



Your file - Votre référence
3BM-GJO1318

May 8, 2015

Our file - Notre référence
IQALUIT-#910638

Robin Ikkutisluk
Licensing Administrator
Nunavut Water Board
GJOA HAVEN, NU X0E 1J0

Re: Aboriginal Affairs and Northern Development Canada Review of the Hamlet of Gjoa Haven's Application to Amend their Type 'B' Municipal Water Licence, #3BM-GJO1318

Dear Ms. Beaulieu:

Thank you for your email of March 26, 2015, concerning the above mentioned application. A memorandum is provided for the Board's consideration. Comments and recommendations have been provided pursuant to Aboriginal Affairs and Northern Development Canada's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at 867-975-4555 or email at david.abernethy@aandc-aadnc.gc.ca for further information.

Sincerely,

David Abernethy
Regional Coordinator
Water Resources Division
Resource Management Directorate
Aboriginal Affairs and Northern Development Canada
IQALUIT, NU X0A 0H0

Encl.

c.c.: Andrew Keim, A/Manager, Water Resources Division, AANDC Nunavut
Erik Allain, Manager of Field Operations, AANDC Nunavut
Amjad Tariq, Regulatory and Science Advisor, AANDC Nunavut
Phyllis Beaulieu, Manager, Licensing, NWB

Memorandum

To: Robin Ikkutisluk, Nunavut Water Board

From: David Abernethy, Aboriginal Affairs and Northern Development Canada

CC: Andrew Keim (AANDC), Erik Allain (AANDC), Amjad Tariq (AANDC), and Phyllis Beaulieu (NWB)

Date: May 8, 2015

Re: Type 'B' Water Licence Amendment Application, #3BM-GJO1318

Applicant: Hamlet of Gjoa Haven
Project: Municipal Water Licence
Region: Kitikmeot

Comments:

A. Background

On March 26, 2015, the Nunavut Water Board (NWB) provided notification of the Hamlet of Gjoa Haven's (the "licensee") application to amend their type B water licence, #3BM-GJO1318, to include a new sewage lagoon. The water licence authorizes the use of water and deposit of waste resulting from municipal activities. The sewage lagoon has been in operation since November 2013. The former lagoon is being decommissioned pursuant to an Abandonment and Reclamation Plan that was approved by the NWB on November 25, 2014.

The water licence' issues section (page ix) states,

The licensee is advised that the addition of new infrastructure (i.e., new sewage lagoon) under the existing licence would be considered as an amendment to the licence. An amendment application for an updated Operation and Maintenance Plan for Sewage Treatment Facility needs to be provided for the Board's consideration prior to commissioning the new lagoon.

The submitted amendment application includes an operations and maintenance plan for the new sewage lagoon and as-built drawings. The Government of Nunavut's department of Community and Government Services submitted this application on the licensee's behalf.

B. Results of review

On behalf of Aboriginal Affairs and Northern Development Canada (AANDC), the following comments and recommendations are provided:

1. **Amendment Application**

The submitted amendment application should be accepted. The new sewage lagoon will allow for the treatment of municipal sewage wastes for several years to come if it is adequately maintained.

2. **Timing of Application**

Moving forward, the licensee and its representative should take measures to ensure that water use and waste disposal practices comply with the water licence and applicable legislation. It is noted that the new sewage lagoon was constructed and commissioned before the water licence was renewed in November 13, 2013. The construction and operation of this waste management facility to date does not comply with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the water licence. The Hamlet of Gjoa Haven and the Government of Nunavut's Department of Community and Government Services must re-evaluate their planning processes and familiarize themselves with their water licence and legislative requirements.

3. **Adequacy of Operation and Maintenance Manual**

The submitted operation and maintenance manual is adequate and should be accepted in an amended licence. The licensee should follow the procedures outlined in this manual in addition to requirements specified in their licence for the management of sewage effluent.

4. **Wetland treatment**

Effluent from the lagoon will be discharged to an adjacent un-engineered wetland from July to October, depending on effluent quality and weather, on an annual basis. Details regarding this wetland including drawing(s) that show the distance from water bodies, soil characteristics, permeability/hydraulic conductivity, gradient, etc. would be valuable to better understand the wetlands function as a secondary polishing for the removal of some organic and inorganic materials from treated effluent. The amended licence should include a terms and condition requiring that these details be provided as an annex to the sewage lagoon's operation maintenance manual in the licensee's 2015 annual report.

5. **Sludge Management Plan**

Comment: The submitted Executive Summary states that a detailed sludge management plan will be submitted when required for the NWB's approval. It is noted that a conceptual sludge management plan is included in the sewage lagoon's operation and maintenance manual.

Recommendation: The licence amendment should include a term and condition that makes it necessary for the licensee to submit a detailed sludge management plan to the NWB for approval at least nine months prior to the planned removal of sludge from the lagoon. This would allow adequate time for review and approval. Sludge should not be removed prior to the plan's approval.

6. Freeboard limit for sewage lagoon

Comment: Pursuant to Part D, Item 3 of the water licence, a freeboard limit of at least one metre, or as recommended by a qualified geotechnical engineer and as approved by the Board in writing, shall be maintained at all dams, dykes, or structures intended to contain, withhold, divert or retain water or wastes. The submitted Sewage Lagoon Operations and Maintenance Manual makes no reference to a freeboard limit and any measures that will be taken to ensure that it won't be exceeded. Exceeding a freeboard limit can result in an uncontrolled release of sewage effluent to the surrounding environment and catastrophic damage to the sewage lagoon facility.

Recommendation: The amended licence should include a term and condition requiring the licensee to revise its Sewage Lagoon Operation and Maintenance Manual to explain the freeboard limit that has been assigned to the sewage lagoon facility and measures that are being taken to ensure that it is not exceeded. This revision should be made within three months of the licence amendment.