

## **New Slate Falls First Nation (Band No. 259)**

**Date of Visit:** February 28, 2001

By Marcel Lavigne (OCWA)

**Site Address:** via Sioux Lookout, ON P0V 2T0

**Phone No.:** 807-737-1318      **Fax No.:** 807-737-1318

**Tribal Council Affiliation:** Windigo First Nations Council

**Operator:** Kevin Loon

**Location:** The New Slate Falls First Nation community is located approximately 125 km northeast of Sioux Lookout, 100 km west of New Osnaburgh Village, and is accessible by air.

**Population:** 160 people in the community (November 2000 – INAC)

**No. of Units:** 48 houses in the community (CAIS)

### **1.0 Description of the Community Water Supply**

Based on the CAIS report, water to the houses in the New Slate Falls community is treated as follows:

- 130 people use communal pump systems
- 30 people use other services
  
- 39 houses are serviced by nine communal pump houses systems; and
- 9 houses are serviced by other systems.

### **2.0 Description of the Community Sewage Facilities**

Based on information supplied to OCWA, sewage from the houses in the New Slate Falls community is treated as follows:

- 130 people use septic tanks
- 30 people have other services
  
- 39 houses are serviced by individual septic tanks; and
- 9 houses are serviced by other systems.

### 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	No lab data
Chemical	0	No lab data
Physical	0	No lab data
Overall Ranking for Water Source	0	No lab data
<b>B. Design</b>		
Biological	0	No lab data
Chemical	0	No lab data
Physical	0	No lab data
Risk to Public Health	1	No boil water advisory
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	7	No safety equipment, inadequate ventilation
<b>C. Operations</b>		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	0	Unknown
Overall Ranking for Operations	8	No chlorine residual analyzer, no operation and maintenance manuals, no as-built drawings, no turbidity monitoring
<b>D. Reporting</b>		
Ranking for Laboratories and Testing	3	Monthly by operator
Ranking for Boil Water Advisories	1	No boil water advisory
Overall Ranking for Reporting	2	

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
<b>E. Operators</b>		
Overall Ranking for Operators	2	Trained and confident
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0	No data
Overall Ranking for the System	5	Medium Risk

#### 4.0 Communal Water Treatment Supply (39 houses)

##### 4.1 Water Source

The raw water source for the New Slate Falls community is Bamaji Lake.

##### 4.2 Design

There are nine individual lake intakes with nine individual pump houses, which provide water to four or five houses each. Each pump house has one turbidity filter and two cartridge-type activated carbon filters. The systems were constructed in 1996.

Each pump house has a sodium hypochlorite disinfection system. The pump houses do not have adequate ventilation and there is a safety concern over the strong odor of chlorine. There is no diesel-operated pump for fire protection or a diesel operated generator to supply backup power.

Safety equipment on-site includes some personal equipment; an apron and face shield but there is no eye wash station. There is no adequate designated lab area but there are office/filing and workshop areas.

##### 4.3 Operations

The disinfection equipment is functional however records showed no chlorine residual on certain days. Mr. Kevin Lundstrom of First Nations Environmental Health Services was notified. There was sufficient sodium hypochlorite on-site and the disinfectant is ordered every two months.

There is no on-line chlorine residual analyzer. The chlorine residual is checked five days a week, but not on the weekends. The operator reports that the chemicals are stored in accordance with MOE guidelines and there are sufficient test reagents with a current shelf life.

There is a colilert unit and incubator available. The operator reported that he uses the unit on a monthly basis, however, there is a shortage of test reagent.

The operation and maintenance manuals and as-built drawings are not readily available on-site.

Emergency spare parts are not available. Some of the equipment was put together using a gear clamp instead of the proper material. The operator reports that there are insufficient financial resources for the right material.

There has been a service disruption in the last two years caused by a frozen intake line on one of the pump houses. The heat tracing was not working properly and there was no service for half a day. It is unknown where there is an annual hydrant flushing or maintenance program or an annual main valve operating and maintenance program in place. It is also unknown if there are emergency spare parts available. There is a contact listing of technicians/trades people and their average response time is four days.

##### 4.4 Reporting

Kevin Loon, the operator of the pump houses conducts bacteriological tests on a monthly basis. The results are recorded and kept in a daily log. There have not been any disease or health related outbreaks in the last two years. There has not been any boil water advisories issued. The turbidity of the water is not recorded.

Chemical analyses of the treated water are conducted on an annual basis but an analysis was not done in 2000 due to a shortage of staff at the First Nations Environmental Health Service in Sioux Lookout.

Bacteriological samples are sent on an annual basis to First Nations Environmental Health Services in Sioux Lookout.

Health Canada did not have any files with chemical or bacteriological analyses since 1999.

#### 4.5 Operators

#### s.19(1)

Kevin Loon is the operator of the water treatment pump houses. [REDACTED] [REDACTED] [REDACTED]. The operator is familiar with calibrating and maintaining the disinfection equipment [REDACTED]. The operator worked on the system when it was being installed and knows how to increase the chlorine residual in the line. The operator should be given some mechanical training on how to fix pumps and laboratory training for using the colilert unit.

The operator's backup is his father, but he has no training.

#### 5.0 Deficiencies in the Communal Water Supply

1. The pump houses do not have adequate ventilation and strong chlorine odour is present.
2. No diesel operated pump or backup generator are available.
3. Safety equipment is not adequate. There is no eyewash station.
4. There is no designated lab area.
5. Records show no chlorine residual on some days.
6. Operation and maintenance manuals and as-built drawings are not readily available on-site.
7. A frozen intake line due to a faulty heat tracing system has caused a service disruption.
8. Emergency spare parts are not available on-site and there is insufficient material for maintenance.
9. Technicians/trades people are available with a response time of four days.
10. Turbidity of the water is not recorded.
11. Chemical analyses on the treated water are conducted on an annual basis but none was done in 2000 due to a staff shortage.

#### s.19(1)

12. [REDACTED] has some training and is familiar and confident in operating the treatment plant. The backup operator has no training.

## 6.0 Recommendations

- Consider installing proper ventilation in the pump houses.
- Consider purchasing backup power for each pump house.
- Consider an eyewash station to supplement existing safety equipment at each pump house.
- Deal with colilert testing issue and its insufficient test reagent.
- Purchase some spare emergency parts.
- Implement training program that can lead to certification of the operator.
- Develop a contingency plan for the water supply system.
- Establish a protocol for taking water samples at the water treatment pump houses, including raw water samples.
- Maintain chlorine residual.
- Implement a sewage septic tank inspection program.

## 7.0 Plant Classification

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

Water Treatment Facility - Class II

## 8.0 Overall Community Risk Assessment

- **Water Category - Medium Risk:**
- **Medium Risk because of the following:**
  - Operator needs training as some samples show no chlorine residual; and
  - Potential leaks on chlorine lines (odours).
  - Safety equipment is not adequate.

**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.**