Henvey Inlet First Nation (Band No. 231)

Date of Visit: July 26, 2001
By John McGhee (OCWA), Willard Noganosh (Tribal Council Technical Services Advisor)
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Tribal Council Affiliation: Waabnoong Bemjiwang Association of First Nations
Operators: John Kagagins, Edward Nettagog
Location: The Henvey Inlet First Nation community is located 60 km south of Sudbury
Population: 151 people in the community (December 2000 - INAC)
No. of Units: 47 housing units (CAIS)

1.0 Description of Community Water Supply

Based on the CAIS report, and information supplied to OCWA, water to the houses in the Henvey Inlet community is treated as follows:

- 93 people are serviced by a communal well system (Pump House #1)
- 22 people are not serviced by a communal well system (Pump House #2)
- 36 people are not recorded in CAIS.

- 29 houses are serviced by a communal well system (Pump House #1),
- 7 houses are serviced by a communal well system (Pump House #2); and
- 11 houses are not recorded in CAIS.

2.0 Description of Community Sewage Facilities

Based on information supplied to OCWA, sewage from the houses in the Henvey Inlet community is treated as follows:

- 151 people use individual septic tanks.

- 47 houses are serviced by individual 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.

3.1 Pump House #1

SECTION Water	SECTION RANKING Water	RISK Water
A. Water Source		
Biological	0	No data available
Chemical	5	Iron and manganese exceedance
Physical	8	Turbidity exceedance
Overall Ranking for Water Source	7	
B. Design		
Biological	1	No exceedances
Chemical	1	Turbidity exceedance
Physical	5	No exceedance
Risk to Public Health	10	No disinfection
Condition of Laboratory Equipment	0	
Overall Ranking for Design	10	
C. Operations		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	10	No disinfection, no O & M manuals, no as-built drawings, no annual flushing program
D. Reporting		
Ranking for Laboratories and Testing	1	Health Canada conducts biological tests monthly and chemical tests upon request
Ranking for Boil Water Advisories	1	No boil water advisories

SECTION Water	SECTION RANKING Water	RISK Water
Overall Ranking for Reporting	1	
E. Operators		
Overall Ranking for Operators	7	No training and not certified, standby operator not trained
F. Statistical Data		
Overall Ranking for Individual Wells	10	22 exceedances out of 51 samples (43.1%)
Overall Ranking for the System	10	High Risk

3.2 Pump House #2

SECTION Water	SECTION RANKING Water	RISK Water
A. Water Source		
Biological	0	
Chemical	0	
Physical	0	
Overall Ranking for Water Source	0	No data available
B. Design		
Biological	1	No exceedances
Chemical	0	
Physical	0	
Risk to Public Health	10	No disinfection
Condition of Laboratory Equipment	0	
Overall Ranking for Design	10	
C. Operations		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	10	No disinfection, no as-built drawings, service disruptions
D. Reporting		
Ranking for Laboratories and Testing	1	Health Canada conducts biological tests monthly and chemical tests upon request
Ranking for Boil Water Advisories	1	No boil water advisories
Overall Ranking for Reporting	1	
E. Operators		
Overall Ranking for Operators	5	Standby operator not trained
F. Statistical Data		
Overall Ranking for Individual Wells	10	22 exceedances out of 51 samples (43.1%)
Overall Ranking for the System	10	High Risk

4.0 Communal Water Treatment Supply (Two Communal Systems)

4.1 Pump House #1 (29 houses)

4.1.1 Water Source

This community is serviced by a deep well.

4.1.2 Design

Pump House #1 services 29 houses in the Henvey Inlet community. The facility was built in the late 1970's. There is a deep well pump with two pressure tanks and no reservoirs. No method of disinfecting is used at pump house #1.

The following table summarizes the raw and treated water chemical data available from Health Canada, which does not meet GCDWQ.

Date	Location	Exceedance	Result	GCDWQ
May 25, 2001	Raw Water (Well)	Hardness	151 mg/L	80 – 100 mg/L
		Turbidity	3.8 NTU	1.0 NTU
		Iron	0.31 mg/L	0.30 mg/L
		Manganese	0.080 mg/L	0.050 mg/L
Feb. 2, 2001	Health Centre (Treated)	Hardness	124 mg/L	80 – 100 mg/L

There is insufficient ventilation, chemical storage, and no back up power supply or diesel operated pump for fire protection at the pump house. Electrical and mechanical work is outsourced. Distribution system work is also mostly contracted out.

4.1.3 Operations

Laboratory, office and workshop spaces are lacking within the pump house. Operations and maintenance manuals for the treatment plant and equipment, as well as as-built drawings, are not on-site.

The water mains are flushed two times a year. Freezing has caused service disruptions in the last two years.

There are no emergency spare parts readily available, but there is a contact listing of technicians/trades people available. The average response time for such personnel is one hour.

4.1.4 Reporting

Health Canada conducts regular bacteriological tests every month. The results are kept at the Health Clinic and are easily accessible. The operator reports that chemical analysis of the treated water is completed upon request.

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

Period	Frequency	Regularity	Exceedances
99/10/14 to 01/10/02	1 – 5 times per month from different location	▪ Months missing 2000: Jun., Sep., Oct.	▪ No exceedances noted for the given period (164 samples)

No boil water advisories have been issued for this community and no health related outbreaks have occurred in the last two years. Turbidity of the treated water is not recorded.

4.1.5 Operators

s.19(1)

John Kagagins is the operator at both water treatment pumping station.

Edward Nettagog operates the pumping station when John is on vacation or sick. He has received no training.

4.2 Pump House #2 (7 houses)

4.2.1 Water Source

This community is serviced by a deep well.

4.2.2 Design

Pump House #2 services 7 houses in the Henvey Inlet community. The facility was built in the late 1970's. There is a deep well pump with two pressure tanks and no reservoir. No method of disinfecting is used at the pump house #2.

- There are no chemical tests available from Health Canada for pump house #2 (raw or treated water).

There is insufficient ventilation, chemical storage and no backup power supply or diesel operated pump for fire protection at the pump house. Electrical and mechanical work is outsourced. Distribution system work is also mostly contracted out.

4.2.3 Operations

Laboratory, office and workshop spaces are lacking within the pump house. Operating and maintenance manuals for the treatment plant and equipment as well as as-built drawings are not on-site.

There is no annual hydrant flushing or maintenance program, although the main valves are flushed two times a year. Freezing has caused service disruptions in the last two years.

There are no emergency spare parts readily available, but there is a contact listing of technicians/trades people available. The average response time for such personnel is one hour.

4.2.4 Reporting

Health Canada conducts regular bacteriological tests every month. The results are kept at the Health Clinic and are easily accessible. The operator reports chemical analysis of the treated water is completed as requested. No chemicals have exceeded the Guidelines for Canadian Drinking Water Quality.

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

Period	Frequency	Regularity	Exceedances
99/10/14 to 01/10/02	1 – 5 times per month from different location	▪ Months missing 2000: Jun., Sep., Oct.	▪ No exceedances noted for the given period (164 samples)

No boil water advisories have been issued for this community and no health related outbreaks have occurred in the last two years. Turbidity of the treated water is not recorded.

4.2.5 Operators

s.19(1)

John Kagagins is the operator at both water treatment pumping stations.

Edward Nettagog operates the pumping station when John is on vacation or sick. He has received no training.

5.0 Deficiencies in the Communal Water Supply

1. No method of disinfection is used.
2. There are no operations and maintenance manuals or as-built drawings on-site.
3. There is inadequate ventilation in the plant.
4. There is no annual valve and hydrant maintenance program.
5. Service disruptions have occurred because of freezing and power outages.
6. There is no back up power supply.
7. There is no safety equipment available.
8. Turbidity of the treated water is not recorded.
9. There are insufficient laboratory, office, and workshop areas.
10. Chemical analysis is only conducted upon request.

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

- Implement a method of disinfecting for the treated water.
- Implement a training program that can lead to certification of the operator.
- Obtain as-built drawings and operations and maintenance manuals.
- Address poor ventilation issue.
- Develop a comprehensive operation and maintenance program for the water distribution system to address valve and hydrant maintenance.
- Address the issue of service disruptions due to freezing.
- Install back up power generator.
- Consider purchase of maintenance tools and equipment to cut down on the cost of outsourcing.
- Implement turbidity sample testing.
- Provide labs/office/workshops.
- Improvement regular sampling (chemical) protocol.

8.0 Overall Community Risk Assessment

Water Category – High Risk

High Risk because of the following:

- No method of disinfecting.

Note: Information within this report is based upon discussions with the plant operator and a quick visual walk through of the facilities. No detailed review was undertaken by OCWA.