

## Wawakapewin First Nation (Band No. 234)

**Date of Visit:** March 21, 2001

by R. Beauvais (OCWA)

**Site Address:** Via Big Trout Lake, ON P0V 1G0

**Phone No.:** 807-442-2567

**Fax No.:** 807-548-4877

**Tribal Council Affiliation:** Shibogama First Nations Council

**Operators:** Roger Cook, Garret Hudson

**Location:** The Wawakapewin First Nation community is located approximately 410 km northeast of Sioux Lookout

**Population:** 18 people in the community (November 2000 – INAC)

**No. of Units:** 15 houses in the community (CAIS)

### 1.0 Description of the Community Water Supply

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

- 17 people use piped water
- 1 person has no service
  
- 14 houses are serviced by a communal water system; and
- 1 house has no service.

### 2.0 Description of the Community Sewage Facilities

Based on the CAIS report, and information supplied to OCWA, sewage from the houses in the Wawakapewin community is treated as follows:

- 17 people use septic tanks
- 1 person has no service
  
- 14 houses use septic tanks; and
- 1 house has no service.

### 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<br>Water                     | SECTION RANKING<br>Water | RISK<br>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                             | 6                        | Iron, manganese, aluminum exceedances  |
| Physical                             | 0                        | No data  |
| Risk to Public Health                | 1                        |  |
| Condition of Laboratory Equipment    | 0                        | Not inspected  |
| Overall Ranking for Design           | 6                        |  |
| <b>C. Operations</b>                 |                          |  |
| Reservoir Cleanliness                | 0                        | Not inspected  |
| Emergency Plan                       | 0                        | Unknown  |
| Overall Ranking for Operations       | 9                        | No chlorine residual analyzer, no turbidity monitoring, water softeners not operating. |
| <b>D. Reporting</b>                  |                          |  |
| Ranking for Laboratories and Testing | 0                        | Insufficient information   |
| Ranking for Boil Water Advisories    | 1                        | No boil water advisory   |
| Overall Ranking for Reporting        | 6                        | Poor record keeping  |

| <b>SECTION<br/>Water</b>             | <b>SECTION RANKING<br/>Water</b> | <b>RISK<br/>Water</b>     |
|--------------------------------------|----------------------------------|---------------------------|
| <b>E. Operators</b>                  |                                  |                           |
| Overall Ranking for Operators        | 6                                | Confident but no training |
| <b>F. Statistical Data</b>           |                                  |                           |
| Overall Ranking for Individual Wells | 0                                | No data                   |
| Overall Ranking for the System       | 7                                | Medium Risk               |

#### 4.0 Communal Water Treatment Supply (14 houses)

##### 4.1 Water Source

The raw water is drawn from a well.

##### 4.2 Design

The Wawakapewin communal water supply consists of a well system constructed in 1994/1995. The rated design capacity is not known.

The treatment consists of pressure filters, water softeners, and disinfection. The water source is from a groundwater well. There is no reservoir and pressure tanks are used to sustain pressure in the distribution system. There is no backup power generator, but there are two gasoline-operated fire suppression pumps. The plant is small and cluttered and there is no designated laboratory, office/filing and maintenance areas. There is no safety equipment, but there are no reported safety hazards.

##### 4.3 Operations

Sodium hypochlorite is used for disinfection. At the time of our visit, there was a sufficient supply of sodium hypochlorite. The only other chemical used is salt for the water softener. At the time of visit, the two water softeners were not operating. There is no on-line chlorine residual analyzer and colilert units were not available. The operator manually checks chlorine residual monthly.

There are operations and maintenance manuals for plant equipment, and as-built drawings on site. Emergency repair parts are not available. There is no contact listing of technicians/trades people available.

The pump house is very small and should be kept free of all material not required for operations. At the time of the visit, there was a large hot water tank that was stored at the pump house, which was not required for operations along with the other odds and ends of material and equipment.

There is an annual hydrant flushing and maintenance program for the single hydrant. In the last two years, service disruptions have been caused by maintenance activities, but there have been no re-occurring operational problems.

##### 4.4 Reporting

Health Canada conducts bacteriological testing on the communal water system. There has been no boil water advisory on the communal water system.

There is no turbidity meter. A chemical analysis of the treated water has been conducted in 1997 and found that iron, manganese and aluminum were exceeding the GCDWQ.

No recent bacteriological or chemical data was available from Health Canada records.

##### 4.5 Operators

Roger Cook and Garret Hudson operate the water treatment system.

The operators are familiar with calibrating and maintaining the disinfection equipment

s.19(1)

Additional training on basic water treatment, maintenance and operation of the system is suggested.

## **5.0 Deficiencies in the Communal Water Supply**

1. There is no safety equipment on site, and there have been no reported safety hazards.
2. The water treatment plant does not have a backup power supply.
3. Consider constructing storage, office, and lab and workshop areas.
4. Service disruptions have occurred due to maintenance activities.
5. The water softness were not operating at the time of the site visit.
6. Operator indicated there is no contact listing of technicians and trades people.
7. There is no written contingency plan available.
8. Record keeping needs improvement.
9. There is no on-line chlorine analyzer and no colilert unit.
10. A chemical analysis of the treated water was conducted and results showed aluminum, iron and manganese have exceeded GCDWQ Guidelines.
11. Health Canada takes bacteriological samples, though the frequency is unknown. Recent bacteriological and chemical results were not available from Health Canada records.
12. Turbidity is not recorded on a regular basis.

### **s.19(1)**

13. 

## **6.0 Recommendations**

- 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 plant, including raw water samples. A colilert unit should be provided and used daily.
- Repair and replace water softeners.
- Improve record keeping.
- Purchase safety equipment.
- Consider backup power for the water treatment plant.
- Review safety equipment that is available on site. Although there were no reported safety hazards, sodium hypochlorite is used and an eyewash unit should be available.
- Consider installation of an on-line chlorine analyzer. Manual analysis of chlorine residual should be done much more frequently than monthly.
- 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 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, to ensure the source of the contamination has been addressed adequately.

- Implement a sewage septic tank inspection program to inspect all septic tanks in the community for proper operations and meeting the required standards.

## 7.0 Plant Classifications

Based upon the Terms of Reference – Appendix I – Plant Classification Guideline developed by Public Works and Government services 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 II

## 8.0 Overall Community Risk Assessment

### **Water Category – Medium Risk**

- **Medium Risk because of the following:**
  - Operators have had no training
  - Two water softeners were not operating at time of visit
  - A 1997 sample of treated water found that iron, manganese and aluminum were exceeding the GCDWQ
  - Poor record keeping

**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.**