



Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

October 1, 2009

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
PO Box 119
Gjoa Haven, NU X0A 1J0

**Re: 3BM-PON0409 – Hamlet of Pond Inlet – INAC Water Resources
Comments re: Application for Renewal (July 7, 2009) and Review of
Government of Nunavut's (GN) Supplemental Information (dated
August 13, 2009)**

The Nunavut Water Board (NWB) distributed the renewal application for Water Licence 3BM-PON0409 for comment on July 7, 2009. In the NWB's letter of July 7, 2009, the NWB asked the Applicant to provide specific additional information.

The Government of Nunavut (GN) submitted the additional information to the NWB on August 13, 2009. As such, the NWB provided parties with an extended deadline of October 2, 2009 to accommodate for the submission of the additional information.

Attached is a Technical Review Memorandum for your consideration.

Please feel free to contact me should you have any questions or comments. I can be reached at (867) 975-4566 or by email at tanya.trenholm@inac.gc.ca.

Sincerely,

Original signed by

Tanya Trenholm
Pollution Policy Specialist



Technical Review Memorandum

To: Phyllis Beaulieu, Manager of Licensing - Nunavut Water Board

From: Tanya Trenholm, Pollution Policy Specialist - Indian and Northern Affairs
Canada – Water Resources Division

**Re: 3BM-PON0409 – Hamlet of Pond Inlet – INAC Water Resources
Comments re: Review of GN Application for Renewal and
Supplemental Information (dated August 13, 2009)**

Expired Water Licence (January 31, 2009) # 3BM-PON0409

Background:

In correspondence, dated July 7th, 2009, the NWB requested the applicant submit the following information to the NWB. This was in response to the GNs application for renewal submitted on behalf of the Hamlet of Pond Inlet. The requested information included;

- As built drawings of the new sewage lagoon as mentioned in the GNs submission dated June 9, 2009
- An estimated timeframe for the submission of the A & R Plan as required under Part G Item 1 of the Licence, for the old sewage lagoon. This Plan was to be submitted to the Board for approval at least 6 months prior to a) abandoning any facilities and b) the construction of new facilities to replace existing ones. The NWB acknowledges that the amendment application states that a Plan will be developed when funds are available
- An estimated timeframe for the submission of an Operation and Maintenance Plan for the Landfill. The NWB acknowledges that the amendment application states that a Plan will be developed when funds are available; and
- A proposal to address the concerns of the inspector regarding water management and water quality within the hazardous waste and bulk metals waste area

Recommendations / Comments

It was evident as a result of a review of the applications, including supplemental information submitted by the GN on August 13, 2009 and information provided on the NWB ftp site as it relates to 3BM-PON0409, that the applicant is in non-compliance with the licence on a number of issues. This includes;

- The previous licence expired January 31, 2009. A renewal application was submitted by the Licensee on March 6, 2009. The Licensee was



informed by the Water Resources Inspector via a December 6, 2007 Inspection Report that applications for renewals should be submitted to the Board at least 3 to 6 months prior to the expiry of the licence to avoid being in contravention of the Nunavut Waters Nunavut Surface Rights Tribunal Act (NWNSTRA).

- The Applicant has not submitted as built drawings of the new sewage lagoon as requested by the Board, and required as per Part E, Item 4 of the licence.
- An appropriate A&R Plan has not been submitted to the Board (Part G, Item 1)
- The Applicant has not submitted a QA/QC Plan (Part H, Item 6)
- The Applicant has not submitted an O&M Plan for the operation of the Landfarm facility (Part F, Item 5)
- Incomplete (2008 annual report) and missing (2003 – 2007) annual reports (Part B)
- Berm leakage (Part D, item 5)
- Compliance with the Monitoring Program (Part H)

Abandonment and Restoration (A&R) Plan, Quality Assurance / Quality Control (QA/QC) Plan, Operation and Maintenance Plan (for the landfarm):

INAC Water Resources notes that the GN has stated these plans will be completed once funding is available.

INAC suggests that the proponent submit to the NWB a plan for compliance, which states firm dates for the preparation, completion and implementation of these plans.

Annual Reporting and Monitoring Requirements:

The GN submitted a '2008 Annual Report' on behalf of the Hamlet of Pond Inlet on June 9, 2009. The annual report is incomplete.

The Licensee, as per Part B, Item 1 (i) must submit to the NWB as part of its annual report, tabular summaries of all data generated under the monitoring Program. Failure to do so is a contravention of the Water Licence.

As per the licence (Part H, Item 1 and 2) the Licensee shall maintain Monitoring Program Stations at the following locations:

Monitoring Station	Description
PON-1	Raw water supply at Water Lake and the Salmon River prior to treatment
PON-2	Runoff from the Solid Waste Disposal Facility
PON-3	Raw Sewage at truck offload point



PON-4	Effluent discharge from the Sewage Disposal Facility
PON-5	Effluent from the Temporary Sewage Disposal Facility

Part H, Item 2 states the licensee must sample for a full suite of parameters at Sample Stations PON-2, PON-4 and PON-5 during the months of May to August, inclusive. These parameters include:

BOD	Total Copper	Sulphate
pH	Total Iron	Potassium
Total Suspended solids	Total Mercury	Calcium
Nitrate-Nitrite	Total Zinc	Total Cadmium
Total Phenols	Faecal Coliforms	Total Chromium
Sodium	Conductivity	Total Lead
Magnesium	Ammonia Nitrogen	Total Nickel
Total Arsenic	Oil and Grease (visual)	

Further, all effluent discharged from Sewage Disposal Facilities at PON-4 must meet the following effluent quality standards (Part C, item 2):

Faecal Coliforms	1 x 10 ⁶ CFU/dl
BOD ₅	120 mg/L
Total Suspended Solids	180 mg/L
Oil and Grease	No visible sheen
pH	between 6-9

The annual report submitted by the GN reflects that samples were taken at the following locations (limited parameters):

Location	Parameter(s) tested	results
'Lagoon Raw Water'	Total Colform (cts/100mL) E Coli (cts/100mL) BOD (mg/L) Total Suspended Solids (mg/L)	>200000 >200000 99 34
'Leakage Water (from lagoon)'	Total Colform (cts/100mL) E Coli (cts/100mL) BOD (mg/L) Total Suspended Solids (mg/L)	53000 <10 54 156
'Fresh Water from Water Reservoir' (PON-1)	Total Colform (cts/100mL) E Coli (cts/100mL) BOD (mg/L) Total Suspended Solids (mg/L)	5 <1 -- --
'Treated Water from Supply Line'	Total Colform (cts/100mL) E Coli (cts/100mL) BOD (mg/L)	1 <1 --



	Total Suspended Solids (mg/L)	--
'Truck Dumping Place' (PON-3)	BOD (mg/L)	427
	Total Suspended Solids (mg/L)	180

Samples were not collected by the Licensee at monitoring stations PON-2, PON-4 and PON-5.

2008 Annual Report - Berm Leakage Issue:

The Water Resources Inspector noted in his July 13, 2009 Water Use Inspection Report that 'Seepages were noted on both the North and South walls of the lagoon'.

The GN reports in its 2008 annual report that 'water samples outside of the lagoon were tested by an accredited laboratory in Ottawa and found that the outside surface water has no sewage water character. It means that there is no scientific proof that the (lagoon) berm is leaking.'

However, as noted in the table above, the 'leakage water' sample results are indicative of the presence of faecal coliforms - 53000 cts/100mL(sewage).

Thus, it would appear that seepage is occurring from the walls of the lagoon. This is a contravention of Part D, item 5 of the licence which states that 'The sewage disposal facility shall be maintained and operated to the satisfaction of an Inspector in such a manner as to prevent structural failure.'

Landfarm Monitoring Wells (Part H, Item 13):

The landfarm was commissioned in October, 2008. As per the expired licence, monitoring results related to the landfarm are to be submitted with the annual report.

Further, the licence requires 'The Licensee shall install groundwater monitoring wells at the Solid Waste Disposal Facilities and the Landfarm Facility. These wells shall be located with at least one upstream of the facilities for background data collection and at least one downstream of the landfill and one downstream of the metals dump.'

The application did not state whether the wells had been installed.

The Licensee should note that failure to install these monitoring wells is a contravention of the water licence terms and conditions.



Conclusions / Follow-up Action:

Due to the non-compliance issues identified throughout this review, INAC suggests that the issuance of a renewal license to the Hamlet of Pond Inlet be withheld until the applicant can provide appropriate and suitable assurance that the above noted contraventions (outstanding plans, berm leakage, implementation of the Monitoring Program) will be addressed by way of a 'Plan for Compliance' which should include/address at a minimum:

- Firm timelines for the preparation, completion and implementation of the outstanding operational plans
- Sewage lagoon berm leakage
- Compliance with the Monitoring program in accordance with the licence

This information has been forwarded to an INAC Water Resources Officer for consideration and / or follow-up actions.

Please feel free to contact me at your convenience should you wish to further discuss any part of this submission to the Board. I can be reached at 867-975-4566 or via email, tanya.trenholm@inac.gc.ca.

Cc. Kevin Buck, Manager, Water Resources Division – Indian and Northern Affairs Canada;
Andrew Keim, Water Resources Inspector, Field Operations Directorate, Indian and Northern Affairs Canada
Bernie MacIsaac, Director of Operations – Indian and Northern Affairs Canada