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Your file - Votre référence  
1BR-KRK

Our file - Notre référence  
9545-2 / #91395

July 13, 2006

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Via Email

**Re: 1BR-KRK - Government of Nunavut - Kugaaruk Landfarm Project - licence application**

On behalf of Indian and Northern Affairs Canada (INAC) I have reviewed the licence application for the Kugaaruk Landfarm Project. The following specialist advice has been provided pursuant to INAC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NW&NSRT), *Arctic Waters Pollution Prevention Act* (AWPPA), and the *Department of Indian Affairs and Northern Development Act* (DIAND Act).

#### Project Information

The Government of Nunavut's Department of Community Government and Services is applying for a licence for the operation of a contaminated soil treatment facility, referred to as a landfarm, in the Hamlet of Kugaaruk. The proponent contracted Wardrop Engineering to design this treatment facility and provide technical guidance on water management concerns. Dillon Consulting Ltd.'s investigation of the Hamlet's bulk fuel storage facility in 2001, on behalf of the Nunavut Department of Public Works and Services, determined that several areas of petroleum contaminated soils required treatment. Dillon produced an inspection report which recommended the excavation and treatment of approximately 3,500 cubic metres (m<sup>3</sup>) of impacted soil.

The Hamlet's landfarm is situated 1.5 km southeast of the community and 1.2 km east of St. Peter's Bay. The landfarm's runoff from precipitation will be directed to a collection area and then released onto land where it will flow into the Arctic Ocean through St. Peter's Bay. The proponent has indicated in its Design and Operating Details of the Kugaaruk Landfarm document that wastewater will conform with the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life for marine conditions. In particular, released total hydrocarbons in the fuel oil range (C10-C16) will not exceed 5 mg/L. The proponent is confident that the precipitation collection area has the capacity of retaining one year of average precipitation estimated from 10 years of sample data.

The containment area is approximately 1,500 square metres (m<sup>2</sup>) and was designed to accommodate an average precipitation of 300 mm/year. Wastewater must be released annually to ensure that the collection area will not overflow. Should the wastewater not meet the selected CCME water quality guidelines, Wardrop Engineering Inc. indicates that it will be subjected to a commercially available treatment system to remove residual hydrocarbons.

According to David Ediger's, Wardrop Engineering Inc., May 1, 2006 letter addressed to Joe Murdoch, Nunavut Water Board Technical Advisor, five (5) groundwater monitoring wells will be installed in selected locations downstream of the landfarm facility. Groundwater wells will be sampled when the waste water within the collection area is sampled.

## INAC Comments

INAC makes the following recommendations for the Board's consideration when reviewing this licence application.

### GENERAL

- The Nunavut Water Board should provide a written letter of direction to the Government of Nunavut's Department of Community Government and Services which communicates that licences must be acquired prior to initiating any construction activities associated with activities which require the use of water or disposal of wastes. INAC is willing to provide a written letter of direction to the proponent on this matter as well due to its responsibility of enforcing the licences issued by the Water Board and the Nunavut Waters and Surface Rights Tribunal Act.
- An amendment should be made to the Hamlet of Kugaaruk's municipal licence to include terms and conditions associated with the proposed landfarm facility rather than awarding a new licence. A municipal landfarm is the responsibility of the community in which it serves, as such it is an activity that is applicable to municipal water use and waste disposal.
- The Board should carefully consider whether the proponent should follow the CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life in marine conditions as opposed to freshwater conditions. Collected precipitation runoff will be subjected to wetlands treatment, flowing on land for approximately 1.2 km before entering a marine environment. The discharge path of this waste water will impact the land on which it travels. Therefore, the wastewater should meet the Guideline freshwater requirements before being released from the landfarm facility.
- The Board should develop a surveillance network program (SNP Program) to monitor the quality of water released by this project, should it be licenced. This SNP Program should include a list of required parameters that must be tested and the frequency in which test must be carried-out (e.g., testing the quality of ground water downstream of the landfarm and the quality of collected runoff every two weeks throughout the summer season).
- The Board should ensure that the proponent has a contingency plan in place for this landfarm should precipitation levels be higher than expected and the runoff collection area cannot retain the impounded waste water. INAC will be satisfied if the proponent can demonstrate that it is capable of treating wastewater to meet CCME Guidelines for the Protection of Aquatic Life prior to its discharge.

Indian and Northern Affairs Canada requests notification of any changes in the proposed project, as further review may be necessary. Please do not hesitate to contact me if you have any questions or comments with regards to the foregoing.

Sincerely,

***Original signed***

David W. Abernethy  
Water Resources Coordinator

cc. Jim Rogers - Manager of Water Resources, Indian and Northern Affairs Canada, Iqaluit