THE TOWN OF RAINY RIVER
MUNICIPAL WATER SYSTEM
SUMMARY REPORT
O. Reg. 170/03, Schedule 22

For The Period:

January 1, 2021 to December 31, 2021

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Prepared For:

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Summary Report
Rainy River Water System 2021

Drinking Water Works Permit # 296-201 – Dated January 10, 2021

Municipal Drinking Water Licence # 296-101 – Dated January 10, 2021

Permit to Take Water # 8271-BJJJBC – Dated December 4, 2019
Rate of taking shall not exceed a maximum of 1,715 litres per minute and 2,473,024 litres per day.
Permit is valid until December 4, 2029

All sampling and analysis requirements have been met for the year 2021 in accordance with Reg. 170/03.

Microbiological

Reg. 169/03
Amended to O. Reg.17/04

Volatile Organics

Reg. 169/03
Amended to O. Reg. 17/04

Inorganics

Reg. 169/03
Amended to O. Reg.17/04

Pesticides and PCB

Reg. 169/03
Amended to O. Reg. 17/04

Reporting, Notification and Corrective Action

	NON-COMPLIANCE WITH REGULATORY REQUIREMENTS	ACTIONS REQUIRED	ACTIONS TAKEN
1.	**Do operators and maintenance personnel have ready access to operations and maintenance manuals?** Section 28 of O. Reg. 128/04 requires that operators have "ready access" to comprehensive operations and maintenance manuals that contain plans, drawings, and process descriptions sufficient for the safe and efficient operation of the DWS. During the inspection, operators were unable to readily locate certain items in the operations and maintenance manuals, which are required by Condition 16.0, MDWL 296-101. **Do the operations and maintenance manuals meet the requirements of the DWWP and MDWL issued under Part V of the SDWA?** During the inspection, operators were unable to produce certain items from the operations and maintenance manuals, which are required by Condition 16.0, MDWL 296-101. Furthermore, a significant portion of the information found in the operations and maintenance manuals at the Rainy River WTP is disorganized and outdated.	By March 31, 2022, the Town of Rainy River must possess an operations and maintenance manual that satisfies the requirements of Section 28, O. Reg. 128/07 and contains the information described in Section 16.0, MDWL 296-101. It is also recommended that the Town of Rainy River properly dispose of historic records and user manuals, which are not legally required to be retained [see O. Reg. 170/03, Sec. 13, O. Reg. 128/04, Sec. 27. (6)] and/or are no longer beneficial for the operation of the drinking water system.	
2.	**Is there sufficient monitoring of flow as required by the**	When the issue with the flow meter was recognized	

MDWL or DWWP issued under Part V of the SDWA? Condition 2.1, Schedule C, MDWL #296-101 requires continuous flow measurement and recording of the flow rate and daily volume of raw water flowing into the WTP and treated water flowing from the WTP to the distribution system. One raw and one treated water flow meter have been installed to meet this requirement and were operational throughout the inspection review period. Operators determine the peak flow rate for the previous 24-hour period and record it in the daily logbooks. The total volume of treated water pumped to distribution is calculated once daily using flow data obtained by operators during morning inspections of the WTP. Operators take the total volume of water recorded by the flow meter and subtract the reading obtained the previous day to determine the volume of water pumped over that period of time. Typically, operators record this information between 08:00 and 08:30, daily. Times were recorded in the logbook. Treated water flow rates (measured in litres/second) are typically recorded every five minutes into an Excel spreadsheet. However, on February 11, 2021, from 12:15 to 16:15, the treated water flow meter was not reading correctly. Flow records in the	by operators, a third-party instrumentation company was contacted, and the issue was resolved. No further action is required at this time.	

	Excel spreadsheet for that period of time are displayed as negative values, through treated water was being directed to the distribution system at the time. Operators believe that the issue with the treated flow meter was caused by starting the fire pump in the WTP. The fire pump was turned on to allow fire fighters to put out a house fire and this caused the treated water flow meter to read "out of range" for approximately 4 hours.		
3.	**Have all changes to the system registration information been provided to the Ministry within ten (10) days of the change?** During the inspection, the undersigned water inspector and operators reviewed the DWS profile information that is on record with MECP. Changes have been made the "DWS Operational Information" and "DWS Operating Authority Information"; however, the Town of Rainy River did not notify the MECP within 10-days of making the change. Some of the information within the DWS Profile remains inaccurate.	By December 31, 2021, the Town of Rainy River must complete and submit a "Drinking Water System Profile Information" form to reg170_formsubmission.moe@ontario.ca and aaron.causyn@ontario.ca. An electronic copy of the form may be found here: https://www.forms.ssb.gov.on. ca/mbs/ssb/forms/ssbforms.nsf/ODAGetFormDetail?openagent&lang=E&env=ODA&NO=012-2149E	

Capacity Assessment

The maximum rated capacity of the Plant is 28.6 L/S. In 2021, the maximum flow of water through the Water Treatment Plant was 19.46 L/S (i.e., 2,204 m^3 per day) or 30% under the rated capacity.

In 2021 the annual average daily flow was 8.63 L/S (i.e., 554 m^3 per day) or 31% of the capacity of the Plant.

Month	Flows	Highest Instantaneous Peak Flow	Average Daily Instantaneous Peak Flow	Percent of the Rated Capacity 28.6 L/S
January	10,172 m^3	6.67 L/S	5.74 L/S	24% of rated capacity
February	11,946 m^3	18.15 L/S	7.60 L/S	65% of rated capacity
March	12,883 m^3	9.79 L/S	7.61 L/S	35% of rated capacity
April	11,631 m^3	19.46 L/S	8.01 L/S	70% of rated capacity
May	12,913 m^3	12.49 L/S	7.86 L/S	44% of rated capacity
June	15,596 m^3	16.08 L/S	10.78 L/S	57% of rated capacity
July	21,106 m^3	18.21 L/S	14.46 L/S	65% of rated capacity
August	16,623 m^3	16.70 L/S	12.06 L/S	60% of rated capacity
September	11,319 m^3	17.76 L/S	7.52 L/S	63% of rated capacity
October	11,693 m^3	10.30 L/S	7.41 L/S	37% of rated capacity
November	12,029 m^3	13.39 L/S	7.51 L/S	48% of rated capacity
December	13,472 m^3	8.55 L/S	7.07 L/S	30% of rated capacity
Total Flows	161,379 m^3		Yearly Average Instantaneous Peak Flow	
Average Monthly Flow	13,448 m^3		8.63 L/S or 31% of rated capacity	49% of the rated capacity

The total flow for 2021 was 161,379 m^3. The average monthly flow for 2021 was 13,448 m^3. The average daily instantaneous peak flow rate was 8.63 L/S which is 31% of the plant's rated capacity.

The highest daily instantaneous peak flow rate was 19.46 L/S (hydrant flushing). This instantaneous flow was 30% under the rated capacity of the plant.

Sodium results tested January 19, 2021	26.0 ug/L
Fluoride results tested February 19, 2019	< 0.020 ug/L
October 2021 running average for THM's was	71.7 ug/L