

## Northwest Angle No. 37 First Nation (Band No. 151)

**Date of Visit:** April 30, 2001

By K. Lusignan (OCWA), and Don Milligan (AKRC)

**Site Address:** P.O. Box 2270

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**Tribal Council Affiliation:** Anishinaabeg of Kabapikotawangag Resources Council (AKRC)

**Operator:** Byron Oseie

**Location:** The Northwest Angle No. 37 community is comprised of two different areas known as Regina Bay and Windigo Island.

- Regina Bay is located approximately 20 km southwest of the Township of Sioux Narrows and is accessible by a secondary roadway which transverses Highway 71
- Windigo Island is a remote location situated on Lake of the Woods, located approximately 10 km from Angle Inlet (by water), Minnesota, and 80 km southwest of Regina Bay (by water).

**Population:** 127 people in the community (November 2000 - INAC)

**No. of Units:** 42 housing units

### 1.0 Description of the Community Water Supply

Based on information supplied to OCWA, water to the houses in the community is treated as follows:

#### Regina Bay

- 10 houses and 3 community buildings are serviced by a communal water system;
- 12 houses are serviced by individual surface water systems; and
- 5 houses have services that are not known.

#### Windigo Island

- 2 houses and 2 community buildings are serviced by a communal well system;
- 2 houses are serviced by a second communal well system; and
- 6 houses and the Band Office are on individual surface systems.

Note: A community treatment plant is under design for commissioning in spring 2003.

### 2.0 Description of the Community Sewage Facilities

Based on the CAIS report, sewage from the houses in the Northwest Angle No. 37 community is treated as follows:

- all houses and buildings in this community are serviced by individual or shared 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.

<b>SECTION Water</b>	<b>SECTION RANKING Water</b>	<b>RISK Water</b>
<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	0	No data
Chemical	10	Turbidity and phenol exceedances noted
Physical	8	Low hardness, dissolved organic carbon exceedance
Risk to Public Health	9	Turbidity exceedance, phenol exceedance, boil water advisory
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	9	
<b>C. Operations</b>		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	0	Unknown
Overall Ranking for Operations	8	No chlorine residual analyzer, sufficient test reagents, and have experienced serviced disruptions

<b>D. Reporting</b>		
Ranking for Laboratories and Testing	2	Regular testing conducted
Ranking for Boil Water Advisories	9	Currently under a boil water advisory
Overall Ranking for Reporting	9	
<b>E. Operators</b>		
Overall Ranking for Operators	9	Operators not trained or confident
<b>F. Statistical Data</b>		
Overall Ranking for Individual Wells	0*	23 out of 49 total/E.Coli exceedances (47%)
Overall Ranking for the System	10	High Risk

\*Health Canada provided bacteriological samples for individual surface water supplies.

#### 4.0 **Communal Water Treatment Supply (10 houses and 3 community buildings)**

The communal water supply systems on Windigo Island were not visited.

##### 4.1 Water Source

The raw water is drawn from Lake of the Woods.

##### 4.2 Design

The Northwest Angle No. 37 community is comprised of two different areas known as Regina Bay and Windigo Island.

The Regina Bay area is serviced by a water treatment plant that was upgraded in December 2000. The rated design capacity of the plant is 32.7 m<sup>3</sup>/day. The raw water is drawn from Lake of the Woods.

The following table summarizes the treated water data available from Health Canada, which does not meet GCDWQ:

Date	Location	Exceedance	Result	GCDWQ Limit
July 23, 1998	Treated Water Supply	Phenols	0.006 mg/L	0.005 mg/L (HL)
		Dissolved organic carbon	7.0 mg/L	5.0 mg/L (AO)
		Turbidity	1.9 NTU	1.0 NTU (HL)
		Hardness	34.9 mg/L	80 – 100 mg/L (OG)

AO – Aesthetic Objective

OG – Operational Guideline

HL – Health Limit

The Regina Bay area communal water supply consists of a lake intake, a conventional treatment plant with chlorination, an on-site water reservoir, and a water distribution system. Water is taken into the plant and put through a multi-media pressure filter before being chlorinated. From the on-site storage tank (4.5 m<sup>3</sup>), the water is passed through micro filters before the high lift pumps deliver the treated water to the community.

### 4.3 Operations

The disinfecting equipment is functional. Chemicals and reagents have acceptable shelf life, but there is neither ventilation for the plant nor proper storage for chemicals. An on-site chlorine residual analyzer is needed. There is also no colilert unit and incubator available. Bacteriological samples are transported to off-site labs on a monthly basis.

There is neither a diesel-operated pump for fire protection nor a diesel-operated generator to supply backup power for the plant. The plant has experienced service disruptions in the past due to power failures. There is no safety equipment at all on site. Safety concerns include: chlorine odour in the plant; the pipe coupling on the intake pipe has needed repairs several times; and the backwash from the filters is discharged to the ground behind the plant causing the neighbor's shed to be eroded from its footings.

Within the plant there is insufficient room for laboratory, office/filing or workshop areas. There are also no appropriate tools to perform maintenance. Operating and maintenance manuals for the plant equipment, for the treatment plant and as-built drawings are all on site and available, but they need to be replaced because they are wet.

Emergency repair parts are not readily available, however there is a contact listing of technicians/trades people. It takes one day for such personnel to respond to problems.

The Windigo Island area was not visited.

### 4.4 Reporting

Health Canada conducts a monthly bacteriological test. These results are recorded and kept at the band office, and at Health Canada.

Although there have not been any health related outbreaks in the last two years, the Northwest Angle No. 37 community is currently under a boil water advisory issued by Health Canada.

The turbidity of the treated water is not recorded, and therefore it is not known whether there have been exceedances in turbidity levels. Chemical analysis of the treated water is conducted on a yearly basis.

### 4.5 Operators

**s.19(1)**

Byron Oseie is the operator at the water treatment plant in Regina Bay. [REDACTED]

## 5.0 Deficiencies in the Community Water Supply

1. The community is currently under a boil water advisory.
2. Turbidity tests of treated water are not performed.
3. The operator is not certified but is receiving training through the Circuit Rider Training Program.

4. There are safety hazards such as a chlorine odour in the plant, an unstable intake pipe, and the backwash filter water being discharged behind the plant.
5. The operations and maintenance manuals for plant equipment and the plant, and as-built drawings are on site but need to be replaced due to wetness.
6. There is no on-line chlorine residual analyzer.
7. The water treatment plant does not have a backup power supply in case of power failure.
8. The water treatment plant does not have a diesel-operated pump for fire protection.
9. Safety equipment is not available on-site.
10. Service disruptions include power failures.
11. There is not enough room for laboratory, office/filing, and workshop areas within the plant.
12. Record keeping needs improvement.

## **6.0 Classification**

Based on 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 reasons for the current boil water advisory.
- Purchase turbidity meter.
- Provide additional training for operator that can lead to certification.
- Establish and implement a protocol for taking water samples at the water treatment plants, including raw water samples.
- Develop a comprehensive operation and maintenance program on the water distribution system to address valve maintenance.
- Develop a comprehensive contingency plan to address operational problems, breakdowns, vacations and sickness, and boil water advisories
- Obtain operation and maintenance manuals and as-built drawings to replace the wet ones.
- Purchase safety equipment.
- Consider purchasing backup power supply for plant, and diesel-operated pump for fire protection.
- Address the potential chlorine leak.
- Address the intake piping problem.
- Address the filter backwash water discharge causing erosion to the ditch.
- Purchase a spare chlorine metering pump.

## **8.0 Overall Community Risk Assessment**

**Water Category – High Risk**

- High Risk because of the following:
  - Currently under a boil water advisory; and
  - Operator needs training.

**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.**