



Water Resources Division
Resource Management Directorate
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March 12, 2020

Kayla Carter
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sent via email: licensing@nwb-oen.ca

Your file - Votre référence
3BM-RES1520

Our file - Notre référence
CIDM#1284192

Re: Crown-Indigenous Relations and Northern Affairs Canada's comments on the Hamlet of Resolute Bay's renewal application for water licence #3BM-RES1520 for the deposit of waste – Hamlet of Resolute Bay

Dear Ms. Carter,

Thank you for your February 17, 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 12, 2020

Re: Crown-Indigenous Relations and Northern Affairs Canada's comments on the Hamlet of Resolute Bay's renewal application for water licence #3BM-RES1520 for the deposit of waste – Hamlet of Resolute Bay

Region: ☐ Kitikmeot ☐ Kivalliq ☒ Qikiqtani

A. BACKGROUND

On February 17, 2020, the Nunavut Water Board provided notification of the Hamlet of Resolute Bay's submission of a renewal application for their Type B water licence 3BM-RES1520 for deposit of waste in the Hamlet of Resolute Bay.

Currently, there are three water licences for municipal undertakings in Resolute Bay:

- 1) 3BM-RES1520 – issued to the Hamlet of Resolute Bay for deposit of waste;
- 2) 3BM-RUT1520 – issued to the Government of Nunavut Community and Government Services (GN-CGS) for use of water and deposit of waste by the utilidor system, and currently under amendment to become 3AM-RUT----; and
- 3) 3BM-YRB1621 – issued to the Government of Nunavut Economic Development and Transport for deposit of waste in the sewage lagoons.

Water licence 3BM-RES1520 covers three un-engineered landfills:

- 1) Domestic waste site, also referred to as cap-and-burn site: situated on beach approximately 4 km southwest of community
- 2) Bulky metal site, also referred to as metal dump: situated 0.5 km northwest of community
- 3) Construction waste storage site, also referred to as domestic waste site (leading to confusion with first landfill) or unused dump site: situated next to the airport sewage lagoons, 2 km north of the airstrip and 7 km northwest of community

The scope of the present licence was broadened in 2016 to include the third landfill because the other two were reaching capacity. Presently a waste audit and feasibility study of the solid waste management is being undertaken. A new site for all types of wastes is expected to be built in next 3 to 4 years.

B. RESULTS OF REVIEW

On behalf of Crown-Indigenous and Relations Northern Affairs Canada (CIRNAC) Water Resources, the following comments and recommendations are provided for the Board's consideration:

1. Combining water licences

Comment:

CIRNAC is also currently reviewing a renewal/amendment application for Resolute Bay's 3BM-RUT1520 water licence. The Hamlet's three water licences create some duplication of efforts for such things as spill contingency plans, annual reports, renewals, and inspection reports.

Though the licences are issued to three different licensees, all the correspondence seems to be coming through GN-CGS. This is in keeping with them being the usual licensee for municipal undertakings.

Recommendation:

CIRNAC recommends broadening the scope of proposed licence 3AM-RUT---- to include waste disposal to transfer the landfills and allow 3BM-RES1520 to be closed.

2. Water management

Comment:

Management of waste is necessary in part to prevent waste being deposited to water. Based on the annual and inspection reports, water management at the Resolute Bay landfills appears to be inadequate:

- *"The runoff from the existing municipal domestic dump site spreads over the adjacent wetland during summer and gets absorbed there."* – 2017 Annual Report
- *"Leachate at the metal waste sites and land fill site are uncontrolled."* – 2018 Annual Report
- *"Water enters the site (metal dump within community) coming out from underground and migrating through the facility."* – 2019 Water Licence Inspection Form
- *"Water build up at the domestic waste facility next to the entrance of the facility (domestic waste 4 km south west of the community)."* – 2019 Water Licence Inspection Form

Neither the Solid Waste Operation and Maintenance Plan (2014) nor the Solid Waste (Metals) Operation and Maintenance Plan (2016) make any clear mention of managing water. Both plans include measures for waste segregation, which allows for the isolation of hazardous wastes. Isolating and containing hazardous waste is an effective way reducing the area where water management is critical. However, based on pictures of

batteries and oil drums scattered across the landfills included in the 2019 Water Licence Inspection Form, further work on segregating wastes is necessary on the ground.

Recommendation:

CIRNAC recommends that the Hamlet of Resolute Bay take steps for managing water to prevent contaminants at the dumps from entering water, and outline those measures in their Operation and Maintenance Plan.

3. Monitoring

Comment:

Four stations are to be monitored according to Part H Item 1 of the licence: 1571-5, RES-1, RES-2 and RES-3. The only station for which we were able to find coordinates is 1571-5, and they appear incorrect because as they are for a site in the ocean 3 km north of Russell Island. The Quality Assurance/Quality Control (QA/QC) Plan includes a schematic with RES-1 and RES-2, but does not provide enough detail to locate the sites.

When sample results are available, such as with the 2018 and 2019 annual reports, the station/sample names are inconsistent. It is therefore not possible to follow monitoring at one location over time. CIRNAC did not note any contaminants of concern in the results shared.

There is no consistency between the monitoring stations in the water licence, the QA/QC Plan, the Solid Waste Operation and Maintenance Plan (2014) and the Solid Waste (Metals) Operation and Maintenance Plan (2016). This may be one of the reasons sampling efforts are scattered.

Monitoring is important to know if waste management measures undertaken are effective at protecting water and the environment. This involves taking measurements in areas where contamination is the most likely to occur. Monitoring both upstream and downstream of a source, as was included in the 2016 licence amendment for the construction waste site, allows the opportunity to separate out any signal specific to the source.

Recommendation:

CIRNAC recommends that monitoring stations be included for each landfill. Water flow direction, station accessibility, and presence of water should be considered when determining station locations, and locations should be clearly identified.

4. Sewage disposal in landfill

Comment:

Box 14 of the renewal application indicates sewage will be disposed in the landfill. Given that none of the facilities are lined, disposing of sewage in the landfills would create an uncontrolled discharge of waste that could enter water.

Alternatives are available for the sewage, such as the macerator in the hamlet and the lagoons past the airport.

Recommendation:

CIRNAC commends the Hamlet of Resolute Bay not discharge sewage in their landfills.

5. Spill contingency plan

Comment:

Part F Item 4 of the water licence requires the licensee to submit an addendum to their Spill Contingency Plan. CIRNAC was unable to find a Spill Contingency Plan for this water licence, or the required addendum.

We noted that both the Solid Waste Operation and Maintenance Plan (2014) and the Solid Waste (Metals) Operation and Maintenance Plan (2016) include a section on spill contingencies. These do not include elements requested such as:

- The specific name and address of the owner or person in charge, management or control of the site(s);
- The name, job title and 24-hour telephone number for the person(s) responsible for activating the Spill Contingency plan;
- The contact information for the CIRNAC, Manager of Field Operations; and
- Confirmation that a spill kit is available at the hazardous waste and bulky metals area.

These sections on Spill Contingency Plans are also missing other important elements requested in the Guidelines for Spill Contingency Planning including a topographic map showing infrastructure and where spill kits are located.

Recommendation:

CIRNAC recommends that a Spill Contingency Plan with all relevant details be provided.

C. REFERENCES

Water Licence Renewal Application 3BM-RES1520, Municipal Waste Sites for Hamlet of Resolute Bay, GN-CGS, January 23, 2020

Water Licence Renewal Application 3AM-RUT----, Municipality of Resolute Bay Utilidor System, GN-CGS, January 20, 2020

July 2019 3BM-RES1520 Water Licence Inspection Form, CIRNAC, November 2019

Water Licence 3BM-RES1520, Nunavut Water Board, June 17, 2015

Water Licence 3BM-RES1520 – Amendment No.1, Nunavut Water Board, August 2, 2016

2015, 2017-2019 Annual Reports for the Hamlet of Resolute Bay, GN-CGS, 2016-2020

Solid Waste (Metals) Operation and Maintenance Plan, Resolute Bay, Baffin Region, Nunavut, March 2016.

Solid Waste Operation and Maintenance Plan, Hamlet of Resolute Bay, Baffin Region, Community and Government Services, Government of Nunavut, May 2014.

Metal Waste Site (Next to Resolute Bay Airport Sewage Lagoon) Quality Assurance/Quality Control Plan, Hamlet of Resolute Bay, May 2016

Guidelines for Spill Contingency Planning, Indian and Northern Affairs Canada, 2007