

Rainy River First Nation (Band No. 130)

Date of Visit: March 12, 2001

By Keith Lusignan (OCWA) and P. Zachariasz (Technical Services Advisor)

Site Address: Box 450

Emo, ON P0W 1E0

Phone No.: 807-482-2479

Fax No.: 807-482-2603

Tribal Council Affiliation: Pwi-di-goo-zing Ne-yaa-zhing Tribal Council

Operator: Dennis Brunn

Location: The Rainy River First Nation community is located 40 km west of Fort Frances on Highway 11

Population: 217 people in the community (December 2000 - INAC)

No. of Units: 77 housing units (CAIS)

1.0 Description of the Community Water Supply

Based on the CAIS report, water to the houses in the Rainy River community is treated as follows:

- 158 people use piped water
- 59 people use other services

- 56 houses are serviced by a communal water system; and
- 21 houses have other services.

2.0 Description of the Community Sewage System

Based on the CAIS report, sewage from the houses in the Rainy River community is treated as follows:

- 158 people use piped sewage
- 59 people use other services

- 56 houses are serviced by a communal sewage system; and
- 21 houses have other services.

3.0 Overall Assessment for Communal Water Treatment Supply

The questionnaire developed by PWGSC required OCWA to undertake a risk assessment of the Water Source, Design, Operation, Reporting, and Operators. To properly assess these areas, a revisit to the water treatment facilities would be required.

OCWA was requested to undertake the evaluation without a visit to the site. With the available information, OCWA has undertaken the requested assessment of the facilities.

The ranking system used is as follows:

- 0 = Not enough information to assess
- 1-4 = Low Risk
- 5-7 = Medium Risk
- 8-10 = High Risk

For more detailed information on the Risk Assessment used see the Terms of Reference, Appendix B.

SECTION Water	SECTION RANKING Water	RISK Water
A. Water Source		
Biological	0	
Chemical	0	
Physical	0	
Overall Ranking for Water Source	0	No data available
B. Design		
Biological	1	1 exceedance in 105 samples
Chemical	5	Sodium exceeds 20 mg/L
Physical	5	High hardness
Risk to Public Health	1	No boil water advisories reported
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	5	
C. Operations		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	0	Unknown
Overall Ranking for Operations	7	Operation problems with chlorine, no as-built drawings.
D. Reporting		
Ranking for Laboratories and Testing	1	Regular bacteriological and chemical testing
Ranking for Boil Water Advisories	1	No boil water advisories reported
Overall Ranking for Reporting	1	

SECTION Water	SECTION RANKING Water	RISK Water
E. Operators		
Overall Ranking for Operators	2	Trained and confident
F. Statistical Data		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	5	Medium Risk

4.0 Overall Assessment for Communal Sewage Treatment Facilities

The questionnaire developed by PWGSC required OCWA to undertake a risk assessment of the Effluent Receiver, Design, Operation, Reporting, and Operators. To properly assess these areas, a revisit to the sewage treatment facility would be required.

OCWA was requested to undertake the evaluation without a visit to the site. With the available information, OCWA has undertaken the requested assessment of the facilities.

The ranking system used is as follows:

- 0 = Not enough information to assess
- 1-4 = Low Risk
- 5-7 = Medium Risk
- 8-10 = High Risk

For more detailed information on the Risk Assessment used see the Terms of Reference, Appendix B.

SECTION Sewage	SECTION RANKING Sewage	RISK Sewage
A. Effluent Receiver		
Overall Ranking for Effluent Receiver	0	No data
B. Design		
Quality of Treated Effluent	0	No data
Ranking of Design of Sewage Plant	0	
Ranking of Concerns and Hazards within the Plant	1	No concerns noted
Condition of Laboratory Equipment	0	
Overall Ranking for Design	1	
C. Operations		
Ranking for Emergency Plan	0	
Overall Ranking for Operations	4	No spare parts
D. Reporting		
Overall Ranking for Reporting	1	Testing is conducted
E. Operators		
Overall Ranking for Operators	2	Trained and confident
F. Statistical Data		
Overall Ranking for Individual Septic Tanks	0	
Overall Ranking for the Systems	2	Low Risk

5.0 Communal Water Treatment Plant (56 houses)

5.1 Water Source

The raw water is drawn from three wells.

5.2 Design

The community is serviced by three wells located on the reserve and a water treatment plant constructed in 1995. The plant is operating at 40% capacity. The water treatment plant process uses carbon dioxide gas and soda ash, with sodium hypochlorite for disinfection. The water treatment plant has an emergency power (natural gas) generator. The plant is generally well maintained. Dean Bethune in a letter dated April 22, 2002 stated the water treatment plant has a MOE Certificate of Approval.

Chlorine residual readings are checked daily. The water plant does not have an on-line continuous chlorine analyzer. There is sufficient test reagent on site with acceptable shelf life and chemicals (one month supply) are properly stored. There is a colilert unit and the operator knows how to operate it.

The following table summarizes the treated water exceedance data available from Health Canada:

Date	Location	Exceedances	Result	GCDWQ Limit
June 14, 1999	Health Centre	Sodium	39.5 mg/L*	200 mg/L (AO)*
		Hardness	154 mg/L	80 to 100 mg/L (OG)
Aug. 23, 2001	Water Treatment Plant	Sodium	31.9 mg/L	200 mg/L (AO)
		Hardness	149 mg/L	80 to 100 mg/L (OG)

AO - aesthetic objective; OG - operational guideline; HL - health limit

*The aesthetic objective for sodium is 200mg/L. The local Medical Officer of Health should be notified when sodium exceeds 20 mg/L.

The plant has an adequate office, filing area and workshop with tools for maintenance. There is no laboratory space and no washroom. The plant ventilation is poor and dust control is a safety hazard.

The operator does have an annual flushing and main valve operating program for the water distribution system. Safety equipment, spare parts and equipment to meet minor emergencies are available to the operator. There is no eyewash. The operator indicated that a list of technicians and tradesmen are available and their response time is three hours.

5.3 Operations

As built drawings or design information are not available. Operating and maintenance manuals are at the plant.

The chemical feed pumps need to be upgraded. The operator reports that chlorine dosages can not be maintained. Also, the auto dialer system does not produce call out alarms.

No boil water advisories have been issued in the past two years.

5.4 Reporting

Health Canada conducts bacteriological tests at least twice per month. The results are kept at the administration office and the Health Canada office on Agency 1 land.

Health Canada conducts a chemical analysis once per year. Chlorine tests are conducted daily. Turbidity readings are not taken.

The following table summarizes the bacteriological data available from Health Canada:

Period	Frequency	Regularity	Exceedances
99/10/28 to 2001/10/17	2 to 27 times per month	<ul style="list-style-type: none"> ▪ 1 month missing in 1999 ▪ 1 month missing in 2000 ▪ 2 months missing in 2001 	<ul style="list-style-type: none"> ▪ 1 exceedance was noted on 2000/06/08

5.5 Operators

Dennis Brunn is certified in operation with the Class I License (1999) and Class II License (2000). Dennis has confidence operating the water and sewage system. Gerry Hunter is the backup operator. Recommended training for both operators include water distribution and sewage collection system, laboratory procedures, electrical and instrumentation, safety, and advance water treatment.

s.19(1)

6.0 Deficiencies in the Community Water Supply

1. Some safety equipment is available on site, but the chemical area lacks an eyewash unit.
2. There are operating and maintenance manuals for plant equipment but there are no as-built drawings on-site.
3. Dust control near chemicals used in the water treatment process is a safety hazard. Ventilation is poor.
4. There is no laboratory or washroom. Adequate office/workshop has been provided.
5. The chlorine equipment was working but needs to be upgraded. There is no on-line chlorine analyzer. The chlorine level is manually checked daily. A spare chlorine pump needs to be purchased.
6. The local Medical Officer of Health should be notified that sodium exceeds 20mg/L.
7. The operator is certified and he does have backup to fill in for vacations and sickness. However more training is needed for both operators.
8. The phone dialler does not work properly.

7.0 Communal Sewage Facilities (56 houses)

7.1 Effluent Receiver

No information is available.

7.2 Design

The community has a collection system with one sewage lift station and a lagoon. The system is generally well maintained.

7.3 Operations

The pumping station wet well is cleaned out annually. Spare parts are not available. There are no safety hazards and the operator did not express any concerns with the sewage system.

7.4 Reporting

The lagoon is discharged and tested by Health Canada twice a year for BOD, SS and TP. These results were not available. Dennis Brunn stated the lagoon berms are in good condition with no excessive weed growth.

7.5 Operators

Dennis Brunn [REDACTED] Dennis has [REDACTED] operating the water and sewage system. Gerry Hunter is the backup operator. [REDACTED] Recommended training for both operators include water distribution and sewage collection system, laboratory procedures, electrical and instrumentation, safety, and advance water treatment.

s.19(1)

8.0 Deficiencies in the Community Sewage Facilities

No deficiencies noted.

9.0 Recommendations

- Upgrade chemical feed pumps, purchase spare chlorine pump.
- Obtain eyewash system for operator safety.
- Establish and implement a protocol for taking water samples at the water treatment plants, including raw water samples.
- Ensure local Medical Officer of Health is notified that sodium exceeds 20mg/L.
- Consider installing laboratory and washroom.
- Review dust control and plant ventilation.
- Develop a comprehensive hydrant and main valve maintenance program.
- Review protocol for conducting chemical analyses.
- Develop a training program that will lead to certification of the operators.
- Upgrade the dialing system.
- Develop a comprehensive contingency plan to address operational problems, breakdowns, vacations and sickness, and boil water advisories.

10.0 Plant Classification

Based upon the Terms of Reference – Appendix I – Plant Classification Guideline developed by Public Works and Government Services Canada and with discussions with the Ontario Ministry of the Environment Classification Group, OCWA classified these plants as follows:

Water Treatment Facility - Class II
Sewage Treatment Facility - Class I

11.0 Overall Community Risk Assessment

Water Category – Medium Risk

➤ **Medium Risk because of the following:**

- Disinfection chemical feed pumps need to be replaced as they cannot maintain adequate chlorine dosages; and
- Alarm system requires repair.

Sewage Category – Low Risk

Note: Information within this report is based on discussions with the plant operator and a quick visual walkthrough of the facilities. No detailed review was undertaken by OCWA.