

## Ojibways of Sucker Creek First Nation (Band No. 180)

**Date of Visit:** February 5, 2001

By John McGhee (OCWA) and Lorne Abotosaway (UCCM)

**Site Address:** R.R. #1, P.O. Box 21

Little Current, ON P0P 1K0

**Phone No.:** 705-368-2228

**Fax No.:** 705-368-3563

**Tribal Council Affiliation:** United Chiefs and Councils of Manitoulin (UCCM)

**Operator:** Dave Corbiere

**Location:** The Sucker Creek First Nation community is located on Manitoulin Island, approximately 5 km west of Little Current on Hwy. 540

**Population:** 296 people in the community (April 1999 - INAC)

**No. of Units:** 95 housing units (CAIS)

### 1.0 Description of the Community Water Supply

Based on the CAIS report, water to the houses in the Ojibways of Sucker Creek community is treated as follows:

- 290 people are serviced by a communal water system; and
- 6 people are serviced by individual water holding tanks with trucked water.
  
- 93 houses are serviced by a communal water system; and
- 2 houses are serviced by individual water holding tanks with trucked water.

### 2.0 Description of the Community Sewage Facilities

Based on information supplied to OCWA, sewage from the houses in the Ojibways of Sucker Creek community is treated as follows:

- 296 people are serviced by septic tanks
  
- 95 houses are serviced by septic tanks.

### 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 lab data
<b>B. Design</b>		
Biological	2	2 exceedances noted
Chemical	1	No exceedances noted
Physical	6	Hardness, phenol exceedance
Risk to Public Health	7	
Condition of Laboratory Equipment	0	
Overall Ranking for Design	4	
<b>C. Operations</b>		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	10	Serviced disruptions, No as-built drawings or O & M manuals, re-occurring problems
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	2	Regular testing conducted
Ranking for Boil Water Advisories	7	One boil water advisory issued last year
Overall Ranking for Reporting	5	

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
<b>E. Operators</b>		
Overall Ranking for Operators	10	No training and do not appear confident
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	9	1 exceedance out of 1 available sample
Overall Ranking for the System	10	High Risk

## 4.0 Communal Water Supply Plant (93 houses)

### 4.1 Water Source

The raw water is drawn from the North Channel of Lake Huron.

### 4.2 Design

The community is serviced by a water treatment plant constructed in 1982. The rated design capacity is not known, however, the operator states the present usage of the system is approximately 150 m<sup>3</sup>/d (33,000 IMPG/day). The raw water is drawn from the North Channel of Lake Huron. The water intake has a zebra mussel problem. Also, due to the water level dropping in Lake Huron, the 1.5 inch diameter intake pipe has only four feet of water cover at the intake and one foot in places near shore. Spring ice movement and watercraft can potentially damage the intake piping.

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

Date	Exceedance	Result	GCDWQ Limit
Jan. 27, 2000	Hardness	103 mg/L	80 – 100 mg/L (OG)
	Phenol	0.003 mg/L	0.001 mg/L (AO)
Mar. 8, 2001	No exceedances	N/A	N/A

AO – aesthetic objective; OG – operational guideline

The treatment plant consists of a pump house with two small Culligan pressure filters, and an off-site in ground water reservoir 182 m<sup>3</sup> (40,000 IMPG). One of the pressure filters has not been in operation for 1.5 years.

### 4.3 Operations

Sodium hypochlorite (5%) is used for disinfection. The disinfection equipment is functional and the disinfectant is ordered every four weeks. There is no on-line chlorine residual analyzer but the chlorine residual is checked once per day.

There is no backup power generator for fire protection or the water treatment plant. There is no safety equipment at the plant, although it was indicated that the Band Office has safety equipment.

There is only one operator for the plant. Some safety concerns include no communication system, no safety equipment for chlorine mixing, the plant is small and cluttered and there is no designated lab, office/filing and maintenance area. There is also no washroom.

There are no operating and maintenance manuals for plant equipment and no as-built drawings on site.

Emergency repair parts are available only for some high lift equipment. There is no contact listing of technicians/trades people available. The response for such personnel is immediate.

There is no annual hydrant flushing or maintenance program or mainvalve operating/maintenance program. At the time of the OCWA visit, fire hydrants were frozen and not serviceable.

In the last two years, service disruptions have been experienced due to water main breaks and power failures. Re-occurring operational problems include power failures, short pump life; out of service Culligan pressure filters (for 1.5 years) and low media in the filters.

#### 4.4 Reporting

Health Canada conducts bacteriological testing every two weeks on the communal water system and twice per year on the water holding tanks. The results are kept in the Band Office.

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

Period	Frequency	Regularity	Exceedances
99/10/20 to 01/10/31	1 – 5 times per month	▪ Months missing 2001: Apr., Jun.	▪ 2000/08/04 – Gas Bar, Total Coliform and E. Coli

Last year, Health Canada issued one boil water advisory on the communal water system. Boil water advisories have been issued on individual water tanks as well.

The turbidity of the treated water is not recorded. A chemical analysis of the treated water is conducted once per year.

The operator noted that lead and copper samples have exceeded the GCDWQ.

#### 4.5 Operators

Dave Corbiere operates the water treatment plant. [REDACTED]. He states that he is familiar with calibrating and maintaining the disinfection equipment. [REDACTED]

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[REDACTED] A comprehensive training program is suggested for the operator.

There is no backup operator available to cover for vacation or sickness.

### 5.0 Deficiencies in the Communal Water Supply

1. The intake piping should be reviewed for depth of water cover, potential freezing, and potential ice damage. Zebra Mussels are also present. Operator noted there is a displaced or separated pipe in the intake piping.
2. Safety equipment is available at the Band Office. Eyewash, safety equipment for chlorine mixing and other safety equipment are needed on site.
3. The Culligan pressure filters have not been operational for 1.5 years. Other issues noted by the operator included short pump life and low media in the filters.
4. The water treatment plant does not have a backup power supply and there have been power failures.
5. A spare chlorine pump needs to be purchased and kept on site.

6. There are no operating and maintenance manuals for plant equipment and there are no as-built drawings on site.
7. Several safety hazards/concerns were noted on site including no communication system (telephone).
8. This water treatment plant needs to be cleaned, organized and painted. Good housekeeping of the plant needs to be practiced.
9. Consider constructing additional storage/office/lab/workshop area.
10. The operator does not perform a hydrant flushing and maintenance program or valve operating and maintenance program on the water distribution system. At the time of the OCWA visit, the fire hydrants were frozen and not serviceable.
11. Service disruptions include watermain breaks and power failures.
12. Operator indicated there is technicians/trades people available for immediate response to mechanical breakdowns in the plant.
13. There is no written contingency plan available.
14. Record keeping needs improvement.
15. There is no on-line chlorine analyzer.
16. Lead, copper, and phenol have exceeded GCDWQ Guidelines.
17. There was one boil water advisory issued on the communal water system in the last year.  
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18.  The operator should get more training. The operator has no backup personnel to fill in during vacations and sickness.

## 6.0 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 this plant as follows:

Water Treatment Facility-      Class I

## 7.0 Recommendations

- Investigate intake piping issue to reduce the effects of minimum water cover over the intake piping, potential freezing and ice damage of the intake piping, address the presence of zebra mussels and the break or pipe separation of the intake piping.
- Purchase spare chlorine feed pump as backup and an eyewash system for operator safety.
- Repair Culligan pressure filters.
- Implement a Training Program that can lead to certification of the operator.

- Establish and implement a protocol for taking water samples at the water treatment plants, including raw water samples.
- Consider backup power for the water treatment plant.
- Review safety equipment that is available on site or at the Band Office.
- Consider installation of an on-line chlorine analyzer. This could save operators time in sampling every day.
- Operator needs to implement a house cleaning and general maintenance program at the facilities. Consider additional storage/office space for operator and equipment.
- 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, main breaks and boil water advisories.
- Monitor previous boil water advisories and chemical analyses exceeding GCDWQ guidelines (i.e. lead and copper) to ensure the source of the contamination has been addressed adequately.
- Obtain as-built drawings and operating and maintenance manuals.
- Implement a training program for water truck haulers.
- Develop a contingency plan for the individual water supply systems.
- Establish sampling responsibilities for the individual water holding tanks.
- Establish and implement a procedure for cleaning and disinfecting individual water holding tanks. At a minimum, tanks with boil water advisories to be cleaned and disinfected.
- Implement a sewage septic tank inspection program to inspect all septic tanks in the community for proper operations and meeting the required standards.

## 8.0 Overall Community Risk Assessment

### Water Category - High Risk

- **High Risk because of the following:**
  - Filters need repairing;
  - Operator needs more training;
  - Needs professional assistance;
  - Exceedances in GCDWQ for lead and copper; and
  - Boil water advisories.

**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.**