



Crown-Indigenous Relations
and Northern Affairs Canada

Relations Couronne-Autochtones
et Affaires du Nord Canada

Water Resources Division
Resource Management Directorate
Nunavut Regional Office
P.O. Box 100
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March 27, 2020

Kayla Carter
Licensing Administrator Assistant
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
sent via email: licensing@nwb-oen.ca

Your file - Votre référence
3BM-HAL1520

Our file - Notre référence
CIDM#1284415

Re: Crown-Indigenous Relations and Northern Affairs Canada's comments on the Hamlet of Hall Beach's renewal application for water licence #3BM-HAL1520 for municipal undertakings – Hamlet of Hall Beach

Dear Ms. Carter,

Thank you for your March 3, 2020 invitation for technical review comments on the above referenced application. The Water Resources Division of Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application and the results of our review are provided in the enclosed memorandum for the Nunavut Water Board's consideration.

Comments have been provided pursuant to CIRNAC's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. If there are any questions or concerns, please contact me at (867) 975-3876 or by e-mail at sarah.forte@canada.ca.

Sincerely,

Sarah Forté
Water Management Specialist

Technical Review Memorandum

To: Kayla Carter, Licensing Administrator Assistant, Nunavut Water Board

From: Sarah Forté, Water Management Specialist, Water Resources Division, CIRNAC

Date: March 27, 2020

Re: Crown-Indigenous Relations and Northern Affairs Canada's comments on the Hamlet of Hall Beach's renewal application for water licence #3BM-HAL1520 for municipal undertakings – Hamlet of Hall Beach

Region: ☐ Kitikmeot ☐ Kivalliq ☒ Qikiqtani

A. BACKGROUND

On March 3, 2020, the Nunavut Water Board provided notification of the Hamlet of Hall Beach's submission of a renewal application for their Type B water licence 3BM-HAL1520 for the use of water and deposit of waste in the Hamlet of Hall Beach.

The Hamlet's water source is Water Supply Lake, approximately 3 km to the south of the community, which is used to fill a reservoir shared with the Department of National Defence – North Warning Sites. Water is treated at a plant/truck fill station next to the reservoir and delivered with trucks. The community's sewage is also trucked, and treated in a 2-cell sewage exfiltrating lagoon 1 km to the north of the community. The solid waste facility is co-located with the sewage lagoon. A consultant is working on a waste audit and feasibility study to improve or replace the current facility.

The hamlet is requesting for a 5-year renewal for an increased volume of water using all the same facilities as are authorized under the present licence.

B. RESULTS OF REVIEW

On behalf of CIRNAC Water Resources, the following comments and recommendations are provided for the Board's consideration:

1. Water quantity requested

Comment

The application requests authorization to withdraw 36 829 m³/year, however email communication with the Board changes the quantity to 45 000 m³/year.

CIRNAC was unable to find the capacity of the water reservoir, so we are unable determine if the reservoir has sufficient capacity for the increased water volume, keeping in mind water used by North Warning Sites from the same reservoir. In the absence of a water supply or treatment plant operation and maintenance (O&M) manual, we are assuming the reservoir gets filled once a year.

CIRNAC notes that the combined capacity of both sewage lagoon cells is 41 746 m³. Since the waste discharge volume is estimated as the volume of water used, the current lagoon could not support a yearly water use of 45 000 m³.

Recommendation

CIRNAC recommends the proponent provide the capacity of the reservoir and explain how they propose to treat the sewage generated from 45 000m³ of water use.

CIRNAC also recommends the proponent provide an O&M manual for the reservoir and water treatment plant operations.

2. Water control structures around Water Supply Lake

Comment

During the 2016 and 2017 inspections, Water Resources officers identified: *“Water Supply Lake is surrounded by manmade berms and INAC has determined that these structures trigger a regulated water use and will need to be authorized by the Nunavut Water Board.”*

This renewal application is an opportunity to integrate the structures for managing water around Water Supply Lake into the water licence. Information should be provided on the dam at the south-west corner of the lake and the dam across the lake. Notes on the second dam from the 2017 inspection are:

- i. This dam is eroded to the point where it is now unusable as a road.*
- ii. It does not appear to the inspector that the licensee has implemented the necessary controls to prevent such erosion.*

Recommendation

CIRNAC recommends the proponent provide information on the water control structures at Water Supply Lake so they can be integrated into the water licence.

3. Monitoring

Comment

Monitoring is an important part of operations that allows us to evaluate the performance of waste management measures. Water quality sample results are included with the last annual reports available. However, the sampling identification is not consistent with the licence, so it is not always possible to determine which stations the samples correspond to. Specifically it is unclear if 2014-2016 samples labelled “Waste Water” are from HAL-3 or HAL-4. Two of these samples have pH above 9 (9.17 & 9.31), which is of concern if

the samples are from HAL-4, since Part D Item 3 of the current water licence sets wastewater discharge criteria in the 6-9 range for pH.

Recommendation

CIRNAC recommends the proponent continue sampling and reporting the results, ensuring appropriate labelling of samples. Tabular summaries should be presented in the annual reports.

4. Sewage lagoon operation and maintenance manual

Comment

The most recent sewage treatment facility O&M manual CIRNAC was able to find is from June 2011. Upgrades were made to the lagoon in 2015-2016, and more repairs were done in 2018. A new O&M manual was a requirement of Part F Item 3 of the current licence and was promised in the 2015 annual report.

Recommendation

CIRNAC recommends the proponent provide an updated sewage treatment facility O&M manual, confirming which operations are still relevant to the current lagoon system.

5. Spill contingency plan

Comment

The most recent spill contingency plan CIRNAC was able to find is from June 2011. The contact names and numbers require updating. As well, a site plan on a topographical map with the main infrastructure, water bodies and spill kit locations should be included, as detailed in the Guidelines for Spill Contingency Planning.

Recommendation

CIRNAC recommends the proponent provide an updated spill contingency plan.

C. REFERENCES

2014-2017, 2019 Annual Report for the Hamlet of Hall Beach, Government of Nunavut – Community and Government Services, March 2015-2020.

2014-2019 Water Licence Inspection Forms, Crown-Indigenous Relations and Northern Affairs Canada, 2014-2020

Application for the Municipality of Hall Beach Water Licence #3BM-HALL1520 Type-B Renewal, Government of Nunavut – Community and Government Services, February 2020.

Executive Summary of the Hamlet of Hall Beach Water Licence # 3BM-HAL 1520, Government of Nunavut – Community and Government Services, March 2020.

Hamlet of Hall Beach NU Sewage Treatment Facility Operation and Maintenance Manual, Dillon Consulting Limited, June 2011.

Guideline for Spill Contingency Planning, Indian and Northern Affairs Canada, April 2007.

New water licence application of the municipality of Hall Beach WL 3BM-HAL1520, email communication between B.Roy and D.Donald, March 3, 2020.

NWB Renewal Licence No. 3BM-HAL1520, Nunavut Water Board, April 30, 2015

OTT-00220382-A0 – Engineering Services – Hall Beach Lagoon June 2019 – Effluent Level Report, EXP Services Inc., June 2019