



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

January 9, 2009

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

**Re: 3BM-IGL0308 – Type ‘B’, Water Licence Renewal Application –  
Hamlet of Igloolik**

Please be advised that Indian and Northern Affairs Canada (INAC) has completed a review of a Type ‘B’ Water Licence renewal application. The Hamlet applied for a licence renewal August 5, 2008. The NWB responded with a letter requesting supplementary information (dated August 25, 2008). The request for information included;

- Municipal Supplemental Questionnaire
- Annual Reports 2003-present
- O&M Plan
- Abandonment and Restoration Plans
- Fencing around landfill

The NWB invited representations to be made to the Board, concerning the Hamlets application for renewal on December 9, 2008. Attached is a Technical Review Memorandum for your consideration in the approval of the renewal application.

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 [trenholmt@inac.gc.ca](mailto:trenholmt@inac.gc.ca).

Sincerely,

*Original signed by*

Tanya Trenholm  
Pollution Policy Specialist



October 29, 2008

Our File #: 9545-2-2.2BB.MELA  
Doc. CIDMS #: 274057

### **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:** Hamlet of Igloolik – Application for water license renewal

**Existing Water Licence # - 3BM-IGL0308**

#### **Historical Issues – Identified during the 2003 license renewal process**

The 2003 approved water licence identified the following issues of non-compliance, as noted during a July 12, 2001 INAC Inspection;

1. The Licensee failed to produce Annual Reports, as required by Part B, Item 1 of the license for the years 1998, 1999 and 2000.
2. The Hamlet has failed to produce an Operations and Maintenance (O&M) Plan as required by Part G, Item 1 of NWB 3IGL9803.
3. The Hamlet has failed to comply with the Part D, Item 6 of the water licence, by failing to maintain the sewage lagoon in such a manner as to prevent structural failure.

In addition, INAC identified a number of other issues during the 2003 Igloolik water license renewal process (letter to the NWB, dated March 21, 2003). These issues were reflected in the terms and conditions of the 2003 water license, and were;

- That the Hamlet develop appropriate Operation and Maintenance Plans and Spill Contingency Plans relevant to sewage disposal operations.
- That the Hamlet develop appropriate Operation and Maintenance Plans and Spill Contingency Plans relevant to solid waste disposal operations.
- That the Hamlet install proper perimeter fencing around the solid waste disposal area (to prevent the deposit of wind-blown wastes and to control unauthorized access).



## **Current Description / Summary as per the Water Licence Application**

### **Water Supply System:**

The 2 km intake pipe from Water Lake to the water storage reservoir requires upgrading. There is currently an Operation and Maintenance Manual in place for the water supply system and capital planning for the improvement of the water supply system is in progress.

### **Sewage Lagoon**

The sewage lagoon system is located 1.6 km north of the community. It is a three-cell exfiltration lagoon with a capacity of 17, 000m<sup>3</sup>. A fourth cell (not in use) still exists.

The effluent discharged from the lagoon flows downstream through an undefined natural wetland. Seepage is occurring along the berms on the sea side of all four lagoons. As built drawings, O&M Plans, Spill Contingency Plans and QA/QC sample procedures are not available. In addition, there is no indication that a sample monitoring program is in place.

### **Solid Waste Disposal Area**

The Hamlet currently deposits waste along the road, adjacent to the lagoon, about 1.6 km from the community. The site has no fencing. Combustible wastes are frequently open burned and covered on a yearly basis.

Metals are deposited in bulk form and segregated from the landfill area. According to the application, a sealift container is used for the storage of hazardous waste. However, an INAC Water Resources Inspector noted, during an August 8, 2008 inspection, that hazardous wastes, including batteries, and waste oils, were not segregated from other non-hazardous wastes. Further, there was no sealift container observed on site. An O&M Plan for the solid waste disposal area was not available for this review.



## **Recommendations / Comments**

### **1. Modifications to Water Supply System:**

- 1.1. The NWB must be notified should any changes in regard to the use of water (i.e. increased water use) occur.

### **2. Sewage Disposal Area:**

- 2.1. Information contained in the application indicates the GN is in the process of engaging a consultant to assess and provide recommendations in relation to sewage management. This will apparently include the preparation of an O&M Plan and an Abandonment and Restoration (A&R) Plan. Consideration should be given to requiring fencing around the lagoon system to prevent unauthorized access to the area. During this review, it was difficult to assess overall sewage management, due to the lack of up to date plans, drawings, etc.

Therefore, prior to the renewal of the water license, the NWB should consider requiring the submission of these documents, including any proposed modifications. Or, as an alternate, the NWB should require the submission of these documents within three (3) months of the issuance of any renewal.

### **3. Solid Waste Disposal Site:**

- 3.1. The application submitted by the GN indicates they are in the process of engaging a consultant to assess and provide recommendations with respect to improvements to on site waste management. To date the status of this process is unclear. A search of the NWB ftp site revealed no O&M Plan or design drawings have been submitted.

Therefore, prior to the renewal of the water license the NWB should consider requiring the submission of such documents. Or, as an alternate, the NWB should require the submission of these documents within three (3) months of the issuance of any renewal

- 3.2. During the review, it was noted that the municipality currently burns combustible wastes one to two times per week as weather permits.

The licensee should be required to ensure combustible items are disposed of in accordance with the Government of Nunavut's position paper, "*Municipal Solid Wastes Suitable for Open Burning.*" Products appropriate for open burning associated with the position paper include, paper products, paperboard packing and untreated wood wastes, etc. Open burning should be limited to such items in order to ensure that



impacts to surface water resulting from the deposition of wastes associated with incomplete combustion and the leaching of ash residue through precipitation run-off are minimized. There should be no open burning of plastics, wood treated with preservatives, Styrofoam, electrical wire, asbestos, or demolition wastes.

- 3.3.** In addition, the NWB should impose a condition that requires fencing be installed around the perimeter of the solid waste disposal site to prevent the airborne deposit of waste into water, and deposits of waste by unauthorized personnel.

#### **4. Hazardous Wastes Disposal Area:**

- 4.1.** The application notes that the hamlet utilizes a hazardous waste disposal area, located between the sewage lagoon and scrap metal area. The area consists of an old fuel tank and a sealift container for depositing paint, batteries, waste oil, etc.

An INAC inspection conducted at the site on August 10, 2008 revealed that the proper segregation and containment of hazardous wastes was not occurring. Further, no sealift container for the deposit of hazardous wastes was observed on site.

It is recommended that the licensee segregate non-hazardous and hazardous wastes in a manner that minimizes potential environmental impacts. Therefore, an enclosed self contained facility should be required for the storage of hazardous wastes at the site. Further, an inventory / record of all hazardous and liquid wastes should be maintained by the Hamlet.

#### **5. Abandonment and Restoration (A&R):**

- 5.1.** The expired license required the Hamlet to submit an A&R Plan, as per Part G, Item 1 of the license. As previously stated, the GN is in the process of engaging consultant who will, among other things, prepare an updated A&R Plan.

Prior to the renewal of the water license, the NWB should consider requiring the submission of an A&R Plan. Or, as an alternate, the NWB should require the submission of this document within three (3) months of the issuance of any renewal.

#### **6. Annual Reports:**

- 6.1.** It was noted during the review that the licensee failed to submit annual reports for the years 1998-2000, and 2003-2008. This was recognized by the GN in the application.



Annual reports are an important tool for both the licensee and regulators to monitor site conditions as well as potential environmental impacts.

Therefore, the condition to submit annual reports must remain as part of any renewed license.

## **Summary / Conclusion**

The GN indicated in their response letter to the NWB regarding additional information requirements that they 'are requesting for renewal of the Hamlet Water Licence for less than five years so the Hamlet will be capable enough to satisfy the conditions of the water licence during that period.'

Upon completing a review of the NWB ftp site, past INAC inspection reports and past INAC interventions to the NWB related to the renewal of the Igloolik license, it appears that there has been significant non-compliance.

As previously stated, the GN is in the process of engaging a consultant to assess and provide recommendations related to a number of the issues in this regard. To date no documentation, plans, or drawings have been submitted to the NWB for review and approval.

Prior to issuing an approved renewal, the NWB should require the licensee to submit any outstanding Operational Plans. This includes plans for Operation and Maintenance of the Solid Waste Management and Sewage Disposal Areas, Abandonment and Restoration and Spill Contingency. The requirement to submit applicable design drawings is also important.

An alternative to this would be the requirement of such documents to be submitted within three (3) months of the issuance of any renewal.

In addition, the NWB should impose a condition that requires fencing be installed around the perimeter of the solid waste disposal site to prevent the airborne deposit of waste into water, and deposits of waste by unauthorized personnel.

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](mailto:tanya.trenholm@inac.gc.ca).

Tanya Trenholm

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Cc. Kevin Buck, Manager, Water Resources Division – Indian and Northern Affairs Canada;  
Andrew Keim, Water Resources Inspector – Indian and Northern Affairs Canada;  
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