Environment Canada Environnement Canada

Environmental Protection Operations
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Re: NWB 2BE-SNN0508 – Renewal – Stornoway Diamond Corp. – Aviat Project

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

EC recommends that the following conditions be applied throughout all phases of the project:

General

1. The proponent shall ensure that any chemicals, fuel or wastes associated with the proposed land use permit application do not enter waters frequented by fish. It is a requirement of Section 36(3) of the ***Fisheries Act*** that all effluent discharged into water frequented by fish, be non-deleterious

Fuel Storage and Use

2. EC recommends that all fuel caches be located a sufficient distance from any water body to prevent any fuel from entering a water body and that all caches are inspected daily. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions.

3. A copy of the spill contingency plan should be posted where crew members have access to it, and at each fuel cache and refuelling station.

4. Secondary containment or surface liner (drip pans, fold a tanks, etc.) should be placed under all containers or vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers. Secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario).

5. The contact numbers in the Spill Contingency Plan for Environment Canada's Nunavut 24-hour Duty Officer should be update to the following:
   - Phone: 867-766-3737
   - Fax: 867-873-8185

Drilling

6. Chemical additives or drilling mud used in connection with this drilling program shall be disposed of such that they do not enter any water body either by surface or ground water flows.

7. Environment Canada would like to remind the proponent that CaCl has been determined to be a toxic substance under the *Canadian Environmental Protection Act*. The proponent shall therefore ensure that if CaCl is used as a drill additive it is disposed of at an approved facility and located in such a manner as to ensure that the contents will not enter any water body.

8. Drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or demonstrated to be non-toxic.

9. For "on-ice" drilling, return water released must be non-toxic, and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100mg/L).

10. Land based drilling should occur a sufficient distance away from the high water mark of any water body, to ensure that no deleterious substances enter any water bodies.

11. Any sumps, including those necessary for the disposal of all drill cuttings and drill water, 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. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape. Sumps should be inspected regularly to ensure there is no erosion or leaching.

12. If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.

Waste Disposal

13. Waste tracking, or "manifesting", should be implemented to ensure proper use, storage, and management of materials. Manifests provide detailed information to first responders in the event of an accident and serve as a tool for confirming that shipments of dangerous or hazardous waste are properly handled, transported, and disposed of.

Wildlife

14. Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. Therefore, Environment Canada recommends that all activities in which there is a risk of disturbing or destroying nests or eggs be conducted outside the migratory bird breeding season, which extends from approximately May 15 to July 31. These dates are approximate, and if active nests (i.e. nests containing eggs or young) are encountered outside of these dates the proponent should avoid the area until nesting is complete (i.e. the young have left the vicinity of the nest).

15. For activities permitted to occur during the breeding season, Environment Canada recommends that the proponent confirm there are no active nests (i.e. nests containing eggs or young) in the vicinity of their operations before activities commence. If active nests of migratory birds are discovered, the proponent should halt all activities in the nesting area until nesting is completed (i.e. the young have left the vicinity of the nest).

16. In order to reduce disturbance to nesting, moulting, and migrating birds, Environment Canada recommends that aircraft used in conducting project activities maintain a flight altitude of at least 650 m during horizontal (point to point) flight unless safety or cloud ceiling do not permit. Environment Canada also recommends that aircraft maintain a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds.

17. Environment Canada recommends that camp waste be made inaccessible to wildlife at all times.

Camp waste can attract predators of migratory birds (e.g., foxes and ravens) to an area if not disposed of properly.

18. 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.

19. 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.

20. Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations (*the *Regulations)*. The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.

21. 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.

    - 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.

22. Once available, please forward the locations of any drill holes.

Environmental Protection Operations (EPO) should be notified of changes in the proposed or permitted activities associated with this application.

Please do not hesitate to contact me at (867) 669-4744 or ron.bujold@ec.gc.ca with any questions or comments.

Yours truly,

Ron Bujold
Environmental Assessment Technician

cc: Carey Ogilvie (Head, Assessment & Monitoring, EPO)
Mike Fournier (Northern Environmental Assessment Coordinator, A&M, EPO)
Jane Fitzgerald (Environmental Assessment Coordinator, EPO)