

Pottawatomi of Moose Deer Point First Nation (Band No. 135)

Date of Visit: March 15, 2001

By George Culhane (OCWA)

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Tribal Council Affiliation: Ogemawahj Tribal Council (OTC)

Operator:

Location: The Pottawatomi of Moose Deer Point First Nation community is located approximately 30 km south of Parry Sound

Population: 149 people in the community (November 2000 - INAC)

No. of Units: 69 housing units (CAIS).

Description of the Community Water Supply

Based on the CAIS report, water to the houses in the Pottawatomi of Moose Deer Point community is treated as follows:

- 50 people are serviced by piped water;
- 13 people are serviced by individual well systems;
- 86 people are serviced by other means.

- 23 houses are serviced by a communal water system;
- 6 houses are serviced by individual well systems; and
- 40 houses are serviced by other means.

Description of the Community Sewage Facilities

Based on information supplied to OCWA, sewage from the houses in the Pottawatomi of Moose Deer Point community is treated as follows:

- 149 people are serviced by individual septic systems
- 69 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	
B. Design		
Biological	10	27/158 (17%) total coliform and E. Coli exceedances 36/158 (23%) total coliform exceedances
Chemical	0	No data
Physical	0	No data
Risk to Public Health	8	Bacteriological risk
Condition of Laboratory Equipment	0	
Overall Ranking for Design	10	
C. Operations		
Reservoir Cleanliness	0	
Emergency Plan	0	
Overall Ranking for Operations	8	Disinfection equipment not working
D. Reporting		
Ranking for Laboratories and Testing	4	
Ranking for Boil Water Advisories	8	Several boil water advisories issued last year
Overall Ranking for Reporting	6	

SECTION Water	SECTION RANKING Water	RISK Water
E. Operators		
Overall Ranking for Operators	1	Operator working towards certification
F. Statistical Data		
Overall Ranking for Individual Wells	0	
Overall Ranking for the System	8	High Risk

4.0 Communal Water Supply (23 houses)

4.1 Water Source

The community communal water supply system is comprised of two pump house systems supplying surface water from Georgian Bay to 23 homes.

4.2 Design

Based on the definition of “Communal System” (serving 5 or more homes), there are three communal systems in Moose Deer Point, two of which are the pump houses visited, located on King Bay and Isaac Bay.

In addition, a third system also draws water from King Bay (part of Georgian Bay) and services six (6) homes. This pumping system is located in the home of a community member, with individual UV treatment systems located at each house.

Both pump houses are wood framed buildings and were constructed in 1998. Both water treatment systems consist of submersible in-line pumps, on-line disposal cartridge filters, pressure tanks, UV disinfection, and water distribution system.

The rated design capacities of the pumps are unknown, however the demand is met.

4.3 Operations

Some of the problems that should be addressed include the UV light warning not visible from the outside, no backup power generator for fire protection, and inadequate safety equipment on-site.

There are operating and maintenance manuals for plant equipment and as-built drawings on site. Emergency spare parts and a contact listing of technicians and trades people are readily available. The average response time of technicians is about half a day.

There is inadequate laboratory and office/filing area within the pump house.

The UV equipment does not seem to be functioning properly because the warning light was on during the time of inspection. There is no on-line turbidity meter, nor is there a colilert unit or incubator.

There is no annual main valve operating and maintenance program.

There has not been any service disruption (plant or distribution) in the last two years, however, the UV light not working seems to be a re-occurring operational problem.

4.4 Reporting

Health Canada conducts bacteriological tests once a month on the communal water system. The results are recorded and kept in the Environmental Health Office and the administration office.

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

Period	Frequency	Regularity	Exceedances
00/07/10 to 01/10/01	1 – 3 times per month	<ul style="list-style-type: none"> ▪ Months missing 2000: Aug., Nov. ▪ Months missing 2001: Feb., Mar., May 	<ul style="list-style-type: none"> ▪ 27/158 exceedances of total coliform and E. Coli (17%) ▪ 36/158 exceedances of total coliform (23%)

In the last two years, there has not been any disease or other health related outbreaks. Health Canada confirmed they have issued several boil water advisories on the communal water systems.

The turbidity of the treated water is not recorded. A chemical analysis of the treated water is conducted once per year.

4.5 Operators

At the time of the visit, there was no operator who was formally designated to the plant. As of February 2003, the Tribal Council has informed OCWA that an operator has been designated to operate the facility and is working towards his certification.

5.0 Deficiencies in the Communal Water Supply

1. The UV unit was in an alarm situation when OCWA visited the site. The warning light is not visible from outside.
2. The pump houses do not have backup power supply in case of power failure.
3. Several safety hazards/concerns were noted on site including inadequate laboratory and office/filing area and lack of safety equipment.
4. There is no valve operating and maintenance program on the water distribution system.
5. There have been several boil water advisories issued on the communal water systems in the last year. There has not been any disease or health related outbreaks in the last two years.
6. Record keeping needs improvement.
7. The malfunctioning of the UV light seems to be a re-occurring operational problem.
8. There were a total of 40% of samples that exceeded total coliform or E. Coli.

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

- Address cause of boil water advisories.
- Address cause of bacteriological exceedances.
- Repair UV system, and alarm UV warning light to be visible from the outside the building, at a minimum.
- Increase system maintenance and site checks.
- Document pump house checks and maintenance.
- Consider installing sodium hypochlorite system to provide continuous disinfection in the distribution system.
- Establish and implement a protocol for taking water samples at the water pump houses, including raw water samples.
- Consider backup power for the water pump houses.
- Review and provide additional safety equipment on-site.
- Implement a house cleaning and general maintenance program at the facilities. Consider additional storage/office space for operator and equipment.
- Develop a comprehensive operating and maintenance program on the water distribution system to address valve maintenance.
- Develop a comprehensive contingency plan operational problems, breakdowns, vacations and sickness, main breaks and boil water advisories.
- Implement a well inspection program to inspect all wells in the community for proper operations and meeting the required standards.
- Implement a sewage septic tank inspection program to inspect all septic tanks in the community for proper operations and meeting the required standards.

8.0 Overall Community Risk Assessment

Water Category – High Risk

- **High Risk because of the following:**
 - Address cause of boil water advisories; and
 - UV equipment malfunctioning or inadequately maintained.

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.