Environment Canada Environnement Canada

Northern Division
Environmental Protection Operations
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February 19, 2010

Our File: 4703 003 044
NWB File: 3BC-ERI

Richard Dwyer
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Re: NWB 3BC-ERI- Geological Survey of Canada – Ellef Ringnes Island Project – New – Type "B"

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 Environment Canada's mandated responsibilities under the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Keith Dewing, of the Geological Survey of Canada, has applied for a Scientific Research License to further existing knowledge of the potential for energy and mineral resources on Ellef Ringnes Island by using modern geological methods. The project is proposed to occur from June 25th to August 10th in both 2010 and 2011. Field work will include collecting samples of rocks, water and ice by hand, which will then be transported to Calgary for analysis. Field work will be supported by a temporary field camp, Twin Otter, helicopter, and 15 to 20 personnel. The temporary field camp will include six 12'x14' tents, 15 dome tents and a Weatherhaven.

Comments and recommendations submitted for the project on January 13, 2010, in response to the NIRB Part 4 Screening, would apply to this water license application (see attached).

If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing by email at carrie.spavor@ec.gc.ca.

Yours truly,

Original signed by

Carrie Spavor
Environmental Assessment Coordinator
Environmental Assessment - North,
Environmental Protection Operations

cc: Carey Ogilvie (Head, EA-North, Environment Canada, Yellowknife, NT)
Ron Bujold (Environmental Assessment Technician, Environment Canada, Yellowknife, NT)

Northern Division
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January 13, 2010

Our file: 4703 003 044
NIRB file: 09YN056

George Taptuna
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Nunavut Impact Review Board
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via e-mail *info@nirb.ca*

Re: NIRB 09YN056 – Notice of Part 4 Screening for the Geological Survey of Canada's (Keith Dewing) "Ellef Ringnes Island" Project Proposal

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 the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Keith Dewing, of the Geological Survey of Canada, has applied for a Scientific Research License to further existing knowledge of the potential for energy and mineral resources on Ellef Ringnes Island by using modern geological methods. The project is proposed to occur from June 25th to August 10th in both 2010 and 2011. Field work will include collecting samples of rocks, water and ice by hand, which will then be transported to Calgary for analysis. Field work will be supported by a temporary field camp, Twin Otter, helicopter, and 15 to 20 personnel. The temporary field camp will include six 12'x14' tents, 15 dome tents and a Weatherhaven.

Upon review of the project proposal submitted by Keith Dewing, EC is of the opinion that the research program is unlikely to result in significant adverse effects on areas under EC's jurisdiction, and that the project is unlikely to arouse significant public concern. Environment Canada suggests the following comments and recommendations for the Nunavut Impact Review Board's (NIRB) consideration:

Camp

- The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes or sediment 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 other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- Two different locations for the camp are proposed in the application. The Indian and Northern Affairs (INAC) Land Use Permit application states the camp will be located at 78°17'15"N and 99°53'08"W, and in the NIRB Part I application the camp is proposed to be located at 78°13'12"N and 101°04'34"W. EC recommends that the proponent confirm the camp location with the NIRB prior to operations commencing.
- Two different methods of sewage disposal are presented by the proponent. On page 7 of the INAC Land Use Permit application, it is stated that "garbage and sewage will be flown out."

However, in the NIRB Part 1 Form, Section 6 Waste Disposal and Treatment Methods, it is stated that sewage will be incinerated.

Sewage has high moisture content and low heat content that will increase operating costs dramatically and lead to poor incinerator performance. It is unlikely that the sewage will be completely combusted and could lead to the release of pathogens into the environment. The high moisture materials can leak from the incinerator hearth and lead to equipment damage and present health hazards to workers. Any emissions from sewage incineration must be reported to the National Pollutant Release Inventory (NPRI), under the authority of the Canadian Environmental Protection Act, 1999 (CEPA 1999). http://www.ec.gc.ca/npri

EC recommends that sewage should not be burned in batch incinerators that are typically used in the north. Sewage should only be burned in incineration equipment designed for this type of waste. If the proponent decides to pursue sewage incineration, it should provide the Board with the design specifications of the incinerator and a letter from the manufacturer stating that this equipment is suitable for burning this type of waste.

- The proponent proposes to incinerate solid waste (garbage). EC has developed a Technical Document for Batch Waste Incineration, and is available at the following web link: http://www.ec.gc.ca/drgd-wrmd/default.asp?lang=En&n=82401EC7-1
  The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.
- All sumps used for the disposal of camp greywater and sewage shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any water body frequented by fish. Sumps should be recountoured to match surroundings upon project completion.

Fuel and Spill Contingency Plan

- The Proponent states that a Spill Contingency Plan will be available on site. EC recommends that this plan be submitted to the NIRB for review. EC looks forward to reviewing this plan when it is made available.

Wildlife and Species at Risk

- Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the 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).
- Environment Canada 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.
- Section 5.1 of the Migratory Birds Convention Act 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.
- In order to reduce aircraft disturbance to migratory birds, Environment Canada recommends the following:
  - Fly at times when few birds are present (e.g., early spring, late fall, winter).

- If flights cannot be scheduled when few birds are present, plan flight paths that minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet).
- Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting.
- Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1100 m (3500 feet) over areas where birds are known to concentrate.
- Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km.
- Avoid excessive hovering or circling over areas likely to have birds.
- Inform pilots of these recommendations and areas known to have birds.

- The following comments are pursuant to the Species at Risk Act (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner.

Table 1. Terrestrial Species at Risk with potential to be located in the project area.

Terrestrial Species at Risk [1]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility [2]
Peary Caribou	Endangered	Pending	Government of Nunavut
Red Knot (*islandica* subspecies)	Special Concern	Pending	EC
Polar Bear	Special Concern	Pending	Government of Nunavut

[1] The Department of Fisheries and Oceans has responsibility for aquatic species.

[2] Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

Impacts could be disturbance and attraction to operations.

Environment Canada recommends:

- Species at Risk that could be encountered or affected by the project should be identified and any potential adverse effects of the project to the species, its habitat, and/or its residence noted. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the Species at Risk registry at www.sararegistry.gc.ca for information on specific species.
- If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat and/or its residence.
- Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this

monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested
    - For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
    - Mitigation and monitoring measures must be taken in a way that is consistent with applicable recovery strategies and action/management plans.
- 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. Environment Canada 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.
- 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 Migratory Birds Convention Act, Migratory Birds Regulations, 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 project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing by email at Carrie.Spavor@ec.gc.ca.

Yours truly,

Original signed by

Carrie Spavor
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, Environmental Assessment-North, EPO, Yellowknife, NT)
Ron Bujold (Environmental Assessment Technician, EPO, Yellowknife, NT)