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Department of Environment

Ministère de l'Environnement

Nov. 20, 06

Richard Dwyer
Licensing Trainee
Nunavut Water Board

via Email to: licensingtrainee@nunavutwaterboard.org

RE: NWB FILE# 2BE-MRY 0406 – MARY RIVER PROJECT WATER LICENSE RENEWAL & AMENDMENT APPLICATION

Dear Mr. Dwyer:

The Department of Environment (DOE) has reviewed the water license renewal and amendment application from Baffinland Iron Mines Corporation for conducting an advanced iron ore exploration 160 km north of Pond Inlet, and has the following comments and recommendations.

1. SPILL CONTINGENCY PLAN:

Based on the Government of Nunavut *Spill Contingency Planning and Reporting Regulations* and *Environmental Guideline for Contingency Planning and Spill Reporting in Nunavut*, DOE recommends all fuel storage containers should be situated in a manner that allows easy access and removal of containers in the event of leaks or spills. In addition, large fuel caches in excess of 20 drums should be inspected daily.

2. INCINERATION

The Government of Nunavut is signatory to the Canada-Wide Standard (CWS) for dioxins and furans, and the Canada-Wide Standard to mercury; therefore, we advise the proponent follows recommendations below to ensure compliance with CWS for incineration. The recommendations have been divided based on the size of the camps from small, medium to large camps.

Small Camps (less than 10 people or less than 900 person days/yr)

The proponent shall make determined efforts to achieve compliance with CWSs for dioxins and furans and CWS for mercury. Efforts should include the implementation of a comprehensive waste management strategy (especially waste segregation) that is designed to reduce and control the volumes of wastes produced, transported, and disposed of. The Waste Management Strategy should consider and include:

- Purchasing policies that focus on reduced packaging,
- On-site diversion and segregation programs
- If incineration is required, ensure diligent operation and maintenance of the incineration device and provide appropriate training to the personnel operating and maintaining the incinerator.

Waste wood treated with preservatives such as creosote, pentachlorophenol or heavy metal solutions should not be burned. Additionally, plastics, electrical wire, asbestos and building demolition wastes (except clean wood) are wastes likely to produce dioxins and furans when burned and should be excluded from incineration. Under no circumstance should hazardous wastes be managed through burning or incineration.

Medium Camps (10-50 people or greater than 900 but less than 4410 person days/yr)

The proponent shall apply appropriate technologies to ensure complete combustion of wastes, and the use of a dual chamber, forced-air incinerator is recommended. The proponent shall make determined efforts to achieve compliance with CWSs for dioxins and furans and CWS for Mercury. Efforts should include the implementation of a comprehensive waste management strategy (especially waste segregation) that is designed to reduce and control the volumes of wastes produced, transported, and disposed of. The Waste Management Strategy should consider and include:

- Purchasing policies that focus on reduced packaging,
- On-site diversion and segregation programs (i.e. the separation of non-food waste items suitable for storage and subsequent transport and disposal or recycling).
- If incineration is required, ensure diligent operation and maintenance of the incineration device and provide appropriate training to the personnel operating and maintaining the incinerator.

Waste wood treated with preservatives such as creosote, pentachlorophenol or heavy metal solutions should not be burned. Additionally, plastics, electrical wire, asbestos and building demolition wastes (except clean wood) are wastes likely to produce dioxins and furans when burned and should be excluded from incineration. Under no circumstance should hazardous wastes be managed through burning or incineration. The efforts made to achieve compliance shall be reported to the Nunavut Impact Review Board as part of the annual report.

Large Camps (over 50 people or greater than 4410 person days/yr)
The proponent shall apply appropriate technologies to ensure complete combustion of wastes, and the use of a dual chamber, controlled-air flow incinerator is recommended. Both the Government of Canada and the Government of the Nunavut are signatories to CWSs for dioxins and furans and CWS for mercury, and are required to implement them according to their respective jurisdictional responsibility. Installation of an incineration device capable of meeting the emission limits established under these standards is required. Compliance with the Standards shall be demonstrated with an initial stack test upon commission of the incinerator at site, the results of which shall be submitted to the Nunavut Impact Review Board, Environment Canada, and Government of Nunavut-Department of Environment. During the course of operations, the proponent shall make determined efforts to achieve compliance with CWSs for dioxins and furans and CWS for mercury. Determined efforts shall include but not be limited to appropriate record management, including maintenance reports, operator training logs, and the submission of an annual report that outlines the efforts made to achieve compliance with the Standards.

3. HAZARDOUS WASTE MANAGEMENT

The DOE, Environmental Protection Service (EPS) monitors the movement of hazardous wastes, from generators, carriers to receivers, through a tracking document (Waste Manifest). A Waste Manifest must accompany all movements, and all parties must register with the EPS. There is no mention of this procedure in the spill plan.

4. ABANDONMENT & RESTORATION PLAN

Based on the DOE's *Environmental Guideline for Site Remediation,* drill holes should be backfilled or capped at the end of project, and be contoured to match the surrounding landscape to allow natural re-vegetation. The sumps should only be used for inert drilling fluids, not any other materials or substances. There was no mention of this procedure in the license application.

5. WILDLIFE

Raptor Nesting Areas
This operation area is abundant in raptors, and it is important not to disturb nesting raptors from 15 April to 1 September by staying at least 1.5 km away from them when in transit by aircraft, and to avoid approaching them closely while on foot.

The following is a list of general precautions that must be considered when conducting prospecting activities near Peregrine Falcon, Gyrfalcon, and other raptor nests (most of these precautions will also apply to all nesting bird species):
1) Disturbance is most harmful early in the nesting period (May and June for Peregrine Falcon and Gyrfalcon, similar for Rough-legged Hawk):
Raptors will attempt to maximize their chances of successfully raising young. If they decide early in the breeding period that their nest is at risk, they may abandon it. If nests are disturbed at this stage of nesting, there may not be sufficient time to renest. All disturbances to nests during the early part of the nesting cycle must be avoided (avoid nest sites from late May through to mid-July).

2) Individuals show variability in their response to disturbance:
Different birds will show different responses to varying levels of disturbance. This may result from the general health of the bird, weather conditions, previous life experiences, and adaptability. Therefore, treat all nest sites with equal precaution, regardless of the response of the bird. Do not disturb raptor nests during conditions of poor weather (rain, snow, high winds).

3) Approaching the nest site near the time of fledgling (where chicks fly away from the nest) often leads to premature nest departure:
During the last few weeks of nesting, severe disturbance at the nest often causes young raptors to jump out of the nest. This can cause death from exposure, predation, starvation, or trauma from the fall itself. All activity within 100m of a nest site during the latter part of the nest stage (10-20 August for peregrine falcons in this region) must be avoided.

Further details on raptor nests and disturbance mitigation can be obtained from the Wildlife Officer in communities closest to the area of interest, or from the Ecosystems Biologist (Michael Setterington, (867) 857-2828).

Caribou Protection
The operation is in an area where caribou have been observed, and DOE recommends the following protection measures are followed:

1.(a) The proponent is recommended not to conduct any activity between May 15 and July 15 within the North Baffin region.

(b) A proponent may operate within the North Baffin region beyond the May 15 deadline set out in 1(a), provided that when caribou cows are approaching the area of operation, the proponent will implement 1(c).

(c) During the period of May 15 to July 15, the proponent will suspend all operations, particularly blasting, low-altitude overflights greater than 650 m, and the use of snowmobiles and ATV's (all-terrain vehicles) outside the immediate vicinity of the camp, and all personnel will remain quietly in camp or, upon advice from the Conservation Officers (Government of Nunavut) and Land Managers (Qikiqtani Inuit Association), the proponent will remove all personnel from the site who are not required for the maintenance and protection of the camp facilities and equipment.

(d) The proponent may resume activities prior to July 15 if the caribou cows have ceased to use the area for calving or post-calving.

2. (a) During migration of caribou, the proponent shall not locate and operate so as to block or cause substantial diversion to migrating caribou.

(b) The proponent shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating

caribou have passed.

3. The proponent shall not construct any camp, cache any fuel or conduct blasting within 10 km, or conduct any diamond drilling operation within 5 km, of any “Designated Crossing” as outlined on the map annexed to a Land Use Permit.

Bear-People Conflicts

The operation is in an area where bears may be encountered. Proper food handling and garbage disposal procedures should be followed to reduce the likelihood that bears will be attracted to the operation. Careful planning and attention to details of camp design and maintenance will decrease the attraction of bears to camp.

The applicant should follow procedures outlined in the "Safety in Bear Country Manual", and should contact the Regional Manager of Wildlife or Area Biologist indicated below for information and advice on measures which should be taken to minimize the possibility of bear-people conflicts.

DoE Contacts

Regional Manager, Wildlife
- Seeglook Akeeagok, (867) 975-7800, sakeeagok@gov.nu.ca

Biologist, Baffin Region
- Debbie Jenkins, (867) 899-8876, pondbiologist@qiniq.com

6. OPERATION AND MAINTENANCE

There was a noticeable run-off and erosion from drill sites above Mary River observed by our biologist’s site visit this past summer. The erosion is caused by drill rigs using Calcium Chloride and hot water, and is striping away the surrounding vegetation and changing the local landscape. We recommend that proper drilling practices are carried out to minimize erosion and vegetation disturbance.

In addition, there was also a problem associating with overflow of grey water sumps, and we recommend that the sump is enlarged or that a secondary sump is provided to meet the demand of waste water.

We thank NWB for giving us the opportunity to review and provide comments on the Baffinland water license amendment application. Please contact me if you have any further questions or comments.

Yours sincerely,

Original signed by

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