

## Seine River First Nation (Band No. 132)

**Date of Visit:** March 14, 2001

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

**Site Address:** P.O. Box 124

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

**Operators:** Vern Menson and Clarence Johnson

**Location:** The Seine River First Nations community is located approximately 85 km East of Fort Frances on Hwy. 11

**Population:** 314 people in the community (November 2000 - INAC)

**No. of Units:** 71 housing units (CAIS)

### 1.0 Description of the Community Water Supply

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

- 305 people use piped water
- 9 people have other services
  
- 69 houses are serviced by a communal system; and
- 2 houses have other services.

### 2.0 Description of the Community Sewage Facilities

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

- 305 people use piped sewage
- 9 people have other services
  
- 69 houses are serviced by a communal sewage system; and
- 2 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
<b>A. Water Source</b>		
Biological	0	
Chemical	0	
Physical	0	
Overall Ranking for Water Source	0	No data available
<b>B. Design</b>		
Biological	2	1 total coliform exceedance in 87 samples
Chemical	9	Turbidity, aluminum exceedances
Physical	6	Dissolved organic carbon exceedance, low hardness, and alkalinity
Risk to Public Health	7	
Condition of Laboratory Equipment	0	
Overall Ranking for Design	6	
<b>C. Operations</b>		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	6	Chemicals not properly stored, no as-built drawings
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	2	Regular bacteriological and chemical testing
Ranking for Boil Water Advisories	10	Boil water advisories reported

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
Overall Ranking for Reporting	6	
<b>E. Operators</b>		
Overall Ranking for Operators	4	Some training
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	9	High 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
<b>A. Effluent Receiver</b>		
Overall Ranking for Effluent Receiver	0	
<b>B. Design</b>		
Quality of Treated Effluent	0	No data available
Ranking of Design of Sewage Plant	1	Meets capacity
Ranking of Concerns and Hazards within the Plant	0	
Condition of Laboratory Equipment	0	
Overall Ranking for Design	1	
<b>C. Operations</b>		
Ranking for Emergency Plan	0	
Overall Ranking for Operations	4	No emergency repair parts
<b>D. Reporting</b>		
Overall Ranking for Reporting	1	
<b>E. Operators</b>		
Overall Ranking for Operators	4	Some training
<b>F. Statistical Data</b>		
Overall Ranking for Individual Septic Tanks	0	
Overall Ranking for the Systems	3	Low Risk

## 5.0 Communal Water Treatment Plant (69 houses)

### 5.1 Water Source

The raw water is drawn from Seine River.

### 5.2 Design

The rated design capacity of the plant is 132 m<sup>3</sup>/day and it appears the plant is operating within the designed capacity. The plant is sufficiently ventilated and has adequate office space, laboratory area, and space for filing and a workshop, with tools to perform facilities maintenance.

The plant has no diesel generator to provide backup power. There is an elevated water standpipe in the community.

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

Date	Location	Exceedances	Result	GCDWQ Limit
June 13, 2000	Treated Surface Water	Hardness	24.8 mg/L	80 to 100 mg/L (OG)
		Turbidity	1.8 NTU	1 NTU (HL)
		Dissolved Organic Carbon	12 mg/L	5 mg/L (AO)
		Aluminum	2.19 mg/L	0.1 mg/L (OG)
Oct. 4, 2001	Water Treatment Plant	Alkalinity	11 mg/L	30 to 500 mg/L (AO)
		Hardness	26 mg/L	80 to 100 mg/L (OG)
		Colour	26 TCU	15 TCU (AO)
		Aluminum	0.44 mg/L	0.1 mg/L (OG)

AO = aesthetic objective, OG = operational guideline

The plant had an adequate inventory of safety equipment. The plant floors were reported to be slippery, but otherwise the plant was neat and clean.

There is an on-line chlorine residual analyzer that is calibrated every six months.

The operator has an annual water pipeline-flushing program. There is no annual main valve operating and maintenance program. Emergency spare parts are available on site.

### 5.3 Operations

The disinfection equipment is functional. Sodium hypochlorite is used for water disinfection. The sodium hypochlorite supply has been on site for one month. There is sufficient test reagent with sufficient shelf life. Other chemicals used in the process are PAC, sodium bicarbonate and polymer. The chemicals were not properly stored.

There are as-built drawings, and operating and maintenance manuals on site.

There is a list of technicians and trades people that will provide mechanical and electrical support. The average response to a call is one day.

#### 5.4 Reporting

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

Chlorine residuals are checked daily. Turbidity readings are done daily. There has been more than one boil water advisory issued in the last two years, but no disease or health-related outbreak. There is no colilert unit or incubator test equipment.

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

Period	Frequency	Regularity	Exceedances
99/10/27 to 2001/10/04	2 to 15 times per month	<ul style="list-style-type: none"><li>▪ 2 months missing in 1999</li><li>▪ 3 months missing in 2000</li><li>▪ 1 month missing in 2001</li></ul>	<ul style="list-style-type: none"><li>▪ 1 total coliform exceedance noted on 2000/06/27</li></ul>

#### 5.5 Operators

s.19(1) Vernon Menson looks after the water and sewage systems. Clarence Johnson is the backup operator. [REDACTED] The operators have only on-the-job training, and no formal instruction. The backup operator is only occasionally available, leaving Mr. Menson with an excessive workload. Dean Bethune stated in a letter dated April 22, 2002, that both operators have been replaced and the new operators need immediate training.

#### 6.0 Deficiencies in the Community Water Supply

1. Safety equipment is available on-site. One safety hazard noted is slippery floors in the plant.
2. The water treatment plant does not have a backup power supply but the water standpipe maintains pressure in the water distribution system during power failures.
3. The operator does perform a hydrant flushing. There is no valve operating and maintenance program on the water distribution system.
4. More than one boil water advisory has been issued on the communal water system.
5. Aluminum and colour have exceeded the aesthetic objectives of the GCDWQ.
6. Turbidity exceeded the GCDWQ in the 2000 chemical analysis.
7. The new operators need training immediately.

## 7.0 Communal Sewage Facilities (69 houses)

### 7.1 Effluent Receiver

No information is available.

### 7.2 Design

The communal sewage treatment system consists of a sewage collection system with one lift station and a two-cell lagoon built on clay soil, constructed in 1997. The lift station is an in-ground type with two flygt pumps, reporting capacity of 1,218 m<sup>3</sup>/d.

### 7.3 Operations

The sewage pumping station is routinely maintained and cleaned out annually. No raw sewage bypasses have occurred. Spare parts are not available for maintenance.

### 7.4 Reporting

The sewage lagoon berms are in good condition, but there is excessive reed growth within the lagoon. The lagoon cells are discharged twice a year and Health Canada tests the effluent for BOD, SS, and TP. The effluent results were not available from Health Canada.

### 7.5 Operators

Vernon Menson looks after the water and sewage systems. Clarence Johnson is the backup operator.

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The operators have only on-the-job training, and no formal instruction. The backup operator is only occasionally available, leaving Mr. Menson with an excessive workload. Dean Bethune stated in a letter dated April 22, 2002, that both operators have been replaced and the new operators need immediate training.

There is a list of technicians and trades people that will provide mechanical and electrical support. The average response to a call is one day.

## 8.0 Deficiencies in the Community Sewage Facilities

1. There is excessive reed growth in the lagoon cells.

## 9.0 Recommendations

- Monitor boil water advisories.
- Monitor turbidity, aluminum, and colour.
- Implement a training program that can lead to certification of the operators.
- Establish and implement a protocol for taking water samples at the water treatment plants, including raw water samples.
- Review method for storing chemicals.
- Develop a comprehensive operating and maintenance program on the water distribution system to address valve and hydrant maintenance.
- Develop a comprehensive contingency plan to address operational problems, breakdowns, vacations and sickness, and boil water advisories.
- Remove excessive reed growth from the lagoon cells.

## 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 – High Risk**

- **High Risk because of the following:**
  - More than one boil water advisory has been issued in the past.

### **Sewage Category – Low Risk**

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