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

11 February 2011

EC File: 4703 001 077
NWB File: 2BE-CRA1015

Ida Porter
Licensing Administrative Assistant
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Via email: iporter@nunavutwaterboard.org

RE: 2BE-CRA1015 Crater Lake 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*.

North Country Gold Corp. (NCG) is applying to the NWB to amend water license 2BE-CRA1015 to allow for proposed changes to the 2011-2016 exploration program for their Committee Bay Project. Proposed activities include: up to seven diamond drills and two RC drills operating concurrently; increasing total water usage from 214 to 295 m^3/day; the upgrade of Hayes camp, including a new water treatment plant and increased capacity to 100 persons; the upgrade of the current esker airstrip to 3000'; the building of a new all weather road from Hayes Camp to the Three Bluffs exploration area; and the installation of a 30' clear span bridge.

Upon review of the application, 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 NCG, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of NCG's project representatives (including contractors) conducting operations in the field. EC recommends that all field operations staff be made aware of NCG's commitments to these mitigation measures and provided with appropriate advice and training on how to implement these measures.
- 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 prior to shipment.

- The proponent states that sewage sludge 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 NCG 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.
- In order to help prevent sedimentation during construction of the bridge, EC recommends that the proponent ensures that silt fences/curtains are installed down gradient of any bridge construction activities. No disturbance of the stream bed or banks of any definable watercourse is permitted; clearing adjacent to streams/lakes should be done without disturbing the organic layer.
- 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 backfilled, and re-contoured to match the surrounding landscape when they are no longer required.
- Regardless of the type of drilling conducted, the following conditions will apply:
  - Drilling wastes from land-based drilling should be disposed of in a sump such that they do not enter any body of water.
  - For lake-based winter drilling the proponent may refer to the Interim Guidelines for On-Ice drilling. Return water released to the lake must be non-toxic. Return water release must not result in an increase in total suspended solids in the waters of the lake that exceeds Canadian Council of Ministers of the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
  - Drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated, contained such that they do not enter the water, or are demonstrated to be non-toxic.

Spill Contingency Plan

- Refueling shall not take place below the high water mark of any water body and shall be done in such a manner as to prevent any hydrocarbons from entering any water body frequented by fish.
- In Section 5.3 Emergency Contact List-Spill Reporting and Response, the EC 24-hr pager number should be removed as it is no longer in service.
- EC recommends that the proponent include a provision that drip pans be used when refueling equipment on site in order to help prevent spills from occurring.

Abandonment and Reclamation Plan

- In Section 4 Emergency Contact Information, the EC 24-hr pager number should be removed as it is no longer in service and the contact number should be changed to 867-975-4644.

Quarrying Activities

- The proponent has acquired a Quarry Permit from Indian and Northern Affairs Canada to allow for the taking of approximately 5000 m3 of quarry materials at three borrow sites. This material will serve as the top coat for the airstrip. EC recommends that an undisturbed buffer zone of at least 100 metres be maintained between any quarrying that may occur and the normal high water mark of any water body.
- No disturbance of the stream bed or banks of any definable watercourse is permitted and the proponent shall ensure that silt fences/curtains are installed down gradient of any quarrying activities.
- The Proponent shall ensure that quarry activities do not result in the contamination of groundwater. Excavation and/or removal of material from the quarry should only take place to within one metre of the high water mark above the ground water table.

Wildlife

- Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. The best mitigation measure to ensure compliance is to conduct activities with a risk of disturbing or destroying nests or eggs outside of the migratory bird nesting season. High risk activities include disturbance of large amounts of habitat during the nesting season or conducting activities in areas with large concentrations of nesting birds. In the southern Arctic region of the Northwest Territories and Nunavut, migratory birds may be found incubating eggs from May 14 until July 30, and young birds can be present in the nest until September 12. Other mitigation measures may help reduce the risk of accidental disturbance or destruction of nests or eggs during the nesting season, but will not necessarily completely eliminate the risk. Flushing nesting birds also increases the risk of predation of the eggs or young, or may cause the parent bird to abandon its nest. For project activities conducted during the nesting season such as exploratory drilling, extension of the existing airstrip, extracting materials from borrow pits, and construction of the all weather road and 5000' airstrip, **areas should be checked for nests before work begins** and all crew members should be trained on how to recognize signs that a bird might be nesting in the area. **If an active nest is found, the area should be avoided until nesting is completed** (i.e. the young have left the vicinity of the nest).
  The following setback distances are recommended to protect bird nests from disturbance associated with different project activities:
  The following nest setback distances are recommended to minimize disturbance for different bird groups nesting in tundra habitat (see footnotes for adjustments to setbacks for sensitive species and species at risk):

Species Group	Pedestrians / ATVs (m)	Roads / Construction / Industrial Activities (m)
Songbirds	30	100
Shorebirds	50[a]	100[a]
Terns/Gulls	200[b]	300[b]
Ducks	100	150
Geese	300	500
Swans/Loons/Cranes	500	750

[a] If project activities are within the breeding ranges of American Golden Plover or Ruddy Turnstone, these setbacks should be increased to 150 m and 300 m respectively. If project activities are within the breeding ranges of Black-bellied Plover, Whimbrel or Redknot (SAR), these setbacks should be increased to 300m and 500m respectively. If field crew are trained in the identification of these species then these higher setbacks need only apply to these more sensitive species, and lower setbacks can be used for the remaining shorebird species.

[b] If project activities are in proximity to breeding colonies of Ross's Gull (SAR) or Ivory Gull (SAR) these setbacks should be increased to 500m and 750m respectively

- 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. 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 COSEWSIC). Project impacts could include species disturbance, attraction to operations, and destruction of habitat.

Terrestrial Species at Risk potentially within project area [1]	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility [2]
Peregrine Falcon	Special Concern (*anatum-tundrius* complex[3])	Schedule 3 – Special Concern (*tundrius)*	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 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. Thus, for species within their responsibility, the Territorial Government is best suited to provide detailed advice and information on potential adverse effects, mitigation measures, and monitoring.

  - 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.

- 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 by EC regarding water license 2BE-CRA 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)