: Sixteen Mile Creek to Lake Erie
Major Process: Extended aeration
Phosphorus Removal: Continuous, Use of alum
Additional Treatment: Effluent filtration
Discharge Mode: Continuous discharge
Effluent Disinfection Practice: UV Disinfection
Sludge Stabilization: Lagoon storage

Contacts:

Regional Manager: Sam Sianas 519-319-2233
Sr. Operations Manager: Sam Smith 226- 377-1540
Business Development Manager: Robin Trepanier 519- 791-2922

SECTION 1: COMPLIANCE SUMMARY

FIRST QUARTER:

There were no compliance or exceedance issues reported during the first quarter.

SECOND QUARTER:

There were no compliance or exceedance issues reported during the second quarter.

THIRD QUARTER:

There were no compliance or exceedance issues reported during the third quarter.

SECTION 2: INSPECTIONS

FIRST QUARTER:

There were no MECP or MOL inspections conducted in the first quarter.

SECOND QUARTER:

There were no MECP or MOL inspections conducted in the second quarter.

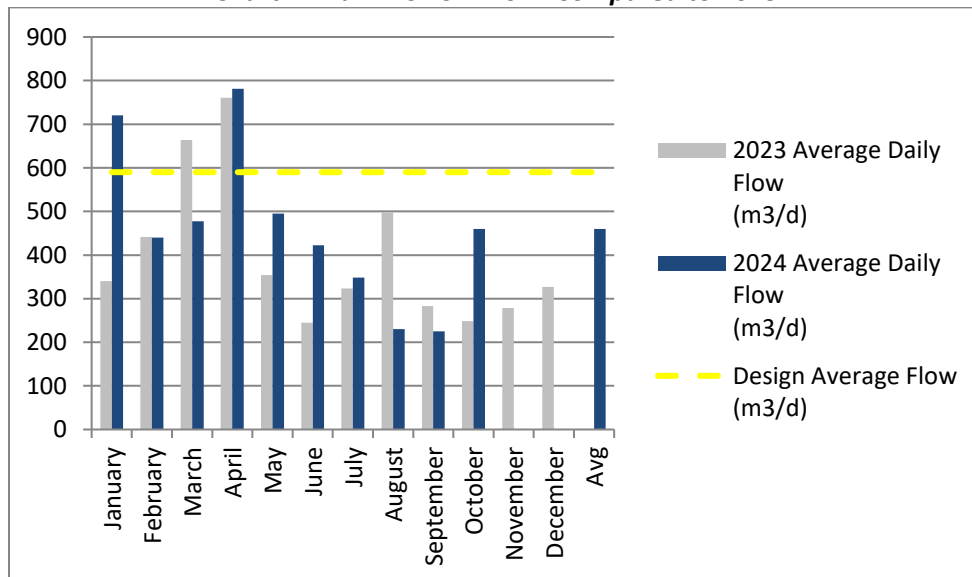
THIRD QUARTER:

There were no MECP or MOL inspections conducted in the third quarter.

SECTION 3: PERFORMANCE ASSESSMENT REPORT

The average daily flow recorded at the wastewater treatment plant so far in 2024 was 459.96m³/d. The average daily flow in 2023 was 396.7 m³/d, therefore the flow for 2024 is up by 16% when compared to 2023. The plant is currently at 78% of its rated capacity of 590m³/d.

Chart 1. Raw Flows in 2024 Compared to 2023



Raw samples are taken on a bi-weekly basis following the ECA requirements. The table below shows the raw sample results for 2024.

Table 1. Raw water sample results for 2024.

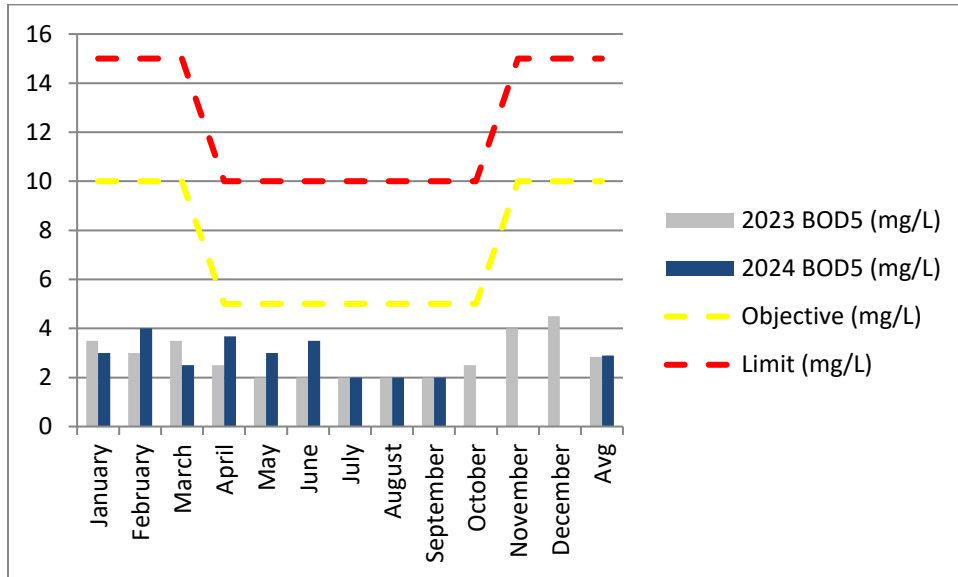
	BOD5 (mg/L)	TSS (mg/L)	TKN (mg/L)	TP (mg/L)
January	84	89.5	31.75	3.17
February	102.5	103.5	32.9	3.23
March	49.5	200	14.4	1.52
April	107.67	133.33	29.17	2.93
May	196.5	300	33.05	3.82
June	230	200	41.35	4.35
July	206	168	38	3.82
August	135	122	22.55	2.63
September	195.5	309.5	55.75	3.48
October				
November				
December				
Annual Average	142.89	178.16	33	3.2

	BOD5 (mg/L)	TSS (mg/L)	TKN (mg/L)	TP (mg/L)
January	84	89.5	31.75	3.17
February	102.5	103.5	32.9	3.23
March	49.5	200	14.4	1.52
April	107.67	133.33	29.17	2.93
May	196.5	300	33.05	3.82
June	230	200	41.35	4.35
July	206	168	38	3.82
August	135	122	22.55	2.63
September	195.5	309.5	55.75	3.48
October				
November				
December				
Annual Average	142.89	178.16	33	3.2

The effluent is sampled on a bi-weekly basis following the requirements of the ECA.

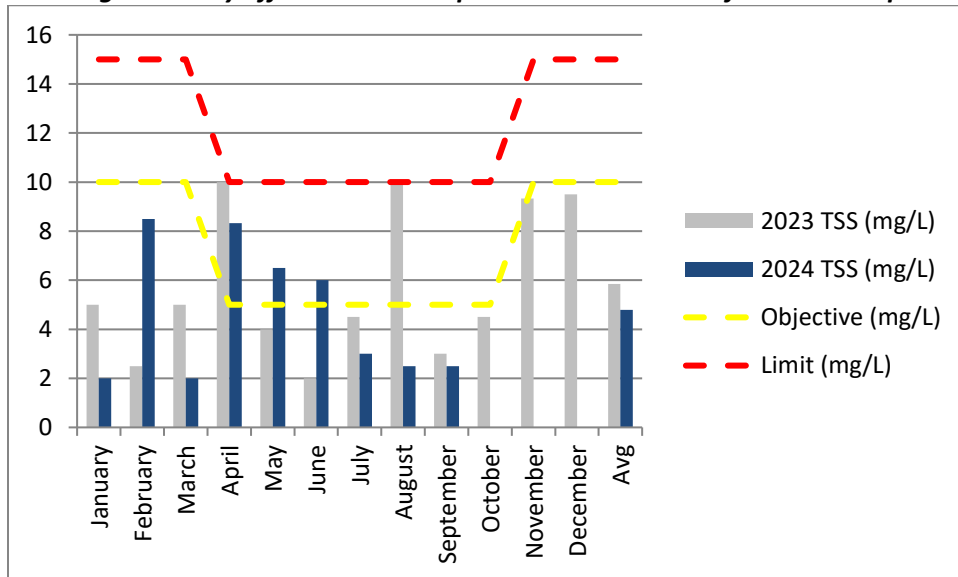
The average effluent BOD5 so far in 2024 was 2.89mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for BOD5 in 2023 was 2.8mg/L, therefore the results for 2024 are up by 1.8% when compared to 2023 (refer to Chart 2).

Chart 2. Average Monthly Effluent BOD5 results for 2024 compared to 2023.



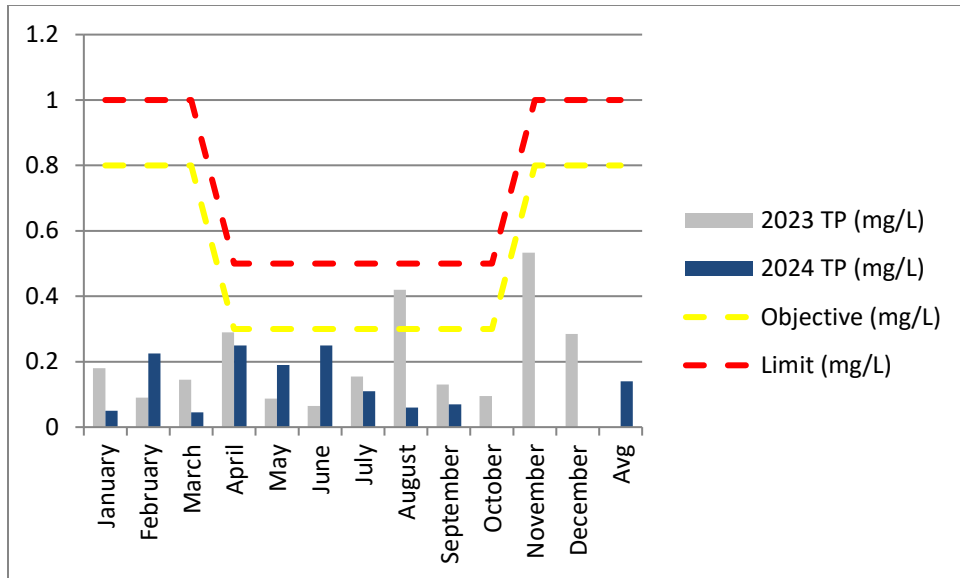
The average effluent TSS so far in 2024 was 4.8 mg/L, meeting the effluent limits identified in the ECA. The objective was exceeded in April, May and June due to high flows. The annual average result for TSS in 2023 was 5.9mg/L, therefore the results for 2024 are down by 18% when compared to 2023 (refer to Chart 3).

Chart 3. Average Monthly Effluent Total Suspended Solids Results for 2024 Compared to 2023



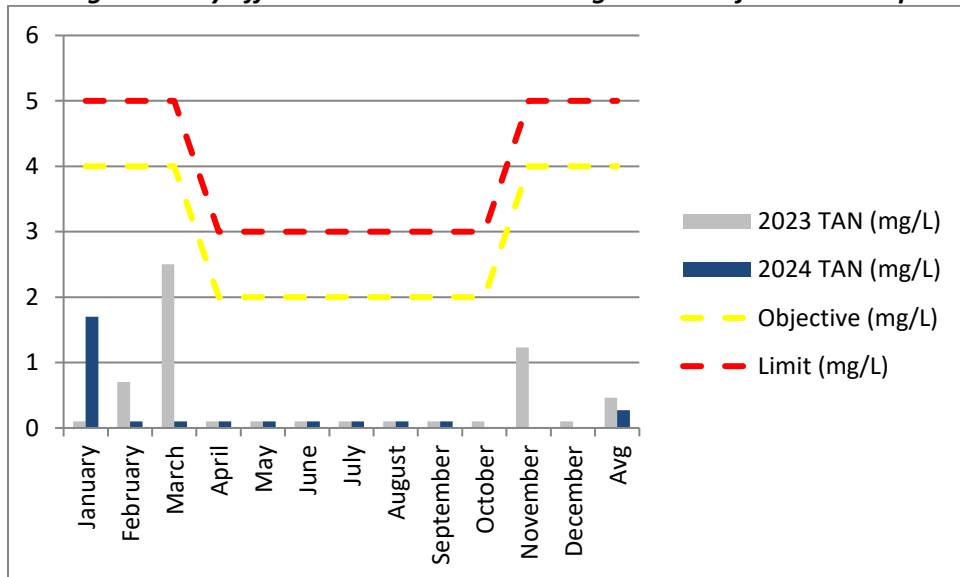
The average effluent TP so far in 2024 was 0.14mg/L, meeting both effluent limits and objectives identified in the ECA. The annual average result for TP in 2023 was 0.21mg/L, therefore the results for 2024 are down 33% when compared to 2023 (refer to Chart 4).

Chart 4. Average Monthly Effluent Total Phosphorus Results for 2024 Compared to 2023



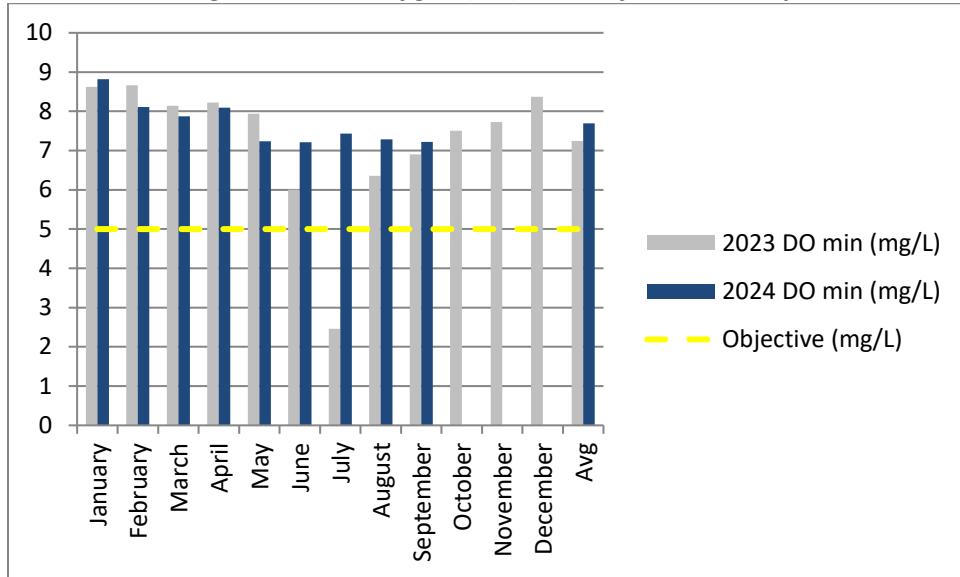
The average effluent TAN so far in 2024 was 0.27 mg/L, meeting both effluent objectives and limits identified in the ECA. The annual average result for TAN in 2023 was 0.46mg/L, therefore the results for 2024 are down by 41% when compared to 2023 (refer to Chart 5).

Chart 5. Average monthly Effluent Total Ammonia Nitrogen Results for 2024 Compared to 2023



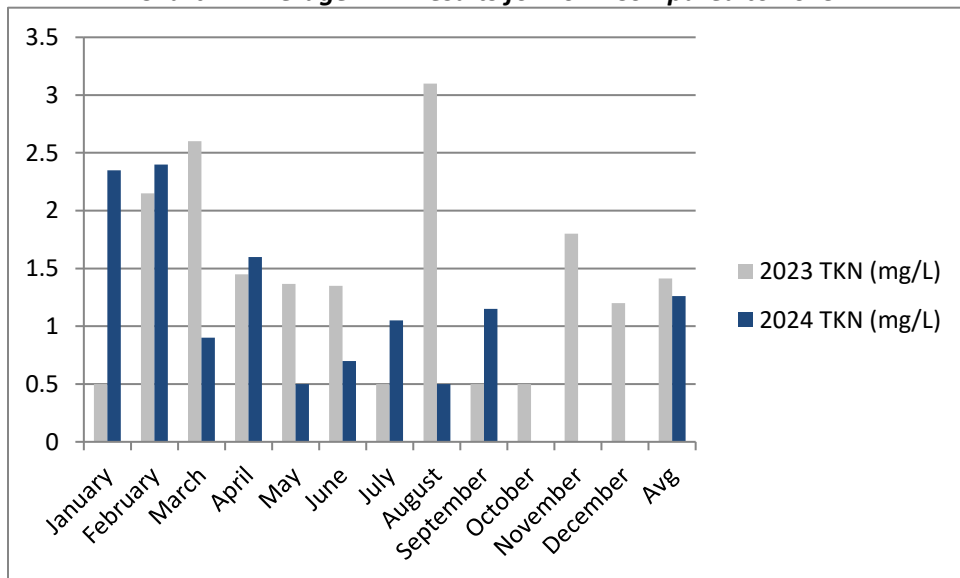
Dissolved oxygen (DO) in the effluent is monitored on site; the ECA identifies a minimum level required as an objective. This objective is 5mg/L. The chart below (Chart 6) shows the minimum DO concentrations.

Chart 6. Average Dissolved Oxygen (DO) Results for 2024 Compared to 2023



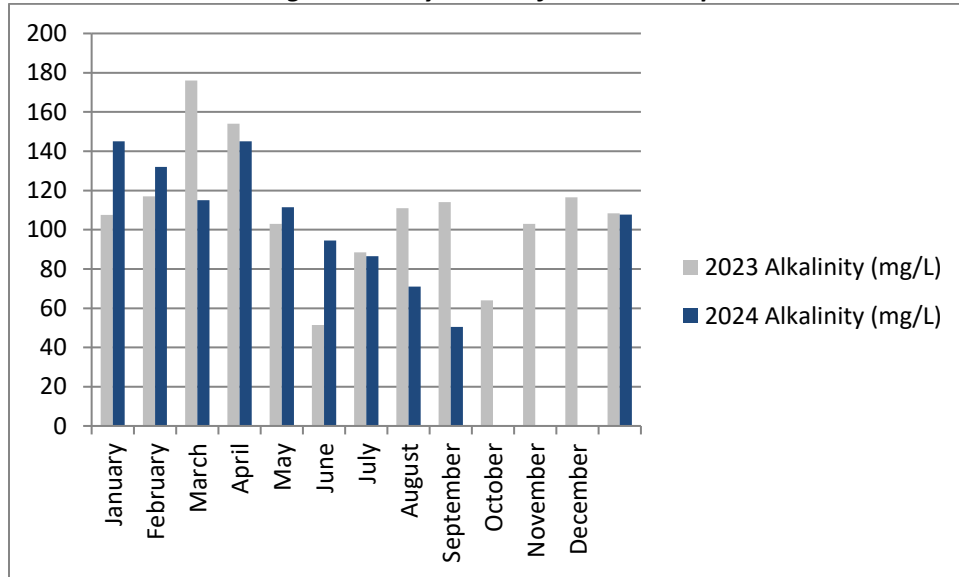
Total Kjeldahl Nitrogen (TKN) is sampled bi-weekly in accordance with ECA requirements; there are no objectives or limits imposed on this parameter. The average effluent TKN so far in 2024 was 1.26 mg/L. The annual average result for TKN in 2023 was 1.41mg/L; therefore, the results for 2024 are down by 10.1% when compared to 2023 (refer to Chart 7).

Chart 7. Average TKN Results for 2024 Compared to 2023



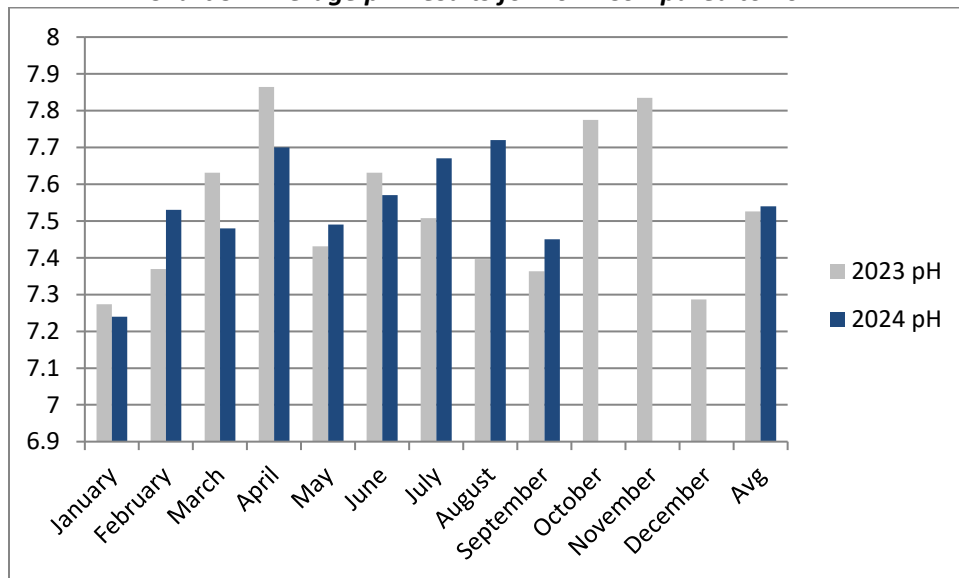
Alkalinity is sampled at least bi-weekly in accordance with ECA requirements; there are no objectives or limits imposed on this parameter. It is recommended that at least 50mg/L is present in the effluent. The average effluent alkalinity so far in 2024 was 107.7mg/L. The annual average result for alkalinity in 2023 was 108.4mg/L, therefore the results for 2024 so far are down by 0.6% when compared to 2023 (refer to Chart 8).

Chart 8. Average Alkalinity Results for 2024 Compared to 2023



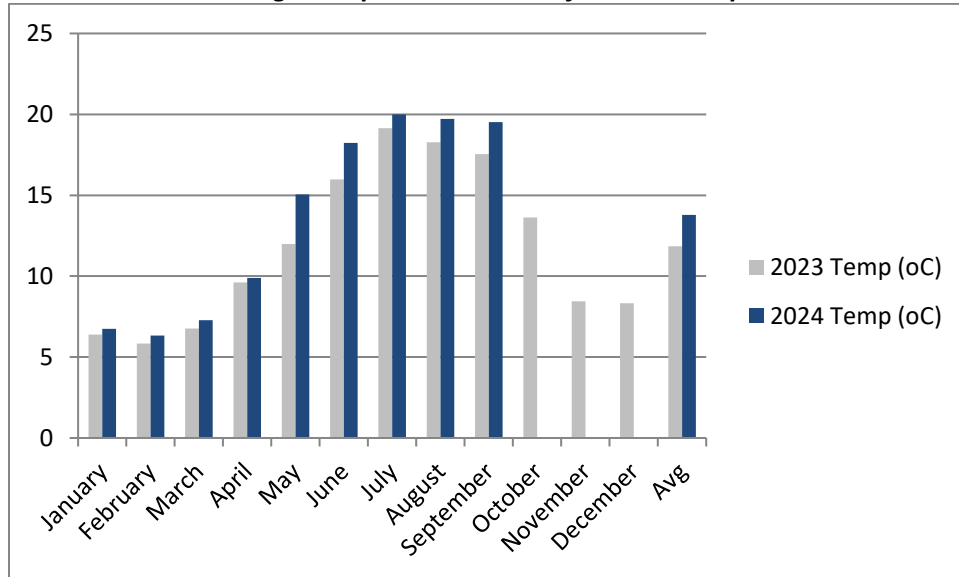
pH is sampled at least bi-weekly in accordance with ECA requirements. There are no objectives or limits imposed on this parameter however, it is recommended that the pH be maintained between 6.5-8.5. The average effluent pH so far in 2024 was 7.54. The annual average result for pH in 2023 was 7.53; therefore, the results for 2024 is up by 0.2% when compared to 2023 (refer to Chart 9).

Chart 9. Average pH Results for 2024 Compared to 2023



Temperature is measured at least bi-weekly in accordance with ECA requirements; there are no objectives or limits imposed on this parameter. The temperature of the effluent fluctuates based on outdoor temperatures. The average effluent temperature so far in 2024 was 13.8°C. The annual average temperature in 2023 was 11.8°C; therefore the results for 2024 are up 16.4% when compared to 2023 (refer to Chart 10).

Chart 10. Average Temperature Results for 2024 Compared to 2023



SECTION 5: OCCUPATIONAL HEALTH & SAFETY

FIRST QUARTER

There were no Health & Safety issues identified during the first quarter.

SECOND QUARTER:

On May 14, 2024 the annual health and safety inspection was completed. Silica sand stored outside the filter building was found to be a hazard. Tarp and signage to be added.

THIRD QUARTER:

There were no Health & Safety issues identified during the third quarter.

SECTION 6: GENERAL MAINTENANCE

FIRST QUARTER:

JANUARY

- 03: Rodney Electric on-site to wire in temporary decant pump. Found a bad contact, one to be ordered and replaced the old one.
- 05: Rodney Electric on-site to finish wiring in temporary decant pump.
- 11: Nevtro on-site to service mechanical mixers 3 and 5.
- 18: Received alum delivery from Jutzi.

FEBRUARY

- 13: Removed both RAS pump impellers from volute to remove build up of rags. Found RAS pump 2 extremely warm and found issues with shaft/bearing on the motor. Notified SOM.

21: Nevtro Mechanical on-site to inspect motor for RAS/WAS pump 2. Motor has been removed to be taken back to their shop for further assessment.

MARCH

14: Waddick Fuels on-site to fill generator with diesel fuel.

19: Konecranes on-site for annual inspection of lifting devices.

21: Received alum delivery.

28: Gerber Electric on-site to install temporary float system due to miltronics failing (Pump station)

SECOND QUARTER

APRIL

04: Completed monthly generator testing.

05: Cleaned UV channel and put UV racks in for the disinfection period.

12: Hurricane Hydrovac on site to clean built up fats, oils, and greases (FOGS) from the pump station wet well.

29: Flowmetrix on site for yearly calibration of flow meter.

MAY

02: Flowmetrix on site to repair wiring issue with flow meter by the clarifier since their annual calibration.

02: Gerber Electric on site at the pump station to install new transducer and miltronics multiranger. Tested all alarms to ensure they were working properly.

27: Nevtro on site to install new RAS motor on pump 2 and a new coupler.

29: Gerber Electric on site to exchange miltronics transducer for a float on backwash reject tank as it is no longer reading correctly.

JUNE

11: Completed monthly generator test.

13: Received four totes of alum.

20: Gerber electric on site to assess the compressor issues of not automatically shutting off when set to automatic.

25: T&T power on site to reprogram PLC1 as it had reset and lost its programming during a power outage.

26: NCA on site to replace the pressure switch on the compressor to have it be able to turn on and off in automatic.

THIRD QUARTER

JULY:

16: Keith Douglas on site for annual back flow preventer testing at WPCP.

AUGUST:

06: Nevtro on site to complete maintenance on mixers.

08: Jutzi Water Technologies on site to deliver alum.

09: Nevtro on site to complete repairs on mixers.

30: Gerber Electric on site to replace bar screen motor, as it seized.

SEPTEMBER:

19: Comarico on site to install new air line and air filter for the air compressor system.

SECTION 7: ALARMS

FIRST QUARTER:

JANUARY

- 25: On-call operator received alarm for Rodney Pump Station. Operator found miltronics alarm, reset miltronics panel and resolved the alarm.
- 28: On-call operator received alarm for Rodney pump station. Operator found miltronics in alarm. Operator reset miltronics panel, and watched several pump cycles. Appears to be operating normally. Calling out likely due to steam and build up on the level transducer.

FEBRUARY

- 11: On-call operator received alarm call for power outage at the pump station and the WPCP at 2100. Utility power is restored at 2300. Operator reset the main breaker at the WPCP and utility power is restored.

MARCH

There were no alarms this month.

SECOND QUARTER

APRIL

There were no alarms this month.

MAY

27: Received power alarm at 0900 due to trees fallen on hydro lines. Power restored at 1130, reset all faults. Found PLC surcharged after power outage after UPS had died after the charge had been used up. T&T power to be onsite at the end of June to inspect. All processes are working, but no longer getting a daily total for clarifier to filter flow; operator notified ORO/PCT and will continue to calculate flow manually.

JUNE

- 20: On call operator received alarm for a power alarm. Operator arrived on site and reset the main breaker and ensured there were no other faults. Completed plant walk through and all was ok.
- 23: On call operator received a power alarm at 0953; utility hydro returned at 1150. On call operator reset main breaker and all other faults. All ok after conducting a plant walk through.

THIRD QUARTER

JULY:

- 13: On call operator received alarm for a power outage. Once arrived to site the power had been restored. Operator reset main breaker and turned RAS/WAS pumps on.
- 13: On call operator received call for generator running at Rodney Pump Station. Once arrived to site, operator tried to transfer power back to utility power but it would not transfer. Gerber Electric on site and found that one of the phases in the three phase circuit had high voltage, causing the generator to not turn off. Hydro ONE on site to turn down one of their transformers as it was also giving high voltage. Generator transfer switch recognized that there was safe utility power and switched back to utility.
- 16: On call operator received an alarm for power flicker. Once arrived to site, the operator reset main breaker. Turned surface aerator 2 and 5 on, RAS/WAS pumps on, and ensured compressor was operating.
- 29: On call operator received alarm for general alarm, operator arrived on site and found mixer 3 unable to turn on, and needs repairing.

AUGUST:

30: On call operator received alarm call for power flicker, once arrived to site, they reset the main breaker panel and ensured all alarms were reset.

SEPTEMBER:

07: On call operator received a power alarm. Once arrived to site, operator reset the main breaker.

SECTION 8: COMPLAINTS & CONCERNS

FIRST QUARTER:

There were no complaints or concerns this quarter.

SECOND QUARTER

There were no complaints or concerns this quarter.

THIRD QUARTER

There were no complaints or concerns this quarter.