

Wabauskang First Nation (Band No. 156)

Date of Visit: February 22, 2001

by Cam McIvor (OCWA)

Site Address: Box 418

Ear Falls, ON P0V 1T0

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Tribal Council Affiliation: Bimose Tribal Council

Operators: Ron Audit, Doug Riffel, and Betty Riffel

Location: The Wabauskang First Nation community is located approximately 20 km from Ear Falls

Population: 62 people in the community (November 2000 – INAC)

No. of Units: 25 houses in the community

1.0 Description of the Community Water Supply

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

- 60 people have piped water
- 2 people were not reported in CAIS

- 24 houses are serviced by a communal water supply system; and
- 1 house not reported in CAIS.

2.0 Description of the Community Sewage Facilities

Based on the CAIS report, sewage from the houses in the Wabauskang community is treated as follows:

- 62 people have septic tanks

- 25 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
A. Water Source		
Biological	0	
Chemical	0	
Physical	0	
Overall Ranking for Water Source	0	No lab data available
B. Design		
Biological	8	Bacteriological exceedance
Chemical	1	No exceedances
Physical	6	Slightly yellow, dissolved organic carbon exceedance
Risk to Public Health	10	Boil water advisory
Condition of Laboratory Equipment	0	Not inspected
Overall Ranking for Design	8	
C. Operations		
Reservoir Cleanliness	0	Not inspected
Emergency Plan	0	Unknown
Overall Ranking for Operations	8	No chlorine residual analyzer, no turbidity monitoring, no operation and maintenance manuals, re-occurring problem with the air tank
D. Reporting		
Ranking for Laboratories and Testing	1	Monthly Colilert testing
Ranking for Boil Water Advisories	8	Boil water advisory

SECTION Water	SECTION RANKING Water	RISK Water
Overall Ranking for Reporting	7	
E. Operators		
Overall Ranking for Operators	10	No training and no confidence
F. Statistical Data		
Overall Ranking for Individual Wells	0	No data
Overall Ranking for the System	8	High Risk

4.0 Communal Water Treatment Supply (25 houses)

4.1 Water Source

The raw water supply consists of a groundwater well with chlorination.

4.2 Design

The community is serviced with a water treatment plant constructed in 1989.

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

Sample Date	Sample Received	Location	Exceedances	Result	GCDWQ limit	Notes
July 21, 1999	July 23, 1999	Water Plant	Dissolved Organic Carbon	7.4 mg/L	5.0 mg/L (AO)	The sample appeared slightly yellow
July 21, 1999	July 23, 1999	Personal Residence	Dissolved Organic Carbon	7.6 mg/L	5.0 mg/L (AO)	The sample appeared slightly yellow

AO = aesthetic objective

There is no filtration, no reservoir, and a pressure tank helps maintain pressure in the water distribution system. The pump house is in good shape but there is no security. There is no laboratory, office or workshop. There is no backup power or diesel driven fire pump.

In a letter dated July 18, 2001 Health Canada recommended that all homes and buildings that are close enough to the water plant be connected. This was recommended so that the water supply can be monitored and properly treated by a trained plant operator instead of multiple water supplies which is what is currently being used. It is noted that buildings using separate water supplies can also be hooked up to their own treatment/disinfection system if they are not connected to the new water plant.

There is no safety equipment on site. There is a security problem in that the pump house doors do not lock and the security alarm does not work.

4.3 Operations

Sodium hypochlorite is used for disinfection and the chlorinator is working. There is no flow meter. The hypochlorite is stored properly and ventilation is adequate. There is no on-line chlorine analyzer and the chlorine residuals are manually checked "irregularly".

There are no records on site, no operations manuals, and no as-built drawings. Emergency repair parts are not available. There is no contact listing of technicians/trades people available. The response for such personnel is unknown.

There is neither hydrant flushing and maintenance program, nor is there a valve maintenance program.

The injection system for hypochlorite needs upgrading. An ongoing operational problem is the pressure tank, which needs regular recharging.

4.4 Reporting

There is little testing being performed at this facility. There is a colilert unit and the operator uses it monthly to check for bacteriological contamination. Bacteriological tests are taken on a monthly basis using the colilert kit, and samples are sent off site to Winnipeg on an infrequent basis. We are not told whether turbidity is monitored or whether chemical analyses are ever performed.

Health Canada has issued one boil water advisory in the early 1990s due to the fact that the plant has no paid operator and is only equipped to provide basic chlorination and a new water plant is in the design stage with an expected completion date of 2002-2003.

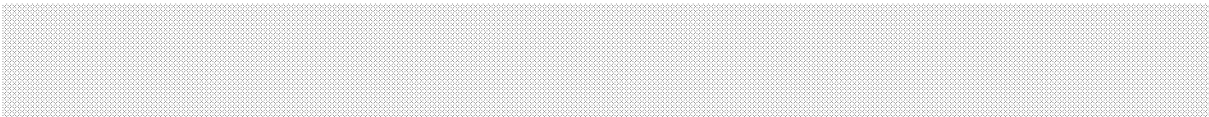
The following colilert results were available from Health Canada:

- July 19, 2000 both samples from the Water Plant and both samples from the Marina Building tested unsafe with high levels of total coliform bacteria but zero E. coli sewage bacteria. It was recommended that the Boil Water Advisory remain in effect on all community water supplies.

In a letter dated July 25, 2001 Health Canada was not able to take water samples from the water plant because there was no water at that time and they were unable to locate anyone to fix it at that time. It was also noted that the chlorinator in the water plant was not plugged in at their time of visit but this may be due to the fact that the water was off.

4.5 Operators

There are two operators and one sampler for the water system. Ron Audit and Doug Riffel are the on-site operators from the water system. Betty Riffel performs all the sampling, which mainly consists of monthly bacteriological samples.



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5.0 Deficiencies in the Community Water Supply

1. There is no safety equipment onsite.
2. There are no spare parts on-site.
3. The water treatment plant does not have a backup power supply, and no backup for the fire pump.
4. There are no operation and maintenance manuals for plant equipment and there are no as-built drawings on site.
5. There is insufficient storage/office/laboratory/workshop area.
6. The operator does not perform a hydrant flushing and maintenance program.
7. Operators indicated there is no contact listing of technicians/trades people.
8. There is no written contingency plan available.

9. Record keeping needs improvement.
10. The chlorine equipment was working but chlorine testing is infrequent.
11. There is no on-line chlorine analyzer and no flow meter.
12. It is unknown if a chemical analysis of the treated water is conducted on a regular basis.
13. Bacteriological samples are sent to Winnipeg, though the frequency is unknown.
14. Health Canada records indicate treated water is high in total coliform.
15. Turbidity is not recorded.
16. Treated water appears yellow in color, and exceeds the GCDWQ for total organic carbon.
17. This community has been on a boil water advisory since the early 1990's. A new treatment plant is in the design stages.
18. **s.19(1)**
19. The injection system for hypochlorite could use upgrading. An ongoing operational problem is the pressure tank, which needs regular recharging.
20. The water plant chlorinator and chlorine mix have to be adjusted to put more chlorine into the system because there was an insufficient Free Available Chlorine Residual present in water at time of testing.

6.0 Recommendations

- Establish a protocol for taking water samples, including both raw and treated, for bacteriological and chemical analyses.
- Purchase a spare chlorinator.
- Investigate bacteriological presence in treated water.
- Investigate and correct problem with the pressure tank.
- Address security issue at the pumping station.
- Review safety equipment that should be available on site.
- Develop a comprehensive operation 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 illnesses, main breaks and boil water advisories.
- Monitor previous boil water advisories and chemical analyses exceeding GCDWQ guidelines to ensure the source of the contamination has been addressed adequately, and appropriate treatment is utilized.
- Implement a training program for operators leading to certification.
- Obtain as-built drawings and operation and maintenance manuals.
- Upgrade injection system for the hypochlorite.
- Consider installing a laboratory/office/workshop.
- Obtain and maintain an inventory of spare parts.
- Provide backup power.
- Install flow meter.

- Improve record keeping.
- Purchase and install an on-line chlorine analyzer.

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 I

8.0 Overall Community Risk Assessment

Water Category - High Risk

- **High Risk because of the following:**
 - Boil water advisory;
 - Equipment malfunctioning;
 - Professional assistance is needed;
 - Operators have no certification or training;
 - No records on site and irregular testing; and
 - Ongoing operational problem with the pressure tank

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.