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9 February 2012

EC file: 4105 006 310
NIRB file: 12DA002

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Nunavut Impact Review Board
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Via email: info@nirb.ca

RE: Notice of Part 4 Screening for Biogenie's "FOX-3, Dewar Lakes – Site Demobilization" project proposal

Environment Canada (EC) has reviewed the information regarding the above-mentioned project proposal, as submitted to the Nunavut Impact Review Board (NIRB). The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act 1999*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Biogenie, a division of EnGlobe Corp. is proposing to complete a demobilization program at the remediated FOX-3 Dewar Lakes DEW Line site, located approximately 300 km from Qikiqtarjuaq. Program activities are proposed to occur between approximately 15 February and 31 May 2012 and include the transport of a 25-person crew between the FOX-3 site and Kangok Fjord via aircraft and snowmobiles; the installation of a temporary camp at Kangok Fjord; the use of existing camp facilities at FOX-3 site; the installation of one temporary survival trailer halfway between the FOX-3 site and Kangok Fjord; the use of snowmobiles to evaluate an overland route between the FOX-3 site and Kangok Fjord; the transport of equipment, camp and containerized contaminated soils from the FOX-3 site to Kangok Fjord via track tractors and bulldozers; the storage of demobilized material and waste generated during the project at a staging area in Kangok Fjord and sealifting the material to an approval disposal site in the South; and using a total of 200 000 L of diesel fuel and 4 000 L of gasoline for the project.

Based on a review of the project proposal, EC provides the following comments for the NIRB'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.
- In the project description, it's noted that 200 000 L of diesel and 4 000 L of gasoline will be needed to complete the remediation work. EC encourages the proponent, as a best practice,

to implement an anti-idling policy on-site to conserve fuel and reduce greenhouse gas and criteria air contaminant emissions associated with combustion of these fuels.

Waste Disposal

- The burning of waste products releases numerous contaminants to the air, many of them persistent, bio-accumulative and toxic (e.g. polycyclic aromatic hydrocarbons - PAH's - heavy metals, chlorinated organics – dioxins and furans). These contaminants can result in harmful impacts to human and wildlife health through direct inhalation and they can also be deposited to land and water, where they bio-accumulate through food chains affecting wildlife and country foods. Therefore, burning should only be considered after all other alternatives for waste disposal have been explored and the devices used for incineration meet the emission limits established under the CCME Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions. The Government of Canada, the Governments of the Northwest Territories, Nunavut and the Yukon are signatories to these standards and are required to implement them according to their respective jurisdictional responsibilities.
- 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.
- The proponent states that non-combustible and hazardous waste will be shipped off-site for disposal. EC suggests that confirmation and authorization be obtained from the intended community landfill prior to shipment.
- Used absorbent materials oily or greasy rags, and equipment servicing wastes (such as used engine oil, antifreeze, hydraulic oil, lead acid batteries, brake fluid, and other lubricants) should be safely stored and transported in sealed containers (odour-free to prevent animal attraction) and safely transported to a facility that is authorized for the treatment and disposal of industrial hazardous wastes.
- A waste manifest form must accompany all hazardous waste in transit and all parties will be properly registered as per the Environmental Protection Service (EPS) of the Department of Sustainable Development of the Government of Nunavut.

Spill Contingency Plan

- Refuelling 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. EC recommends that drip pans, or other similar preventative measures, should be used when refuelling equipment.
- A spill kit, including shovels, barrels, absorbents, etc. should be readily available at all locations where fuel is being stored or transferred in order to provide immediate response in the event of a spill and should accommodate 110% of the capacity of the largest fuel storage container.
- EC recommends the use of secondary containment, such as self-supporting insta-berms, for storage of all barrelled fuel rather than relying on natural depressions to contain spills.
- 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.
- Spills are to be documented and reported to the NWT/NU 24 hour Spill Line at (867)920-8130. EC recommends that all releases of harmful substances, regardless of quantity, are immediately reported where the release:
 - is near or into a water body;
 - is near or into a designated sensitive environment or sensitive wildlife habitat;

- poses an imminent threat to human health or safety; or,
- poses an imminent threat to a listed species at risk or its critical habitat.

Transportation

- The proponent states that ground transportation will be via equipment travelling over snow-covered trails. EC recommends that travel should only be conducted on frozen, snow packed ground. Transport to sites should cease if early warming occurs, and/or if the program has not been completed by spring. Travel via tracked vehicles on soft ground may disturb the vegetative mat, compact and rut the soils and damage the permafrost areas. Off-road traffic activity should not occur outside of winter months. The duration of transport activity should be kept as short as possible to minimize overall impact.
- In order to lessen the overall footprint of project activities, EC strongly urges the proponent to minimize the width of transportation corridors in association with remediation activity. The creation of trails and camps impact the arctic and subarctic environment: the vegetative mat may be damaged, soils may be compacted and permafrost may melt, resulting in subsidence and erosion.
- The proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.

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 nest).
- EC 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 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 potentially within project area ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Polar Bear	Special Concern	Schedule 1	Government of Nunavut
Wolverine (Western population)	Special Concern	Pending	Government of Nunavut

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

²Environment 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.

- 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 proposed project, EC should be notified, as further review may be necessary. 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,



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Environmental Assessment Coordinator

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