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Nunavut Regional Office
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Your file - Votre référence
NWB2WHA
Our file - Notre référence
9545-2-2-WHA-G

June 10, 2004

Via e-mail

Phyllis Beaulieu
Licencing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Ms. Beaulieu

Re: Application for Type B Water Licence, Whale Cove Project 62° 00'.0 – 62° 30.'0 N // 092°00.'0 – 094° 30.'0 W.

This appears to be a very low impact proposal which includes the establishment of a small temporary seasonal 10-man field camp. Investigative work will consist of foot traverses – with occasional support by boat and aircraft – and hand sampling of rock and soil. Solid waste is to be back-hauled to Whale Cove, with black and greywater disposed of on site. The reviewer does not have any concerns with regard to this project and therefore has no objections to it proceeding as requested.

Water Consumption

The proponent has estimated a daily water consumption of 75 litres per day for domestic-only purposes. INAC recommends a total allowable consumption of 100 litres per day. The proponent should advise NWB should they anticipate that their consumption will exceed this allowance.

Solid Waste Management

The proponent has indicated that they intend to back-haul their solid wastes to Whale Cove. This is acceptable to INAC Water Resources.

Fuel Storage

While the amounts of fuel to be stored on site are very small (approx 65 gallons of gasoline) standard fuel storage and safety practices, as described in the appended recommendations and guidelines, should be observed.

Spill Plan

The accompanying documents indicate that the proponent intends to store on site, approximately 65 gallons of gasoline in 10 five gallon jericans and 3 five gallon outboard motor fuel tanks. Given this relatively small amount of fuel, the reviewer does not see a need for a full-blown spill contingency plan. Nevertheless, the proponent is strongly advised to familiarize themselves with the basic principles and practices of spill response and spill response planning. They should be prepared to deal with any spills associated with this project; in a timely, effective and efficient manner. The proponent is also advised that, should the magnitude

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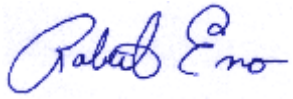
and scope of this project be expanded over the next few years, they will likely be expected to provide a spill contingency plan for review.

The proponent has indicated that they will have a spill kit on site to deal with minor spills during re-fueling of boats. The proponent should describe the contents of this spill kit. The kit should include, in the very least, absorbent material, containers for spilled material and shovels.

Other Comments:

Please refer to the attached Recommendations and Guidelines. The proponent should endeavor to observe these guidelines and recommendations where applicable.



Robert Eno
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Legislative Authority

Indian and Northern Affairs Canada (INAC), Water Resources Division, derives its regulatory mandate from the *DIAND Act,* and the *Nunavut Waters and Nunavut Surface Rights Tribunals Act*. The latter Act essentially forbids the deposition of a waste into Nunavut waters, except under certain regulated terms and conditions dictated (as in a Water Licence) by the Nunavut Water Board. A waste is defined as any substance which, when deposited into the water, will alter its quality to the detriment of fish, animals, humans or plants.

In reviewing land use and other permit applications, INAC Water Resources Division observes, in addition to our own legislation, other pertinent Federal Acts and Regulations such as the *Fisheries Act*, the attendant *Metal Mining Effluent Regulations* and the *Canadian Environmental Protection Act* ("CEPA").

In addition to Federal Acts and Regulations, the Territorial governments in Nunavut and the NWT have adopted a number of very useful regulations and guidelines under their respective Environmental Protection Act (s). The reviewer believes that these Acts, Regulations and in particular, guidelines, are quite helpful in assisting proponents to tailor their projects in such a manner that ensures that they will be in compliance with the overall spirit and intent of the various pieces of environmental legislation that govern development activities in Nunavut. These regulations and guidelines include, but are not restricted to, *Spill Planning and Reporting Regulations*; *Environmental Guideline for the General Management of Hazardous Waste*; *Environmental Guideline for Industrial Projects on Commissioner's Lands*; *Environmental Guideline for Industrial Waste Discharges* and the *Environmental Guideline for Site Remediation*. The reviewer advises the proponent to contact the Government of Nunavut, Department of the Environment for further details.

Spill Contingency Plan

The applicant should have a contingency plan for responding to chemical, petroleum and other spills which might occur during the proposed activity. The Spill Contingency Plan should be a stand-alone document and should contain as a minimum, the following information:

1. The name, address and contact number for the person in charge, management or control of the contaminant (in this case, fuel oil and any other chemicals associated with the program).

2. The name and address and telephone number of the employer.

3. The name, job title and 24 hour contact number for the person or persons responsible for activating the spill plan.

4. A detailed description of the facility, including its geographic location – in UTM coordinates (map sheet number, Eastings and Northings) and geographic coordinates (Lat/Long) – size and storage capacity.

5. A description of the type and amount of contaminants stored on site.

6. Steps taken to report, contain, clean up and dispose of a spill.

7. A site map of sufficiently large scale to show the location of buildings, contaminants storage areas, sensitive areas such as water bodies, probable pathways of contaminant flow and general topography.

8. A description of the spill response training provided to employees who will respond to a spill.

9. An inventory and location of the response and clean up equipment available to the spill clean up team.

10. The means by which the spill plan is activated.

11. The date that the spill plan was prepared.

It should be noted that some of the above information requirements may be waived where they are considered to be unreasonable or unnecessary. This will be determined on a case by case basis.

The Government of the Northwest Territories' Environmental Protection Service developed a very useful set of *Spill Planning and Reporting Guidelines* to complement their *Spill Contingency Planning and Reporting Regulations*; both of which were adopted by the Government of Nunavut in April 1999. Environment Canada also developed their own *Guidelines for the Preparation of Hazardous Material Spill Contingency Plans*. The proponent is advised to obtain copies of these documents as they contain a great deal of useful information that will assist them in developing/updating their spill contingency plan. If the proponent is unable to obtain copies of these documents the reviewer will be pleased to provide, upon request, electronic copies.

Fuel Storage

To prevent spreading in the event of a spill, fuel stored in drums should be located, whenever practical, in a natural depression a minimum distance of 30 meters from all streams, preferably in an area of low permeability. All fuel storage containers should be situated in a manner that allows easy access and inspection as well as removal of containers in the event of leaks or spills. Large fuel caches in excess of 20 drums, should be inspected daily. Additionally, the proponent is strongly advised to keep a written log of the inspections. For long term storage (> 6 months), it is strongly recommended that drummed fuel be stored on pallets to prevent the bottoms from rusting out.

Heating Fuel Tank Installations

All fuel tanks, connectors and associated plumbing should be installed in a manner that meets current acceptable codes for the installation of such appliances. Fuel tanks should be situated on solid platforms, on a stable base, and should inspected on a regular basis for leaks and movement (shifting). Flex connectors, if used, should be installed as per manufacturer's instructions and should be inspected regularly. It should be noted that many spills in Nunavut result from improperly installed heating fuel tanks and especially flex connectors.

Chemical Storage

All chemicals should be stored in a safe and chemically-compatible manner a minimum of 30 meters from all bodies of water. The applicant should be required to remove unused chemicals for reuse or disposal to an approved site using methods approved by the Land Use Inspector. Material safety data sheets (MSDS) should be provided for each chemical and should be posted in a central location; accessible by all camp personnel. Camp personnel should be conversant in the handling of these chemicals as well as be able to deal with any accidents or spills involving that chemical.

Location of Hazardous Materials

Hazardous materials stored on-site should be marked so they will be visible under all conditions, in all seasons. This recommendation is intended to prevent possible injuries to camp personnel and/or damage to the containers. Unless otherwise specified by the land use inspector or licence -issuing agency, all hazardous materials should be removed from the site upon completion of the activity.

Waste Oil/Waste Fuel Disposal

Waste oil and waste fuel should be removed and returned for recycling or destruction when the land use activity is completed. Alternative methods of disposal that provide an equivalent level of environmental protection will be considered on a case-by-case basis.

Used Drums

Used fuel and oil drums should be removed from the site, returned for deposit, or reused.

Contaminated Soil

Soil contaminated by fuel (e.g., soils from under a old storage tanks) can be treated on site, such as by landfarming, incineration or thermal desorbtion; or it should removed to an approved disposal facility and replaced with new soil.

Winter Roads

- Existing winter road routes and trails should be used whenever possible, to avoid unnecessary land clearing and disruption of site hydrology.
- Speed on winter roads should not exceed: 30 km/hr for fully loaded vehicles; 50 km/hour for empty vehicles.
- Trucks should carry at least 10 square meters of polyethylene material (for lining a trench or depression), a spark-proof shovel & oil absorbent blankets or squares.
- Trucks should carry reliable radio and/or satellite phone communications.
- Trucks should carry sufficient response equipment for the safe removal of fuel from an overturned tanker (such as hatch cone covers, hoses etc).
- In general, the proponent should be fully prepared to deal with spills resulting from vehicle accidents along the road in a timely and efficient manner.

Drill Sumps

- The sumps should only be used for inert drilling fluids, not any other materials or substances. All sumps should be constructed of materials that normally exhibit low permeability and in a manner that prevents intrusion of runoff water.
- All drilling waste should be contained in the drill waste sump at a minimum of one (1) metre below the active layer of permafrost. In the event the initial sumps do not consist of low permeability materials, the proponent should construct an offsite sump which fulfills the aforementioned requirements.
- Drilling fluids from the sumps should not be permitted to enter into any waters or onto any land surface where the drilling fluids may enter any waters.
- If during the drilling, an artesian aquifer is encountered producing water flowing at the surface, the proponent should immediately notify the licencing/permitting agency. Samples of the water may be required for analysis.
- 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.

Garbage Disposal

Garbage should be removed from the camp periodically; alternatively, all combustible wastes can be incinerated on site and non-combustibles collected and removed upon termination of the activity. The reviewer is willing to entertain any proposal which provides acceptable levels of environmental protection and meets current best practices.

Incineration

For camps of less than 10 people, an enhanced burn barrel be employed to dispose of the combustible wastes. A burn barrel is essentially a 45-gallon drum or equivalent, with a hole cut into the bottom to facilitate air intake, and is closed at the top with a lid and a chimney for the exhaust. The reviewer does not consider burning wastes in a burn barrel to be true incineration, however, for small camps, this is an acceptable means to deal with combustible wastes. The burn barrel should be operated so that a high temperature burn is maintained at all times. This will promote complete combustion and eliminate pollutant and odour concerns.

For camps of approximately 20 or more people, it is recommended that a properly-designed, commercially-available incinerator be used to manage wastes. Once again maintaining a high temperature burn to reduce wastes and prevent the creation of toxic by-products, is imperative.

For camps of greater than 50 people, it is recommended that a municipal waste incinerator, which produces emissions that meet CCME air quality guidelines, be used to dispose of camp wastes. The manufacturer will specify operating conditions and types of wastes that can be disposed of in the incinerator in order to meet the specified CCME standards. It is recommended that municipal waste incinerators be operated to meet manufacturer specifications.

Kitchen wastes, cardboard, paper products, packaging and untreated wood wastes are suitable for incineration in a burn barrel and an incinerator. Industrial wastes and non combustible wastes should be removed from the camp and disposed of at a designated landfill or other approved facility. Under no circumstance should hazardous wastes be managed through open burning or incineration.

Greywater & Sewage

For small temporary camps, sewage and greywater can be deposited in a sump or pit which must be located at least 30 meters from the high water mark of any water body. Open pits should be regularly treated with lime to avoid attracting animals and for general pest/insect control. Upon cessation of the project, pits and sumps should be treated with lime and in-filled with native soil.

For larger camps, it may be necessary to construct more elaborate sewage and greywater management systems. INAC will address these on a case by case basis. It is strongly recommended that the proponent consult the Department of Health for further recommendations.

The aforementioned recommendations are a brief outline of what the reviewer suggests that a proponent should be implementing to mitigate any damage or alterations to the environment during the course of their proposed activities. In terms of legal compliance, the proponent is referred to the various Federal and Territorial Acts mentioned earlier in this document and which directly or indirectly govern land and water use activities in Nunavut.