

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

**For The Period:**

**January 1, 2020 to December 31, 2020**

**Received by Municipal Office January 21, 2021**

**Prepared For:**

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**Prepared March 21, 2021 By:**

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**Summary Report  
Rainy River Water System 2020**

**Drinking Water Works Permit # 296-201 – Dated August 5, 2016**

**Municipal Drinking Water Licence # 296-101 – Dated August 5, 2016**

**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 2020 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
<p>1. <b>There was not sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.</b></p> <p>Condition 2.1, Schedule C, Municipal Drinking Water Licence (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.</p> <p>Raw and treated water flow rates are recorded every five minutes into an Excel spreadsheet. Operators review this data to determine the peak flow rate, for the previous 24-hour period, and record it in the daily.</p> <p>The total volume of raw and treated water is calculated once daily from data obtained by operators during the morning inspection 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. Typically, operators record this</p>	<p>During the review period, the raw water flow meter was replaced and issues with the new flow meter have been addressed.</p> <p>No further action is required at this time.</p>	

<p>information between 08:00 and 08:30, daily; times were recorded in the logbook.</p> <p>On February 26, 2020, it was observed that the raw water flow meter was not recording flow data. Operators were able to continue to calculate the total daily volume of raw water into the plant based on pump run hours; however, raw water flow rates were not being continuously monitored and recorded until the meter was replaced on March 3, 2020. Operators continued to have issues with the new flow meter as identified on July 10, 2020 and August 13, 2020. On August 13, 2020, the issues with the new meter were resolved and the instrument has not posed an issue since.</p>		
<p>2. <b>All continuous analysers were not calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.</b></p> <p>The post-clearwell chlorine analyzer, filter effluent turbidity meters, pH meter, desktop spectrophotometer and pocket colorimeters are calibrated once annually by a third party. ClearTech most recently performed calibrations on October 31, 2019 and was scheduled to return in October, 2020; however, due to the global pandemic, this maintenance was delayed and is now scheduled for December 15, 2020.</p> <p>O. Reg. 170/03, Schedule 6,</p>	<p>Effective immediately, the owner and operators shall ensure that calibrations are completed as required. If a third party cannot attend the site within the required calibration schedule, in-house calibrations are to continue to take place.</p>	

<p>subsection 6-5(1), paragraph 8 requires drinking water system owners and operating authorities to ensure that continuous analyzers are checked and calibrated in accordance with manufacturer's instructions. The owner's manual for the turbidity meters requires the instruments to be calibrated every three months. Records reviewed for the inspection demonstrated that routine calibrations were completed by operators, as required, except for required October 2020 calibration. In October 2020, it was originally scheduled that ClearTech would be on site to complete the calibration; therefore, an in-house calibration was not completed. Due to ClearTech's delay, this calibration was missed.</p>		
<p>3. <b>All microbiological water quality monitoring requirements for treated samples were not being met.</b></p> <p>Reg. 170/03, Schedule 10, section 10-3 requires at least one treated water sample to be taken every week from the point of entry to the distribution system and tested for total coliform bacteria, E. coli and HPC's. O. Reg. 170/03, Schedule 6, section 6-1.1 (1) defines every week as at least 5 days, and no more than 10 days, after the previous sample was taken. A treated water microbiological sample was collected on December 16, 2019 and the next treated water microbiological sample was</p>	<p>Effective immediately, the Corporation of the Town of Rainy River shall ensure that treated water microbiological sampling is performed in accordance with O. Reg. 170/03, Schedule 10, section 10-3 and O. Reg. 170/03, Schedule 6, section 6-1.1 (1). This includes taking a weekly sample no less than 5 days and no more than 10 days from when the previous sample was taken for the same purpose.</p> <p>Compliance with respect to treated water microbiological sampling will be reassessed during the next annual inspection.</p>	

<p>collected 11 days later, on December 27, 2019; apart from this one missed sample, treated water microbiological sampling was performed in accordance with O. Reg. 170/03, Schedule 10, section 10-3, for the inspection review period.</p>		
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## Capacity Assessment

The maximum rated capacity of the Plant is 28.6 L/S. In 2020, the maximum flow of water through the Water Treatment Plant was 18.86 L/S (i.e. 2,204 m<sup>3</sup> per day) or 33% under the rated capacity.

In 2020 the annual average daily flow was 8.25 L/S (i.e. 554 m<sup>3</sup> per day) or 29.7% 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	12,961 m <sup>3</sup>	8.11 L/S	7.26 L/S	29% of rated capacity
February	13,129 m <sup>3</sup>	10.45 L/S	7.88 L/S	37% of rated capacity
March	13,575 m <sup>3</sup>	9.38 L/S	7.50 L/S	33% of rated capacity
April	12,608 m <sup>3</sup>	9.02 L/S	7.36 L/S	32% of rated capacity
May	13,722 m <sup>3</sup>	12.68 L/S	8.06 L/S	45% of rated capacity
June	14,541 m <sup>3</sup>	12.11 L/S	8.90 L/S	43% of rated capacity
July	17,534 m <sup>3</sup>	18.45 L/S	13.25 L/S	66% of rated capacity
August	15,741 m <sup>3</sup>	18.86 L/S	12.73 L/S	67% of rated capacity
September	10,940 m <sup>3</sup>	11.93 L/S	7.37 L/S	43% of rated capacity
October	10,607 m <sup>3</sup>	8.21 L/S	6.24 L/S	29% of rated capacity
November	10,121 m <sup>3</sup>	7.10 L/S	6.28 L/S	25% of rated capacity
December	10,708 m <sup>3</sup>	6.99 L/S	6.18 L/S	25% of rated capacity
Total Flows	156,187 m <sup>3</sup>		<u>Yearly Average Instantaneous Peak Flow</u>	
Average Monthly Flow	13,015 m <sup>3</sup>		8.25 L/S or 29.7% of rated capacity	39% of the rated capacity

The total flow for 2020 was 156,187 m<sup>3</sup>. The average monthly flow for 2020 was 13,015 m<sup>3</sup>. The average daily instantaneous peak flow rate was 8.25 L/S which is 29.7% of the plant's rated capacity.

The highest daily instantaneous peak flow rate was 18.86 L/S (distribution break). This instantaneous flow was 33% under the rated capacity of the plant.

Sodium result tested February 19, 2019      18.2 ug/L

Fluoride result tested February 19, 2019      < 0.020 ug/L

October 2019 running average for THM's was 64.65 ug/L