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EC File: 4105 006 173
NWB File: 1BR-LOR0813

Richard Dwyer
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Via email: licensingadmin@nunavutwaterboard.org

RE: 1BR-LOR0813 Cape Christian Long Term Monitoring Plan

Environment Canada (EC) has reviewed the above-mentioned Plan submitted to the Nunavut Water Board (NWB). The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Indian and Northern Affairs Canada (INAC) has prepared the Cape Christian Long Term Monitoring Plan as a requirement of Part K, Item 11 of water license 1BR-LOR0813. The Cape Christian site is a former Long Range Navigation communication station that was abandoned in 1975 and is currently undergoing remediation. It is located approximately 16 km northeast of the Hamlet of Clyde River.

Upon review of the Plan, EC provides the following comments and recommendations for the NWB's consideration:

General

- The proponent shall not deposit, nor permit the deposit of chemicals, sediment, wastes, or fuels associated with the project into any water body. According to the *Fisheries Act*, Section 36 (3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- All mitigation measures identified by INAC, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of INAC's project representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of INAC's commitments to these mitigation measures and provided with appropriate advice and training on how to implement these measures.
- On page 7, there is reference to the contents of the Non-Hazardous Waste Landfill at DEW Line Site FOX-C. This should be revised to reflect the contents of the Non-Hazardous Waste Landfill at the Cape Christian site.

- The environmental assessment conducted by Gartner Lee for the remediation of Cape Christian (i.e., Environmental Assessment of the Site Remediation of the Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut, 2007), confirms 10 m³ of asbestos-containing materials (pipe insulation, transite board and matted insulation) will be double-bagged and disposed of in Cape Christian's landfill. Given the hazardous nature of asbestos, EC recommends INAC consult the Government of Nunavut's *Environmental Guideline for Waste Asbestos* to ensure its disposal of asbestos is consistent with the Guideline.
- EC notes that the figures provided in the appendices are difficult to interpret (specifically those in Appendix B). EC recommends that revised, legible figures be included with the Plan.
- EC notes that INAC proposes to review monitoring data at year 5 of Phase I (Section 2.3 Monitoring Frequency). EC recommends that a review is completed prior to year 5, i.e. at year 3, to ensure that there are no issues with the landfill. EC suggests that contingency plans to address the potential for instability at the landfill be included in this Plan.

If there are any changes in the project EC should be notified as further review may be necessary. Comments previously submitted by S. Levenson on behalf of EC regarding water license 2BE-LOR would still apply to this project (see attached). Please do not hesitate to contact the undersigned with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at Paula.C.Smith@ec.gc.ca

Yours truly,



Paula C. Smith
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Environmental Assessment-North, EPO, EC, Yellowknife, NT)
Ron Bujold (Environmental Assessment Technician, EPO, EC, Yellowknife, NT)
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December 23rd, 2009

Your File: 1BR-LOR0813/TRE2
Our file: 4105 006 174

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Re: 1BR-LOR0813 Cape Christian - Submission of Operation & Maintenance Manuals

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to EC's responsibilities under the *Canadian Environmental Protection Act*, and Section 36(3) of the *Fisheries Act*.

Indian and Northern Affairs Canada has submitted Operations and Maintenance (O&M) Manuals for the Sewage Lagoon, Landfill and the Bio-treatment Area as required as part of their current Water License 1BR-LOR0813, Part E, Item 2. Environment Canada recommends that the following conditions be applied throughout the duration of the licence:

Operation and Maintenance Manual Sewage Lagoon

- Environment Canada recommends that a Sludge Management Plan be submitted for approval. EC recommends the following on sewage sludge disposal:
 - Maintenance should include periodic removal and disposal of sewage sludge. Estimates should be made of the quantities of sludge likely to be produced, the required frequency of extraction from the lagoons; and operational procedures developed for environmentally sound removal and disposal. These procedures should include characterization to ensure disposal options are appropriate. Procedures should include characterization to ensure disposal options are appropriate.
- Section 4.2 of the O&M manual should include the address of a certified Canadian Association of Environmental Analytical Laboratories (CAEAL) approved analytical laboratory, to which water samples are to be sent.

- EC recommends that water sampling locations be located at several locations along the effluent flow path, including at the end of the wetland, to determine the effectiveness of the lagoon and wetland systems.

Operations and Maintenance Manual Landfill

- EC recommends that signs are posted around the landfill area, especially at the segregated asbestos area.
- All hazardous wastes entering and leaving the site should be identified, inventoried and logged. The document states that all hazardous waste is to be disposed of off site, but does not state how it will be dealt with. EC recommends that the Guidelines for general waste management in Nunavut are consulted (<http://www.gov.nu.ca/env/waste.pdf>)

Operations and Maintenance Manual Bio-treatment Area (Windrows)

- EC recommends that the *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils (2006)* are consulted as they provide relevant information on windrows, recommended distances of landfarms (including windrows) to surface water bodies and biotreatment area parameters that should be monitored.

Please do not hesitate to contact me at (867) 669-4772 or savanna.levenson@ec.gc.ca with any questions or comments with regards to the foregoing.

Yours truly,

Savanna Levenson
Environmental Assessment Specialist
Environmental Protection Operations

c.c: Carey Ogilvie, Head EA North, Environment Canada
Anne Wilson, Water Pollution Specialist, EA North, Environment Canada