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3BM-KUG

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IQA-N9545-1-3KUGR/CIDMS 156483

July 25, 2007

Phyllis Beaulieu
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0A 1J0

Re: 3BM-KUG, Hamlet of Kugluktuk, Sewage Lagoon and Solid Waste Facility Upgrades, Water Licence Application

The Water Resources Division of Indian and Northern Affairs Canada (INAC) has reviewed the water licence amendment for the Hamlet of Kugluktuk. All information posted on the Nunavut Water Board's FTP-site under the file name 3BM-KUG was considered in this review.

INAC would like to commend the applicant for the quality and architecture of their application. Positive aspects of this application include the development of a Monitoring Program and Quality Assurance/Quality Control Plan, Operation and Maintenance Plans for the Solid Waste Management Facility and the Sewage Treatment Facility and the Format for Annual Report. As routinely noted in INAC inspection reports, these documents are often absent from municipal license applications and amendments. While the quality of the information contained in the application is commendable, INAC has found it difficult to track information presented in the Appendices such as some appendices having sub-appendices, or missing from the Table of Contents.. INAC encourages to NWB to remind applicants that information management is the responsibility of the applicant and poor information management often unnecessarily prolongs the review process.

Solid Waste Disposal Facility

Section 4.1.2 of the "Detailed Design Report" states *"a water retention area will be constructed in the north position of the area to facilitate temporary storage and testing of any potentially impacted runoff from the area"*. INAC requests to know how leachate from the waste disposal facility will be treated before disposal.

Bulky Materials Disposal Area

INAC requests the proponent clarify their plans for controlling runoff from the Bulky Materials Disposal Area.

Hazardous Waste Storage Area

Section 4.3.2 states *“effluent that accumulates within the bermed area must be pumped out on a regular basis and disposed of in the sewage lagoon”*. INAC requests to know if the effluent from the Hazardous Waste Storage Area will be tested prior to being disposed of in the sewage lagoon. Does the proponent feel that disposing of effluent from Hazardous Waste Storage Area in the sewage lagoon will alter the quality of effluent from lagoon discharges?

Landfarming Area

Section 4.5.3 of the “Detailed Design Report” mentions controlling water within the landfarm. INAC requests to know what plans are in place to treat and dispose of excess water that accumulates within the bermed containment area.

Monitoring stations at the Kugluktuk treatment facilities

The document titled “Monitoring stations at the Kugluktuk treatment facilities” (060919 3BM-KUG Monitoring Stations-ILAE) presents a list of monitoring stations. However, other documents in the 3BM-KUG file on the FTP-site present further inconsistencies regarding the monitoring sites as proposed in “Monitoring stations at the Kugluktuk treatment facilities” report. For instance, this report lists KUG-1, KUG-2A, KUG-3A, KUG-4A, whereas Table 1 of the “Monitoring Program and Quality Assurance/Quality Control Plan” lists the same four sampling sites as well as an additional four sampling sites: WS-1, WS-2, WS-3, WS-4. INAC requests the proponent clarify which sampling locations they intend to have included in their water licence. Based on the nature of the application it appears the natural wetland area should be considered an active component of the water treatment process. Thus, INAC recommends that the WS sites be included in the “Monitoring stations at the Kugluktuk treatment facilities” document. INAC also recommends that an SNP station be established at the outlet of the wetlands area. This station will allow for verification of the effectiveness of the proposed wetland treatment, a central component of the current application.

Furthermore, INAC recommends the sampling locations be selected in concert with the INAC Inspector. Specifically, the exact location of all SNP sites should be determined during the next inspection. The final sampling locations should then be presented on a map, which clearly presents the sampling locations. Until such a time that the INAC Inspector is able to visit the site to determine the final SNP sites, the individual responsible for sample collection within the Hamlet staff should clearly mark the

sampling location for the sake of consistency.

Monitoring Program and Quality Assurance/Quality Control Plan

INAC requests the “Monitoring Program and Quality Assurance/Quality Control Plan” reference the following document: “INAC QA and QC Guidelines for use by Class “B” Licensees in Collecting Representative Water samples in the Field and for submission of a QA/QC Plan” (1996). For example, Page 19 of the “Monitoring Program and Quality Assurance/Quality Control Plan” states *“it is recommended, that the laboratory pre-fill the sample collection bottles with the proper preservative to minimize error in the field”*. This statement contradicts Section 2.3 and Section 3.0 of “INAC QA and QC Guidelines for use by Class “B” Licensees in Collecting Representative Water samples in the Field and for submission of a QA/QC Plan” (1996). The proponent is encouraged to review their document and make necessary changes to ensure the INAC document is represented throughout their Monitoring Program and Quality Assurance/Quality Control Plan. In instances where the proposed QA/QC Plan deviates from the INAC Guideline, the applicant is encouraged to provide rationale explaining the differences.

Section 2.1.1, *Sampling Location and Frequency of Appendix F*, “Quality Assurance/Quality Control Plan for Hamlet Sewage Lagoon and Solid Waste Management Facilities Monitoring Program” (page 177 of document 060919 3BM-KUG Detailed Design Report-ILAE.pdf) states *“sewage discharged from the lagoon will flow into an engineered wetland where treatment will be complete. The wetland will consist of a network of small berms, ditches and shallow ponds designed to maximize retention time and promote attenuation by natural processes.”* Section 3.8.4, *Wetland Treatment Area and Exfiltration Berm*, of the “Detailed Design Plan” describes the means by which lagoon effluent enters the wetland area. Based on the above quote from Section 2.1.1, it appears the wetland system will be more comprehensive than presented in Section 3.8.4. For instance, Section 3.8.4 makes no mention of a network of small berms, ditches or shallow ponds. INAC requests the proponent clarify the extent to which the current wetland will be upgraded to improve effluent treatment.

Environmental Contingency Plan

Section 3.0, *Spill Response Organization*, should be updated to include the INAC Water Resources Inspector as an initial contact. Furthermore, Section 4.0, *Spill Reporting Procedure* should also be amended. The initial contact for INAC should be the Manager of Field Operations and not the Manager of Water Resources.

Appendix C Test Pit Logs

This appendix presents a list of Test Pit Logs. These logs appear to correspond with those presented on *Drawing No. 2, Hamlet of Kugluktuk Proposed Sewage Lagoon Plan*. INAC requests to know why the following stations do not appear on *Drawing No. 2*: TP-MSW-1, TP-MSW-2, TP-CON-1. Additionally, INAC notes all of the test pits are

located in the north east corner of the proposed sewage lagoon. INAC is concerned that the information as presented is inadequate to characterize the entire proposed lagoon site.

Appendix G1, Sewage Lagoon

Section 3.3, *Periodic and Seasonal Maintenance Procedure* states warning signage for the Sewage Lagoon and Wetland Treatment Areas will be inspected weekly. In addition to this, INAC encourages the proponent to install and inspect signage for all SNP sites.

Section 3.3 states “desludging of the lagoons shall occur every 5 to 10 years or as required”. INAC requests to know how the sludge will be treated and disposed.

Indian and Northern Affairs Canada would like to thank the NWB for the opportunity to provide input into the amendment licensing process for the Hamlet of Kugluktuk. Should you have any questions or comments, please do not hesitate to contact me at (867) 975-4548 or by email at BathoryS@ainc-ianc.gc.ca.

Sincerely,

Original Signed by

James Rogers,
Manager, Water Resources