



Environment
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April 27, 2009

Our file Notre référence 4105 006 144
Your file Votre référence 1BR-EKA0809/TR/K14

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Via Email at licensing@nunavutwaterboard.org

Dear Phyllis Beaulieu,

RE: NWB 1BR-EKA0809/TR/K14 – Indian and Northern Affairs Canada – Submission of FOX-C Ekalugad Fjord Long-Term Monitoring Plan

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to EC's mandated responsibilities arising from the *Canadian Environmental Protection Act* (CEPA), Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

It is the understanding of EC that Indian and Northern Affairs Canada (INAC), as a requirement of Part K, Item 14 of the water license (1BR-EKA0809 Nunavut Water Board, June 13, 2008) (herein known as 'the water license'), prepared and submitted the report entitled "FOX-C Ekalugad Fjord Long-Term Monitoring Plan" (INAC, March 23, 2008) (herein known as 'the Plan'). This requirement states that the Plan shall include the long-term monitoring of Waste Disposal Facilities addressing water quality monitoring, stability and the requirement for thermal monitoring and ground water monitoring (NWB License No. 1BR-EKA0809, June 13th 2008).

Brief Summary of the Project:

FOX-C Ekalugad Fjord is located on the Northeast coast of Baffin Island. The site was home to an Intermediate Distance Early Warning (DEW) Line site. Remediation of the site was conducted between 2005 and 2008. Remediation involved the demolition and disposal of all buildings, structures, and other debris, as well as the clean up of hazardous materials and contaminated soil (Page 2 of the Plan). The long-term monitoring of this site, according to the Plan (Page 4), includes the natural environment, as well as the Non-Hazardous Waste Landfill (NHWL).

Comments and Recommendations:

General

EC recommends the following points:

1. EC notes that a pre-established monitoring plan, as identified in the “Abandoned Military Site Remediation Protocol”¹ (page 14), is a part of the Post Construction Landfill Monitoring. This Long-Term Monitoring Plan should fulfill the monitoring criteria as stated in INAC’s “Abandoned Military Site Remediation Protocol” (INAC, March 2005) (herein known as ‘the Protocol’). Therefore, visual monitoring requirements under Section 2.2.3 for NHWL (Page 5 of the Plan) should include monitoring for any visual evidence of ponding, and a visual inspection to ensure the cover is not eroding and the permafrost is developing within the landfill consistent with the design (page 5 of the Protocol). Visual monitoring for any evidence of subsidence should also occur.
2. Table 4 outlines the proposed monitoring requirements for the NHWL. However, details regarding the parameters to be monitored are not provided. The monitoring program should encompass the same constituents that were the focus of remediation activities at the site.
3. EC notes that the water license (Page 2) mentions the construction and operation of a landfarm. The landfarm should be included in the Plan and use the “Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils” Section 8.4.8. *Monitoring and Closure* (Science Applications International Cooperation, March 31, 2006).
4. INAC should identify how they will conduct thermal monitoring of the Waste Disposal Facilities as required by the water license in Part K, Item 14.
5. EC notes that in the water license a second NHWL is listed, one at the Lower site, and one at Mid-Station. As such, this second NHWL should be added to the Plan if it was constructed.
6. The following activities were listed in the water license (page 7-8):
 - Fuel storage pad;
 - Sewage lagoon;
 - Lower site hazardous waste processing area;
 - Beach tank demolition and land filing area;
 - Asbestos abatement area; and the
 - Temporary PCB & hazardous waste storage areas.

These areas should be sampled during the first scheduled site monitoring to verify that remediation was successful. If remediation can be confirmed, these sample sites could then be removed from the sampling plan.

7. A full review of the monitoring data be completed in the fifth year, and furthermore that this review be submitted to the Nunavut Water Board and circulated to the distribution list for comment.

¹ Indian and Northern Affairs Canada, ‘Abandoned Military Site Remediation Protocol’, NAP Contaminated Site Program, March 2005.

8. The locations for the monitoring points should be verified against as-built drawings, and maps of the sampling locations included in the appendix. These maps should indicate photograph locations and the direction for all visual sampling locations.
9. The Plan should include at least the following elements: monitoring frequency (including the anticipated dates of monitoring), analytical parameters (should monitor for contaminants of concern or potential contaminants), appropriate detection limits (for comparison with appropriate guidelines and/or legislation), sampling methods, and Quality Assurance/Quality Control procedures for visual monitoring, active layer water monitoring, and the soil monitoring. Furthermore, EC recommends that Points 2, 9, 10, 11, and 12 of Part K: Conditions Applying to the Monitoring Program of the water license be implemented as part of the long term monitoring plan. These points would ensure that proper QA/QC protocols and water sampling methods are in place for the long-term monitoring of the site.
10. EC notes that there are no references in the Plan. Guidelines and standards (e.g. OME Guidelines, Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils, Guidance CCMEs Manual on Sampling, Analysis, and Data Management for Contaminated Sites 1993 etc.) that this project falls under should be included in the appendix.

Water Quality – Fisheries Act Section 36(3)

11. Meeting the requirements of the *Fisheries Act* is mandatory, irrespective of any other regulatory or permitting system. Section 36(3) of the *Fisheries Act* specifies that unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The legal definition of deleterious substance provided in section 34(1) of the *Fisheries Act*, in conjunction with court rulings, provides a very broad interpretation of deleterious and includes any substance with a potentially harmful chemical, physical or biological effect on fish or fish habitat.

CEPA – Spill Prevention, Preparedness and Response

12. Please note that any spill of fuel or hazardous / deleterious materials, adjacent to or into a water body, **regardless of quantity**, shall be reported immediately to the NWT 24-hour Spill Line, **(867) 920-8130**

CEPA – Hazardous substances

13. The proponent shall ensure that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.

Wildlife / Species at Risk

14. Section 6(a) of the *Migratory Birds Regulations* (MBR) states that no one shall disturb or destroy nests or eggs of migratory birds. If active nests are encountered during project activities, the nesting area should be avoided until nesting is complete (i.e., the young have left the vicinity of the nest).
15. EC recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) be made inaccessible to wildlife at all times. Such items can attract predators of migratory birds such as foxes, ravens, gulls, and bears. Although these animals may initially be attracted to the novel food

sources, they often will also eat eggs and young birds in the area. These predators can have significant negative effects on the local bird populations.

16. Section 5.1 of the *Migratory Birds Convention Act* (MBCA) prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
17. The Canadian Wildlife Service of EC is interested in observations of birds recorded, especially observations of birds identified as Species at Risk. Observations can be reported through the NWT/NU Bird Checklist program.

NWT/NU Bird Checklist Survey
Canadian Wildlife Service, Environment Canada
5019-52 Street
P.O. Box 2310
Yellowknife NT X1A 2P7
Phone: (867) 669-4773
Email: NWTChecklist@ec.gc.ca

18. All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
19. Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the MBCA, MBR, and the *Species at Risk Act*. The proponent must ensure they remain in compliance during all phases and in all undertakings related to the project.

If there are any changes in the proposed Plan, EC should be notified, as further review may be necessary. Please do not hesitate to contact me at (867) 669-4748 or Stacey.Lambert@EC.gc.ca with any questions or comments.

Yours truly,

Stacey Lambert
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Environmental Assessment North, EPO)
Lisa Perry (Environmental Assessment Coordinator, EPO)
Myra Robertson (Environmental Assessment Coordinator, CWS)
Amy Sparks (Contaminated Sites, EPO)