

## **APPENDIX C**

### **General Emergency Response and Contingency Plan**

These plans provide a prescribed course of action to be followed in the case of unanticipated events and include:

1. Fuel or chemical spills.
2. Potentially dangerous wildlife encounters.
3. Discovery of heritage resources.

## **1.0 SPILL CONTINGENCY PLANNING**

Spills of petroleum products and other hazardous materials cannot be entirely prevented; however, the impacts can be minimized by establishing a predetermined line of response and action plan. The Government of Nunavut, Department of Environment in the document *A Guide to Spill Contingency Planning & Reporting* identifies the following requirements for spill contingency plans:

- date the contingency plan was prepared;
- name and address of the person in charge, management or control;
- name and address of the owner if different from the person in charge;
- name, job title and 24 hour telephone number for the persons responsible for activating the contingency plan;
- description of the facility including the location, size and storage capacity;
- site map that is intended to illustrate the facility's relationship to other areas that may be affected by the spill;
- description of the type and amount of fuels and chemicals normally stored on site;
- steps to be taken to report, contain, and clean up and dispose of a contaminant in the case of a spill;
- means by which the contingency plan is activated;
- description of the training provided to employees to respond to a spill; and
- an inventory and the location of response and clean up equipment available to implement the plan.

Detailed plans containing all of the above information will be required by the Nunavut Water Board as part of the water license application. These will be subject to review by regulatory agencies. The following points provide an overview of these requirements.

### **1.1 PLAN OBJECTIVE**

The objective of a spill contingency plan is to protect the environment and human health by minimizing the impacts of spill events through clear and concise instructions to all personnel.

## 1.2 SITE CONTACTS

The name and contact information of the person in charge of the site and responsible for activating the spill response will be provided with the final detailed plans. However, the project manager within INAC is:

Mark Yetman  
Contaminated Sites Project Manager,  
Indian and Northern Affairs Canada  
PO Box 2200 Iqaluit NU  
X0A 0H0  
Phone: (867) 975-4733  
Fax: (867) 975-4736  
E-mail: [yetmanm@inac-ainc.gc.ca](mailto:yetmanm@inac-ainc.gc.ca)

## 1.3 HAZARDOUS MATERIALS STORAGE ON-SITE

A variety of fuels (diesel, gasoline and lubricating oils) may be used during the site remediation. Fuels are usually stored in either barrels of 205 liters or smaller capacity, or in double walled tanks. For either storage option it is anticipated that any spill quantity would likely be small. Transportation of fuels must comply with the *Transportation of Dangerous Goods Act* and Regulations. To prevent spreading in the event of a spill, fuel stored in drums will be located, whenever practical, in a natural depression a minimum distance of 90 feet from all streams, preferably in an area of low permeability. All fuel storage containers will be situated in a manner that allows easy access and removal of containers in the event of leaks or spills. A material safety data sheet (MSDS) will be provided for each fuel in a central location to allow for easy access in the event of a spill. Large fuel caches in excess of 20 drums should be inspected daily.

All chemicals stored on site will be stored in a safe and chemically-compatible manner a minimum of 90 feet from all bodies of water. An MSDS should be provided for each chemical and 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 able to deal with any accidents or spills.

Hazardous materials stored on-site should be marked so they will be visible under all conditions, in all seasons. This is intended to help prevent possible injuries to camp personnel and/or damage to the containers.

Site maps showing the location of storage facilities relative to areas potentially impacted by the spills will be provided in the detailed spill plans.

## 1.4 LOCATION OF SPILL KITS

Spill kits will be located at all fuel storage areas once determined. Kits will include a shovel, pick-axe, drums, booms, absorbent pad/sheet, disposable protective gloves/coveralls, and

disposal bags. In addition other equipment commonly used during remediation projects will be available for spill response such as:

- pickup trucks;
- fuel truck;
- excavators;
- bulldozers;
- loaders;
- rock trucks and haul units;
- compaction equipment;
- large spill kits; and
- small spill kits.

Used spill clean-up materials and recovered fuels will be contained in drums and removed off-site to an appropriate disposal facility. Waste manifest documents for transportation and disposal will be obtained from the Government of Nunavut, Department of Environment.

## **1.5 IN THE EVENT OF A SPILL**

The most common pollution incidents would probably involve spills of diesel or gasoline onto land resulting from: human error during transfer, rupture of barrels from deterioration or damage, seepage from fittings or valves, or equipment failure. Daily checking of equipment and preventative maintenance would also identify damage to the fuel system and reduce the risk of spills or leaks.

In the event of a spill, protection of human health and safety is paramount. Contamination of personnel involved in clean up is a real possibility as is contamination of the surrounding workplace and environment. The individual responding to a spill shall:

1. Ensure personnel are appropriately trained.

*All employees working on the Bear Island remediation Project, including contractors and sub-contractors, will be trained in the handling of materials to help prevent and respond to hazardous material spills in a timely and effective manner. All employees on site will also be trained for initial spill response in the event of a spill. The recommended training for these purposes consists initially of the 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) course offered by various environmental firms and the 8-Hour HAZWOPER refresher course every two (2) years thereafter. The training must place special emphasis on spill response in remote arctic locations.*

2. Activate the spill response team.
3. Make use of materials and equipment available for adequate response to fuel spills, such as excavators for creating earthen dykes and hydrocarbon absorbent booms.
4. Warn people in the immediate vicinity of spill occurrence.

5. Wear protective clothing as required for handling spills.
6. Shut of potential ignition sources if safe to do so.
7. Identify the spilled material if possible, and take all safety precautions before approaching it.
8. Stop the spill at source if it is safe to do so.
9. Contain the spill, if safe to do so, by implementing the Spill Response Actions summarized below taken from the INAC *Guidelines for Spill Contingency Planning*.

## **1.6 SPILL RESPONSE ACTIONS**

### *Reporting*

Report the spill to the Spill Report Line (see below) and follow up with a written spill report. This report shall contain the following information.

- date and time of the spill;
- location of the spill and direction the spill may be moving;
- name and phone number of a contact person close to the location of the spill;
- type of contaminant spilled and quantity spilled;
- cause of the spill;
- whether the spill is continuing or has stopped;
- description of the existing containment;
- action taken to contain, recover, clean up and dispose of spilled material;
- name, address and phone number of the person reporting the spill; and
- name of owner or person in charge, management or control of the contaminants at the time of the spill.

Refer to the following attached documents for additional information:

1. Instructions for Completing the NT-NU Spill Report Form.
2. NT-NU Spill Report Form.

### *Containment of Spills on Land*

These types of spills generally occur during late spring, summer and fall. All measures should be taken to avoid spills reaching open water bodies. Dykes can be created using soil surrounding a spill. A plastic tarp should be placed on or at the base of the dyke to pool spilled material for removal with sorbent materials.

Trenches can also be dug provide to contain spills provided the soil is thawed. Trenches should be dug to bedrock or to permafrost which will then provide a containment layer. Spilled material can be removed using a pump or sorbent materials.

### *Containment of Spills on Water (Marine or Freshwater)*

Spills on water are again likely to occur during the warmer months of the year. Booms should be used, released from shore, to contain the spill. A boat may be needed to contain spills away from the shore. Fuel contained within the boom must be recovered using sorbent material or pumps and placed in bags or barrels.

In streams temporary weirs can be considered made from plywood. Fuels will float on the water surface and be retained and water can pass under the weir.

For spills in the sea, immediately mobilize additional containment and clean up equipment in consultation with the Coast Guard, Environment Canada, and Fisheries and Oceans Canada if on-site equipment is inadequate. Close isolation valves to stop fuel flow, if required. Deploy lightweight booms and oil absorbent materials to protect environmental resources along the coastline, as applicable. Track the progress of the spill, if of unknown origin.

### *Containment of Spills on Ice*

Sorbent materials should be used to soak up the spilled materials. Remaining contaminate ice can be scraped and shoveled into plastic bags.

Dykes can be used to retain spills on ice. Surrounding snow can be compacted and molded down slope from the spill. Again, traps can be used to collect the spilled liquid at the base of the dyke and pumped into barrels or collected with sorbent materials.

For large spills where little snow is available for dyke construction, trenches can be cut into the ice down slope and around the spill.

### *Containment of Spills on Snow*

Snow is a natural sorbent and spills can be easily recovered by raking and shoveling contaminated snow into bags or barrels. Again dykes and tarps can be used to contain large spills on snow.

## **1.7 KEY CONTACTS IN THE EVENT OF A SPILL**

In the event of a spill, contact the 24-Hour Spill Report Line and provide all relevant details. A Nunavut/NWT Spill Report (attached) should be filled out and faxed to the spill line: **24-Hour Spill Report Line: (867) 920-8130 Fax: (867) 873-6924**

Environment Canada, as lead agency, shall then be contacted by officials to ensure the appropriate response. The lines are staffed 24 hours a day and can also be used to co-ordinate a response in the event of a non-spill emergency outside of normal working hours.

The **Environment Canada 24-hour pager (867-920-5131)**, operated by Environmental Emergencies Officers should also be contacted.

Other useful contacts are listed in Table 1 below:

**Table C1. Contacts in the Event of a Spill**

Department	Contact	Fax and Phone Number
Nunavut/NWT Spill Line	Nunavut/NWT	867 920-8130(p) 867 873-6924 (f)
Government of Nunavut Department of Environment Environmental Protection Division	Robert Eno Manger Pollution Control Iqaluit Nunavut	867 975-7748 (p) 867 975-5990 (f)
Indian and Northern Affairs Canada – Contaminated Sites Directorate (Project Proponent)	Mark Yetman Contaminated Sites Project Manager, Indian and Northern Affairs Canada PO Box 2200 Iqaluit Nunavut	867 975-4733 (p) 867 975-4736 (f)
Indian and Northern Affairs Canada – Water Division	Kevin Buck Manager of Waters Building 918 Iqaluit Nunavut	867 975-4550 (p) 867 975-4585 (f)
Public Works and Government Services Canada	Lisa Dyer Project Manager PWGSC Yellowknife, NWT	867 766-8337(p) 867 873-5885 (f)
Environment Canada, Enforcement Branch	Curtis Didham, Environment/Emergencies Enforcement Officer, Iqaluit, NT	867 669-4700 (p)
*Canadian Coast Guard Environmental Response	Central and Arctic Region	1 800 265-0237 (p)

\* For Marine spills only.

A contingency plan check-list is attached (Attachment 3).

## 2.0 WILDLIFE ENCOUNTERS

### 2.1 BEAR-PEOPLE CONFLICTS

The RAP is in an area where polar bears may be encountered. The contactor will follow procedures outlined in the *Safety in Bear Country Manual*, and should contact the Regional Manager of Wildlife or Regional Biologist indicated below for information and advice on measures that should be taken to minimize the possibility of bear-people conflicts. Any bear sighting or interaction will be reported as soon as possible to the nearest Conservation Officer or the Regional Wildlife Biologist contacts listed in Table 2.

**Table C2. Contacts for Wildlife Encounters**

Name	Position	Fax and Phone Number
Seeglook Akeegok	Regional Manager	867-979-7800 (p) 867-979-8809 (f)
Kimball Nogier	Conservation Officer (Sanikiluaq)	867-266-8098 (p) 867-266-8095 (f)
Debbie Jenkins	Regional Biologist (Pond Inlet)	867-899-8876 (p) 867-899-8024 (f)

## 2.2 WILDLIFE ENCOUNTER MITIGATION MEASURES

The following measures will be undertaken to avoid problematic wildlife encounters:

- Proper food handling and garbage disposal procedures will be followed to reduce the likelihood that wildlife will be attracted to the operation. Careful planning and attention to details of camp design and maintenance will decrease the attraction wildlife to the camp. The contractor will take every effort to minimize odors that potentially attract carnivores through timely housekeeping.
- Chemicals containing salts, which may attract wildlife to the site, should be stored so that they are inaccessible to wildlife.
- Operators of vehicles and equipment shall make every effort to avoid encounters with large mammals. If wildlife is present in a work area, operation of heavy equipment will be suspended until wildlife has moved away. Vehicles and noisemakers may be used if necessary to frighten the persistent problem bears away from the site.
- The killing of wildlife for any reason at variance with the *Wildlife Act* and regulations is an offence. The contractors will co-ordinate procedures for handling wildlife problems and incidents with the Government of Nunavut -Department of Environment (GN DOE) wildlife office in Iqaluit.
- Bear deterrents (cracker shells, thunder flashes and rubber bullets) will be on site.
- The shooting of problem bears will be considered an absolute last resort and will only be undertaken in consultation with GN DOE or if a bear threatens human safety. Bears will only be shot by a person familiar with and competent with the camp firearm. Wounded or otherwise aggravated bears can be extremely dangerous.
- Contractor staff will report death of a bear or any wildlife to the Field Team Leader and the appropriate wildlife officer who will issue instructions as to the disposal of the carcass, samples to be collected and the formal reporting procedures to be followed.
- Due to the possibility of rabies, any animal that bites a human will be shot and the carcass retained intact pending instructions from the appropriate wildlife officer. If possible, notify the wildlife officer before any drastic action is taken. Seek medical advice from the appropriate medical facility for treatment of animal inflicted wounds.
- Dedicated wildlife monitors should be employed at all times.
- The use of electric fences, especially around sleeping quarters will be considered.

## 3.0 HERITAGE RESOURCES

Archaeological investigations have confirmed the presence of heritage resources/sites on Bear Island. In Nunavut such sites are protected by law. Section 5 of the Nunavut Archeological and Paleontological Site Regulations state that:

*“No person shall excavate, alter or otherwise disturb an archaeological site, or remove an archaeological artifact from an archaeological site, without a Class 2 permit.”*

Consequently, all site personnel are prohibited from knowingly disturbing any archaeological or other heritage site or collecting any artifacts. Removing artifacts is also a criminal offence under Section 3 of these regulations.

In the event of finding any heritage resources including fossils, artifacts, archeological remains the following rules will apply:

- do NOT remove any artifacts or other associated objects from the site unless the integrity of the object/artifact is threatened in any way;
- mark the site's visible boundaries and avoid the area; and
- report the discovery of the site to the Archaeology Division of the Government of Nunavut Department of Culture Language Elders and Youth and the Avataq Cultural Institute to the following contacts:

Julie Ross  
Chief Archeologist  
Box 310, Igloolik,  
Nunavut, X0A 0L0  
Tel 867 934 2040  
Email:jross@gov.nu.ca

Daniele Jendron  
Avataq Cultural Institute  
215 Redfern Street, Suite 400  
Westmount, Quebec H3Z 3LS  
Tel 514 274 1166 ext. 266

Reports of all archaeological finds shall include:

- the identity of the person making the discovery;
- a description of the site location, including topography, landmarks, etc.;
- the nature of the activity resulting in the discovery;
- a description of the archaeological site, including size, features, or visible details, supplemented by sketches or photographs;
- actions currently undertaken to protect the archaeological features; and
- any extenuating circumstances.

### **3.1 Human Remains**

In the event of a discovery of human remains:

- advise the nearest detachment of the RCMP of the discovery. The RCMP will make the decision as to whether the territorial coroner or archaeological department should be contacted;
- halt all activities around the area of discovery. Until determined otherwise, the remains should be treated as evidence in a criminal investigation. If the remains are found in the bucket of heavy equipment, the bucket should not be emptied, as physical evidence may be destroyed;
- secure the area and designate it as out of bounds to all personnel;
- depending on weather conditions, the human remains should be provided with non-intrusive protection such as a cloth or canvas tarp (non-plastic preferred);

- document the discovery; and
- do not resume activities in the vicinity of the find until confirmations and direction from the Department of Culture Language Elders and Youth and Avataq Cultural Institute is received.