Environment Canada Environnement Canada

Environmental Protection Operations
Qimugjuk Building 969 P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4631
Fax: (867) 975-4645

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EC File: 4704 004 006
NWB File: 2BE-RBP0811

Richard Dwyer
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Via email: licensingadmin@nunavutwaterboard.org

RE: 2BE-RBP0811 Amendment Application

Environment Canada (EC) has reviewed the above-mentioned amendment application 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*.

Roche Bay PLC and Advanced Explorations Inc. (AEI) is applying to amend and renew existing Type 'B' water license 2BE-RBP0811 for their Roche Bay camp. The amendment is being sought as AEI plans to divide the facilities located at the current Roche Bay camp into two smaller camps, one located at the current location, the second to be relocated to a former camp site on the Peninsula. The total number of people housed at the two camps will remain the same at approximately 60, with 40 people being relocated to the Peninsula camp. The Peninsula camp site is currently used for core storage and is located near the previously constructed airstrip and beach logistics areas. Under the current water license, water for the existing camp is drawn from a nearby stream. Under the proposed plan to divide the camps, water at the new Peninsula camp will be drawn from the lake adjacent to the proposed camp. The proposed amendment reduces the overall quantity of water to be used from 300 m^3/day to 280 m^3/day. Camps will be seasonally occupied between approximately 30 March and 30 September, annually. The proposed term of the renewal is for five years, until 1 January 2016. The closest communities to the project are Hall Beach, approximately 65 km ENE, and Igloolik, approximately 105 km NE of the project.

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

- 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 AEI, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of AEI's project representatives (including contractors) conducting operations

in the field. EC recommends that all field operations staff be made aware of AEI's commitments to these mitigation measures and provided with appropriate advice and training on how to implement these measures.

- All sumps, spill basins, and fuel caches should be located in such a manner as to ensure that their contents do not enter any water body, are to be backfilled, and re-contoured to match the surrounding landscape when they are no longer required.
- EC assessed inorganic chloride salts and concluded that these salts in high concentrations are harmful to the environment. As a result, the proponent should ensure that when using calcium chloride ($CaCl_2$) for drilling purposes that return water is contained in a properly constructed sump and located in such a manner as to ensure that the contents do not migrate out from the sump. Please note that EC does not support the practice of relying on permafrost integrity to contain and isolate drilling wastes especially if they contain freeze depressants (e.g. salts).
- The proponent states that bulky items, scrap metal and empty barrels will be shipped off site for disposal. If solid waste is shipped to the nearest community for disposal, EC suggests that confirmation and authorization be obtained from the intended community landfill (i.e., Hall Beach) prior to shipment.
- The proponent states that sewage waste will be incinerated. Raw sewage should not be burned in batch incinerators that are typically used in the north. Raw sewage should only be burned in incineration equipment designed for this type of waste. If AEI incinerates sewage sludge, 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.
- EC recommends the use of an approved incinerator for the disposal of combustible camp wastes. EC has developed a Technical Document for Batch Waste Incineration, and is available at the following web link:
  http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1
  The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting. This information should be incorporated into an incineration management plan for the camp. EC would like the opportunity to review this plan prior to implementation.

Wildlife

- 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.
- The project area is adjacent to an offshore polynya within Foxe Basin, a key marine habitat site for migratory birds that represents an important area for moulting waterfowl. 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. The Table below lists species that may be encountered in the project area that have been assessed by COSEWIC as well as their current listing on Schedules 1-3 of SARA (and designation if different from that of COSEWIC). Project impacts could include species disturbance, attraction to operations, and destruction of habitat.

Terrestrial Species at Risk [1]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility [2]
Peregrine Falcon (*anatum-tundrius* complex[3])	Special Concern	Schedule 1 (*anatum*) Schedule 3 (*tundrius)*	Government of Nunavut
Red Knot (*rufa* subspecies)	Endangered	Pending	EC
Polar Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western population)	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.
[3] The *anatum* subspecies of Peregrine Falcon is listed on Schedule 1 of SARA as threatened. The *anatum* and *tundruis* subspecies of Peregrine Falcon were reassessed by COSEWIC in 2007 and combined into one subpopulation complex. This subpopulation complex was listed by COSEWIC as Special Concern

- For any Species at Risk that could be encountered or affected by the project, the proponent should note any potential adverse effects of the project to the species, its habitat, and/or its residence. 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.
- Environment Canada notes that the Red Knot (*rufa* subspcies) (a shorebird) was designated as Endangered by COSEWIC in April 2007. The Red Knot (*rufa* subspecies) breeding range overlaps with the location of the proposed project area. Although the major threats to Red Knot relate to habitat degradation in the wintering areas and decreases in food resources during spring migration, the proponent should ensure that extra precautions are taken to avoid any disturbance to the Red Knot or its habitat during the breeding season. Red Knots nest on barren habitats (often less than 5% vegetation) such as windswept ridges, slopes or plateaus. Nest sites are usually in dry, south-facing locations, and may be located near wetlands or lake edges, where the young are led after hatching. Nests are simple scrapes on the ground in small patches of vegetation. Nesting will occur in June with hatching in early July. If an active Red Knot nest is encountered during project activities, or observations of Red Knot in the area suggest that a nest could be nearby, the proponent should avoid all activities in the area until nesting is complete (i.e., likely only resume activities in the area until after mid-July).
- Observations of Red Knots or other birds can be reported to the Canadian Wildlife Service of Environment Canada through the NWT/NU Bird Checklist program.

  NWT/NU Bird Checklist Survey

  Canadian Wildlife Service, Environment Canada

  P.O. Box 2310, 5019 – 52nd Street, 4th floor

  Yellowknife NT, X1A 2P7

  Phone: 867.669.4773

  Email: NWTChecklist@ec.gc.ca

- 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 project EC should be notified as further review may be necessary. Comments previously submitted on behalf of EC regarding water license 2BE-RBP would still apply to this project. 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)
Allison Dunn (Sr. Environmental Assessment Coordinator, EPO, EC, Iqaluit, NU)
James Hodson (Environmental Assessment Officer, CWS, EC, Yellowknife, NT)