



Indigenous and
Northern Affairs Canada

Affaires autochtones
et du Nord Canada

Your file - Votre référence
1BR-CST----

January 12, 2017

Our file - Notre référence
IQALUIT-#1123304

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 Water Licence Application (No. 1BR-CST----) – Cambridge Bay Soil and Water Treatment Facility (Kitnuna Environmental Ltd.)

To Whom It May Concern,

Thank you for the Nunavut Water Board's December 13, 2016 notice of the above mentioned water licence 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@aandc-aadnc.gc.ca for further information.

Sincerely,

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

Encl.

Cc. Ian Parsons, A/Manager, Water Resources, INAC, Nunavut Regional Office (NRO)
Erik Allain, Manager, Field Operations, INAC, NRO

Canada 

Memorandum

To: Licensing Department, Nunavut Water Board

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

Cc: Ian Parsons, A/Manager, Water Resources, INAC
Erik Allain, Manager, Field Operations, INAC

Date: January 12, 2017

Re: Technical Review of Application No. 1BR-CST---- for Cambridge Bay Soil and Water Treatment Facility

Applicant: Josh Foster, Kitnuna Environmental Ltd.
Project: Cambridge Bay Soil and Water Treatment Facility
Region: Kitikmeot

Comments:

A. Background

Kitnuna Environmental Ltd. (the Applicant) has applied for a Type 'B' Water Licence to support the construction and operation of a Soil and Water Treatment Facility (SWTF) in Cambridge Bay. The SWTF would be constructed and operated by the Applicant for a proposed five year period. The Applicant would also perform closure and reclamation activities and has committed to post-closure site monitoring for a period of one year or the commencement alternative uses of the site by the Hamlet of Cambridge Bay. The Applicant has obtained a land lease from the Hamlet of Cambridge Bay to operate the facility in a pre-existing industrial area. The proposed SWTF would accept soil and water/snow contaminated with petroleum hydrocarbons from industrial and municipal sources. Upon successful remediation at the facility, soil will be re-used for local municipal activities; water will be re-used at the facility or discharged overland. Water and soil that does not meet discharge criteria will be stored and sent to an approved waste disposal facility outside of the community. The facility will consist of a 50m by 4m lined and bermed cell for contaminated soil, a 170 m³ capacity water retention pond (also lined) and a 19m by 14m cell to segregate hazardous waste prior to shipment off site.

The Applicant has applied for a Type 'B' Water Licence for water use and the deposit of waste. For water use, the Applicant has indicated that they will store and treat contaminated water and eventually discharge water that has met effluent discharge criteria. No source water use was included in the application. For the deposit of waste, the Application expects to generate contact water, untreated soil and spent filter media. The Applicant has proposed a 6 year Water Licence

term, beginning in 2017 and ending in 2023.

B. Results of review

On behalf of INAC's Water Resources Division, the following comments and recommendations are provided for the NWB's consideration:

1. **Receipt of contaminated soil and water that has not been characterized**

Source:

- 1) 1BR-CST---- KEL SWTF O&M Plan Cambridge Bay

Comment: The Operations and Maintenance (O&M) Plan for the facility outlines the procedure for accepting contaminated material, including the profiling and characterization of contaminant levels in order to ensure that the material is appropriate for remediation at the facility. The 'Soil Management' section of the O&M Plan also states that "In some cases, such as spills and emergency response, soil may be accepted into the facility and samples collected after receipt."

Recommendation 1: INAC recommends that the Applicant revise the O&M Plan to include a contingency in case material accepted to the facility without characterization and later determined to be inappropriate to the facility is identified and removed in a way that does not impact water resources. Contingency plans of this nature are of course important for contaminated soil, but also need to be considered for impacted water accepted to the facility. For example, if contaminated water is accepted at the facility in an emergency situation without characterization and is later deemed to be not appropriate for the treatment processes available at the facility, the entire capacity of the storage pond would need to be dealt with in an alternative way. INAC recommends that the Applicant outline how they will handle such a situation.

2. **Year round operation**

Source:

- 1) 1BR-CST---- General Water Licence Application, Section 24: Proposed Time Schedule

Comment: The Applicant has indicated in their application that once constructed, the SWTF will operate year-round. The Applicant has further indicated that the facility will accept contaminated snow for remediation.

Recommendation 2: INAC recommends that the Applicant clarify what measures will be taken to prevent contaminated snow from blowing away once it has been accepted into the facility (e.g. cover, fence etc.), as well as how contaminated snow will be accepted during time periods when the storage pond is frozen. INAC also recommends that the O&M manual include a section on the characterization of contaminated snow if this differs substantially from the method for contaminated soil.

3. Discharge of water from retention and storage pond

Source:

- 1) 1BR-CST---- KEL SWTF O&M Plan Cambridge Bay

Comment: The O&M Plan ('Water/Snow Retention and Storage Pond' and Appendix A, Table A5) outlines the discharge criteria that will be used to determine whether water from the pond can be re-used in the facility or discharged. The O&M Plan notes that these criteria are based on guidance from the Government of Nunavut Department of Environment.

Recommendation 3: INAC reminds the Applicant that any discharge of water will be required to meet NWB criteria as set in the Water Licence in addition to any requirements set by the Government of Nunavut. INAC also reminds the Applicant that when discharging to the environment, measures will need to be taken to prevent erosion and sedimentation into any nearby waterbodies.

Recommendation 4: INAC recommends that the NWB examine the discharge criteria outlined in Appendix A, Table 5 of the O&M Plan when setting water discharge criteria for the Water Licence.

4. Routine groundwater sampling

Source:

- 1) 1BR-CST---- KEL Cambridge Bay SWTF EPP
- 2) 1BR-CST---- KEL Cambridge Bay SWTF CRP

Comment: The Applicant's Environmental Protection Plan states that groundwater sampling will occur once annually at the facility in order to protect the aquatic environment. Groundwater sampling parameters for baseline data collection are further outlined in the Environmental Protection Plan and sampling is expanded upon in the Closure and Reclamation Plan. Groundwater sampling locations are to be chosen prior to construction.

Recommendation 5: INAC recommends that the Applicant confirm the locations of groundwater sampling stations prior to construction and that any groundwater sampling that occurs throughout the operation of the facility be included in the Annual Report submitted to the NWB.

5. Operation procedures for mobile Water Treatment Plant

Source:

- 1) 1BR-CST---- KEL Cambridge Bay SWTF CRP

Comment: While the operation of the mobile Water Treatment Plant is mentioned in the majority of plans submitted with the application, explanation of the operation is only detailed in the Closure and Reclamation Plan. Effluent discharge is also detailed in the Closure and Reclamation Plan.

Recommendation 6: INAC recommends that information about the operation of the mobile Water Treatment Plant and effluent discharge in the Closure and Reclamation Plan be moved (or duplicated in) the O&M Plan to ensure that this information is easily accessible when reviewing operations of the facility.

6. Spill Contingency Plan

Source:

- 1) 1BR-CST---- KEL CAMBAY STF Spill Contingency Plan

Comment: The Applicant's Spill Contingency Plan (SCP) does not include specific instructions for spill response on various types of terrain in the section for 'Step 8: Recovery and Clean-up'. Clean-up guidelines for specific materials are provided in the Appendices for spills on land and water.

Recommendation 7: INAC recommends that the SCP be revised to include a description (in the main text of the plan) of the materials found on site that could lead to spills. The recommended spill response to some materials is listed in the Appendices, but no mention is made of the materials that are likely to be encountered at the facility.

Recommendation 8: INAC recommends that the SCP be revised to include spill response measures for spills on ice and snow (in addition to on land and water).

Recommendation 9: INAC recommends that the contact information for the Manager of Field Operations (INAC) be added to the reporting section of the SCP (867-975-4295).

7. Reporting requirements

Source:

- 1) 1BR-CST---- KEL CAMBAY STF Spill Contingency Plan
- 2) 1BR-CST---- KEL Cambridge Bay SWTF CRP
- 3) 1BR-CST---- KEL Cambridge Bay SWTF EPP
- 4) 1BR-CST---- KEL SWTF O&M Plan Cambridge Bay

Comment: The submitted plans include mention of reporting requirements to the Government of Nunavut Department of Environment.

Recommendation 10: INAC reminds the Applicant that there will be reporting

requirements outlined in any issued Water Licence (to both the NWB and to INAC inspectors).

8. Term of Water Licence

Source:

- 1) 1BR-CST---- General Water Licence Application

Comment: The Applicant has requested a six year Water Licence term starting June 1, 2017 and expiring June 1, 2023 to cover construction, operation and closure of the facility.

Recommendation 11: INAC agrees that a Water Licence term should include the construction, operation and closure of the facility.