



Your file - Votre référence
3BM-RES1520

June 27, 2016

Our file - Notre référence
IQALUIT-#1074163

Licensing Department
Nunavut Water Board
P.O. Box 119
GJOA HAVEN, NU, X0B 1J0

Sent via email: licensing@nwb-oen.ca

Re: Technical Review of Amendment Application – Hamlet of Resolute Bay (3BM-RES1520)

To Whom It May Concern,

Thank you for the Nunavut Water Board's May 27, 2016 notice of the above mentioned water licence amendment application. A memorandum is provided for the Nunavut Water Board's consideration. Comments and recommendations have been provided pursuant to Indigenous and Northern Affairs 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 867-975-3877 or email at Amanda.Winegardner@aadnc-aadnc.gc.ca for further information.

Sincerely,

Amanda Winegardner
Water Management Specialist
Water Resources Division
Resource Management Directorate
Indigenous and Northern Affairs Canada
P.O. Box 100
IQALUIT, NU X0A 0H0

Encl.

Cc. Scott Burgess, A/Manager, Water Resources - INAC, Nunavut Regional Office (NRO)
Erik Allain, Manager, Field Operations – INAC, NRO

Memorandum

To: Licensing Department, Nunavut Water Board

From: Amanda Winegardner, Water Management Specialist, Indigenous and Northern Affairs Canada

Cc: Scott Burgess (NRO), Erik Allain (NRO)

Date: June 27, 2016

Re: Technical Review of Amendment Application for Licence No. 3BM-RES1520

Applicant: Hamlet of Resolute Bay
Project: Hamlet of Resolute Bay
Region: Qikiqtani

Comments:

A. Background

Waste disposal in the Hamlet of Resolute Bay is currently covered under a Type 'B' water licence, 3BM-RES1520. This water licence was renewed in 2015 on a five year term and the Nunavut Water Board (NWB) has previously suggested that this licence be combined with 3BM-RUT1520 (municipal water use in the Hamlet) during the next renewal process. Two landfills are included under 3BM-RES1520, a domestic waste site located along the Arctic Ocean coastline, and a bulky metal dump site. Both of these non-engineered sites are nearing capacity and new waste management facilities are planned for the community. While the Hamlet of Resolute Bay is the Licensee for 3BM-RES1520, the Government of Nunavut Community and Government Services operate the municipal water and waste systems in the community.

In 2001, a 50,000 km² area near the Resolute Airport was fenced off and was considered for use as an alternative waste management area. The use of this site was not supported at the time and as such the site has not been formally used and is currently not covered under an existing water licence. Due to the capacity of the current metal dump site; the expected decommissioning of several buildings and the disposal of old Utilidor pipes; the Hamlet (Licensee) is currently seeking an amendment to 3BEM-RES1520 that would allow for the disposal of metals and non-hazardous construction wastes at the (2001) facility until new waste management facilities are built and commissioned in the community. The Licensee's amendment application states that they are seeking a removal of Item 10 (i and ii) in Part D of the existing licence, however these items could not be located in the current licence.

The Licensee is currently a member of the Government of Nunavut's Municipal Water Licence Compliance Working Group. Additionally, the Licensee has had ongoing compliance issues

associated with expired licenses for waste disposal in the Hamlet.

B. Results of review

On behalf of Indigenous and Northern Affairs Canada (INAC)'s Water Resources Division, the following comments and recommendations are provided for consideration:

1. Monitoring parameters for 2001 built site

Source:

- 1) 3BM-RES1520 Renewed Licence, Part H: Conditions Applying to the Monitoring Program
- 2) 3BM-RES1520 Annual Report Resolute waste management facilities 2015
- 3) 3BM-RES1520 Resolute Bay Waste site QA and QC Plan May 01 2016

Comment: The Licensee's current licence requires that a monitoring program station be established to sample any runoff or leachate from any solid waste management facilities, with a monthly sampling frequency during flow conditions. The licence further specifies a suite of 33 parameters to be sampled at each station. No required criteria are specified for any of the sampled parameters. The current licence also required the Licensee to develop and submit a Quality Assurance/Quality Control (QA/QC) plan to ensure that leachate and runoff samples from waste facilities are sampled and analyzed using suitable and defensible methodology. The Licensee submitted the QA/QC plan with their amendment application (May 2016). This is especially important as a monitoring program was not previously maintained by the Licensee, and the Licensee is reminded that monitoring program results will need to be included in all subsequent annual reports. The QA/QC plan has been developed specifically for the metal waste site proposed in the amendment application. The QA/QC plan is of sound design; however the following inconsistencies have been noted:

- The sampling frequency of monitoring program stations specified in the current licence differ from those included in the QA/QC plan; the licence specifies that monitoring should occur monthly during periods of flow whereas the QA/QC plan appendices outlines sampling only during August and September. Flow may only occur late in the summer season, however the QA/QC plan should match licence conditions.
- Parameters listed in Appendix B (Confirmation of CALA accreditation for Caduceon Environmental Laboratories) of the QA/QC plan differ slightly from the parameters required in the current licence, e.g. Carbonaceous Biochemical Oxygen Demand (cBOD), Polycyclic Aromatic Hydrocarbons (PAHs), and Benzene, Toluene, Ethyl benzene, Xylene (BTEX) are all required parameters in the licence but are not listed as confirmed by the chosen analytical laboratory.

Recommendation 1: INAC recommends that an amended licence require monitoring of runoff associated with the 2001 built site (see Recommendation 3), and that criteria (i.e. allowable concentrations) be set for the monitored parameters.

Recommendation 2: INAC recommends that the Licensee verify any inconsistencies between the monitoring requirements of an amended licence and their QA/QC plan, as well as verify parameters to be analyzed with their chosen analytical laboratory.

2. Monitoring sites for the 2001 built site

Source:

- 1) 3BM-RES1520 Resolute Bay Waste site QA and QC Plan May 01 2016

Comment: The Licensee has proposed two monitoring stations to be associated with the proposed use of the 2001 site; monitoring station RES-1M and monitoring station RES-2M. The proposed locations are 10m downstream of the border of the proposed metal facility (RES-1M) and 100m downstream of the proposed metal facility (RES-2M). Final geographic coordinates are still to be determined. No rationale is given for the location of these monitoring program sites however it is assumed that these locations represent points where water flow has been observed previously.

Recommendation 3: INAC recommends that the Licensee proposed monitoring stations be included in Part H (Conditions Applying to the Monitoring Program) of an amended licence.

Recommendation 4: INAC recommends that final geographic coordinates for the monitoring stations be included in the QA/QC plan and that the NWB be notified of these locations within 30 days of the first sampling event occurring under an amended licence.

Recommendation 5: INAC recommends that the Licensee continue to consult with the Inspector responsible for this file in order to ensure that the location of the monitoring stations remains effective.

3. Abandonment and Restoration Plan

Source:

- 1) 3BM-RES1520 Renewed Licence, Part G: Conditions Applying to Abandonment, Restoration or Temporary Closing
- 2) 3BM-RES1520 Amendment No 1 Correspondence
- 3) 3BM-RES9699 100506_003_GNCGS_A and R MDS reduced

Comment: The Licensee has indicated that the proposed waste metal site for this amendment will be in use (along with the two facilities covered under the existing licence) until new waste management facilities are constructed in the community. The Licensee has a NWB approved Abandonment and Restoration (A & R) Plan that was submitted during the renewal process for the existing licence. This A & R Plan is only for the current municipal waste site.

Recommendation 6: INAC recommends that the Licensee submit an updated A & R Plan that includes the existing bulky waste metal facility covered under the current licence (as it is currently absent from the approved A & R Plan) as well as the metal facility proposed in this amendment.

4. Liner for proposed facility

Source:

- 1) 3BM-RES1520 Amendment No 1 Correspondence
- 2) 3BM-RES1520 Water Licence Inspection Report July 10 (2014)

Comment: The Licensee has indicated that the waste metal site proposed in this amendment application is unlined and that there are no plans to install a liner. The Hamlet's other solid waste management facilities are also unlined, however past water licence inspection reports have included photographs of groundwater seeps and leachate/runoff likely contaminated by waste materials.

Recommendation 7: INAC recommends that in the absence of a lined facility, the Licensee work to ensure that leachate does not migrate out of the proposed metal waste site.

5. Emergency procedures and Spill Contingency Plan

Source:

- 1) 3BM-RES1520 Amendment No 1 Correspondence
- 2) 3BM-RES9699 Solidwaste O M Plan for Resolute May 2014

Comment: The Licensee's Spill Contingency Plan (SCP) is currently contained within the Operations and Maintenance Plan (O & M). Additionally, there are some references to other Hamlets within the emergency procedures section of the O & M Plan.

Recommendation 8: INAC recommends that the SCP be submitted as a standalone document in order to ensure ease of use in the event of a spill. Additionally, the Licensee should review their O & M Plan and ensure that all references and contact numbers within the emergency procedures section apply specifically to Resolute Bay, and should ensure that their SCP is updated annually when submitting an annual report. This will help ensure an accurate and efficient response during an emergency, and may help prevent contamination of water bodies during an emergency.