



Environment Canada Environnement Canada

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Via Email

**RE: NWB2CNA/GA – Stornoway Diamonds Corp. – Central Nunavut
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 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*.

Stornoway Diamonds Corporation is applying for a water licence for water use and waste disposal associated with exploratory diamond drilling and camp operations for their Central Nunavut Project. The lifespan of the requested licence is from the soonest possible date to September of 2007. Mineral exploration activities have been planned which will strive to locate economically viable diamond deposits (project area is on Crown Lands). A small field crew of 3-5 personnel will carry-out field mapping, prospecting, till sampling, and if suitable mineral deposits are identified, diamond drilling will take place.

The proponent's exploration program will be primarily based out of the communities of Arviat and Baker Lake. On occasions when there is a need for fly-by camps, small, portable field tent camps will be established for 3-5 day stretches (it is unlikely that their use will exceed 10% of the exploration project's field time). It is anticipated that five fly-by camps will be used within the latitudes of 93.91°N to 106.06°N and the longitudes of 60.95°W to 65.56°W.

When fly-camps are employed, approximately 50 litres (0.05 m³) of fresh water will be consumed for domestic purposes. Should diamond drilling take place, 15,000 litres (15 m³) of fresh water will be consumed each day that the diamond drill operated. All waste water will be directed toward sumps located at least 31 metres from the normal high



water marks of nearby water sources. All sumps will be backfilled upon completion of the field season and contoured to match the surrounding landscape.

The fuel requirements of fly-by camps are as follows:

JET-A fuel for the helicopter – 615 L (3 x 205 L drums)

PROPANE for heating and cooking – 100 lbs (1 tank)

DIESEL – 205 L (1 x 205 L drum)

GASOLINE – 5 gallons (1 plastic jerry can)

Fuel will be stored at a minimum distance of 100 m from nearby water bodies. The proponent's Spill Contingency Plan indicates that the 24 h Spill Line at (867) 920-8130 will be called should a fuel spill occur. This document provides basic response procedures for petroleum product spills on various environmental media (land, water, snow, and ice), a head-office contact number, reporting guidelines, and clean-up practices. Two spill kits will be made available. One is to be kept within the helicopter at (for refueling precautions) and the other will be placed alongside the diamond drill.

Environment Canada requests that the proponent to revise its Spill Contingency Plan. This document should clearly state a chain of command for responding to fuel spills, detailed response procedures for fuel spills on relevant environmental media (i.e., land, muskeg, water, snow, and ice), and a complete listing of spill kit contents.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

GENERAL

- Environment Canada reminds the proponent that all permits and approvals are required prior to the commencement of any work.
- The proponent shall not deposit, nor permit the deposit of any fuel, drill cuttings, 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.

DRILLING

- EC would like to inform the proponent that the *Canadian Environmental Protection Act* has recently listed CaCl as a toxic substance. The proponent shall therefore ensure that if CaCl is used as a drill additive, all sumps containing CaCl are properly constructed and located in such a manner as to ensure that the contents will not enter any water body.
- Drilling additives or muds 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 are demonstrated to be non-toxic.



- 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., 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.

CAMPS

- The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.
- EC recommends the use of an approved incinerator for the disposal of combustible camp wastes.
- The proponent shall ensure that any non-combustible waste is disposed of appropriately at an approved facility.

FUEL STORAGE / SPILL CONTINGENCY / HAZARDOUS MATERIALS

- All fuel caches shall be located above the high water mark of any water body. 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.
- The proponent shall ensure that any hazardous materials, including waste oil, receive proper treatment and disposal at an approved facility.
- Drip pans, or other similar preventative measures, shall be used when refueling equipment on site.

MIGRATORY BIRDS

- EC recommends that all activities be conducted outside the migratory bird breeding season, which extends from approximately 1 June to 15 July. 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 nest). Paragraph 6(a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds.
- In order to mitigate potential effects and minimize disturbance, any aircraft used in conducting project activities should maintain a horizontal distance of 2 km and a vertical distance of 610 m from any observed groups (colonies) of migratory birds.



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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 if you have any questions or comments with regards to the foregoing at (867) 975-4631 or by email via david.abernethy@ec.gc.ca.

Regards,

David W. Abernethy
Environmental Assessment Technician