ARCTIC WATCH
WILDERNESS LODGE

SPILL CONTINGENCY PLAN

Revised July 2017

Prepared for the Nunavut Water Board, November 2012

Spill Contingency Plan

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Revised July 2017

The Spill Contingency Plan was prepared for Nunavut Water Board.

1.0 Introduction

The following contingency plan presents the prescribed course of action to be taken in the case of unanticipated spill events at Arctic Watch Lodge on Somerset Island, Nunavut. The plan will enable persons in a particular situation to maximize the effectiveness of the environmental protection response and meet all regulatory requirements for reporting to the appropriate authorities.

2.0 Scope and Purpose

This plan applies to all activities and facilities pertaining to the construction and operational activities at Arctic Watch Lodge on Somerset Island.

The purpose of the plan is to:

Provide a clear statement of the procedures to be followed in response to all spills;
Minimize the potential environmental impact of spills by establishing predetermined action plans;
Protect the health and ensure the safety of the personnel involved in the Spill Response activities
Provide a reporting network for spills;
Identify the roles and responsibilities of all parties involved in the Spill Response activities; and,
Identify sufficient personnel, materials, and equipment needed to provide an adequate response to a spill.

3.0 Site Information

It is estimated that the camp operation will require a combined total of approximately 5000 liters of diesel, and 2000 liters of gasoline each year. Only a portion of this amount is present at the camp at any time. Most fuel will be stored in standard 45 gallon drums. Fuel handling is on an impermeable tarpaulin, in a depression. Spill kits will be located at the camp's fuel storage/handling areas. Up to 400 liters (at a time) is stored in a 300 gallon fuel tank on impermeable tarpaulin, in a depression. A fuel containment area is also located on the airstrip on Inuit Owned Land.

Site Map – please refer to Appendix A, Appendix F & Appendix G

3.0 On-site project coordinator: Richard Weber

1. Contact Information: email: mail@arcticwatch.ca Telephone: 819-459-1794
2. Mailing Address: Box 1252 Yellowknife, NT X1A 2N9
3. You can dial our computer directly (Skype) on 802 659 4070 or if you use Skype our name is "arcticwatch". If we do not hear the ring, please leave a message and we will call you back

i.Ø Roles and Responsibilities

- All on site personnel have the potential to be involved in spill response actions in the event of a spill. Their roles and responsibilities are described as follows (and summarized in Figure 1):
- Review proper fuel handling practices and spill response activities with all camp personnel.
- Practice spill prevention by performing regular maintenance on all fuel systems and by using proper methods for handling of fuel products.
- Provide personnel, materials, and equipment necessary for adequate response to fuel spills.
- Establish communications and verbally report all spills to the camp supervisor as soon as practical.
- Isolate and eliminate all ignition sources.
- Ensure safety and security at the spill site.
- Stop or reduce discharge, if it is safe to do so.
- Make every effort to contain the spill by dyking with earth or other barriers on land.
- Assess potential for fuel recovery.
- Use pumps to return spilled fuel to drums.
- Follow all guidelines and regulations for disposal of spilled materials, associated debris, contaminated soil and water as established by appropriate government agencies.
- Assess potential terrain and wildlife disturbance, erosion disturbance in any areas to be affected by clean up operations and contact relevant authorities.
- Document all events/actions.
- Report all spills to the Spill Report Line within 48 hours and follow up with a written spill report . The written report must be completed within 30 days of the spill. This report shall summarize the initial report information; confirmation of spill volume; actions taken; future remediation / monitoring requirements; and a sketch and / or photographs of the spill area.

i.Ø Training and Education:
Hazardous Materials and Risk Management.

At Arctic Watch, we ensure that staff members are educated on the basics about the chemicals in the facility and their risks as follows:

1) Hazardous materials terms and risk management.
2) Educated on personal protective equipment use and importance.
3) Control and containment of hazardous spills.
4) Taught how to recognize a hazardous emergency and who to contact.
5) First Aid Certification for Senior Staff.
6) Taught means of disposal of hazardous waste.

Safety information is kept available for staff reference in case of an emergency. Such as emergency telephone numbers and Material Data Sheets for chemicals.

The workers have been trained for the job of keeping spills from spreading and keeping unauthorized personnel and guests away for any spills.

When hazardous spills happen it is critical that every employee at every level works together during the emergency to make sure that there are no injuries and that the facility is as safe as possible.

7.0 Spill Response

FIGURE 1: Spill Response Team Organization

Camp Supervisor Responsibilities:

- Directs on-site personnel in spill response actions;
- Coordinates clean-up activities;
- Report spills to Spill Response Line;

Other On-Site Personnel Responsibilities

- Assist in spill response activities as directed by the camp supervisor.

Satellite telephone and e-mail are available to on-site personnel to maintain communications with off-site parties. All on-site personnel are provided with two-way radios for all intra-site communications. Table 1 provides all other contact numbers.

Table 1: Spill Contingency Plan - Contact List

Resource	Location	Phone No.
24 Hour Spill Line	NWT/Nunavut	867-920-8130
Environment Canada	Environmental Protection Branch	867-975-4644
Government of Nunavut – Environment Protection	Iqaluit	867-975-7700
Aboriginal Affairs & Northern Development Canada – Land Administration Manager	Nunavut Regional Office	867-975-4544
Department of Fisheries and Oceans	Nunavut Regional Office	867-975-4280
AANDC Manager of Field Operations		867-975-4295
Water Resource Officer	Andrew Keim	867-975-4289
Water Resource Officer - alternate	Jonathan Mesher	867-975-4296
On-Site Coordinator	Richard Weber	819-459-1794

8.0 Reporting Procedures

All spills must be reported with in 48 hours. When reporting a spill to the 24 Hour Spill Report Line and completing the Nunavut Spill Report Form, the following information shall be included:

- 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.

The spill report is to be submitted to the INAC Water Resources Officer no later than 30 days after initially reporting the spill to the spill report line. A copy of the NU Spill Report Form and Instruction sheet are attached to this plan.

9.0 Action Plan

The following substances could potentially be spilled at the NWTD site:

Diesel fuel , Gasoline and Oil

10.0 Spill Response Equipment:

There is a spill kit located in the Generator Shack.

- Spill Kit is packaged in a 20 gallon drum. To make transporting the drum easier, handles are molded all the way around the side of the container.
- Each kit contains 2 rolls of folded sorbent (each 5 inches by 50 feet), 30 pads (each 17 inches by 19 inches), 3 temporary disposal bags and ties, and one 20 gallon white drum.
- Shovels, gloves, and extra plastic garbage bags are located with the spill kit in case of spills.
- There is a large package of extra spill pads also located in the Generator Shack.
- Inventory is conducted at the beginning of each operating season to ensure supplies are on hand in the event of a spill. In the event of a spill where supplies are used, they are they are replenished.
- Emergency response equipment is inspected on a regular basis. Any leaks are repaired immediately.

There is a spill kit located at the fuel depot on the airstrip.

11.0 Initial Action - Measures to address spills

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

The individual discovering a spill shall:

- Warn the people in the immediate vicinity and evacuate if necessary.
- Isolate or remove any ignition sources.
- Identify the spilled material, if possible, and take all safety precautions before approaching it.
- Locate the source of the spill.
- Attempt to stop the leakage and contain the spill, if safe to do so.
- Assess the likely size, extent and condition of the spill.
- Report to the camp supervisor the spill location, type of material, volume and extent, status of spill (direction of movement), and prevailing meteorological conditions.

Once the Camp Supervisor has been contacted and arrives at the spill site, the following actions are to be aken:

- Assess the severity of the spill via direct observation and/or information from communications.
- Deploy equipment and personnel to initiate containment and clean up.
- Prepare the Nunavut Spill Report Form.
- Notify all other pertinent parties, including other government agencies.

At Arctic Watch we do not transport oil, gas or diesel onto water or ice.

12.0 General Procedures

The environmental protection measures outlined in the following sections are to be taken by all workers on-site to reduce the chance of environmental impairment due to a spill, release or other incident. The following general clean up procedures shall apply for all spill areas:

- Wear protective clothing as required for handling spills.
- Contain spills on soil (gravel/gravelly substrate, rock and silty substrate) by construction of earthen dykes using available material. If soil is not available, place sorbent material or a boom in the path of the spill. As the sorbent barrier becomes saturated, continually replace it. Fuel or other liquids lying in pools, trenches or in specially constructed troughs are to be removed with pumps, buckets or skimmers.
- Apply sorbents if necessary.
- Assess potential for disturbance of wildlife and fish by spill or clean up operations and notify the relevant authorities.
- Notify environmental authorities to discuss disposal and clean up options.
- Conduct required clean up operations.
- Assess and appropriately treat any areas disturbed by clean up activities.
- Ensure the site has been completely restored and leave the site only when all work is finalized.
- Disposal of soil/substrate or sorbent materials are bagged and shipped to Resolute for disposal.
- Records of spills and disposal of such to be maintained. (documentation, photos and copy of Nunavut Spill Form.)

13.0 Fuel Storage Areas

In order to prevent spill or accidents at fuel storage areas, the following procedures apply:

- Avoid sites that slope towards waterways or other environmentally sensitive areas, exhibit ponding or flooding, have high groundwater tables, and/or excessive seepage or ice-rich (thaw sensitive) soils.
- Conduct fuelling and equipment lubrication in a manner that avoids spillage. When refueling equipment, operators are to use leak-free containers, reinforced rip and puncture proof hoses and nozzles, and drip trays. Operators are to be in attendance for the duration of the refueling operation and are to ensure that all storage container outlets are properly sealed after use.
- Smoking is prohibited within 7.5 meters of the fuel storage facility.
- Inspect fuel storage facilities at least once each week for the duration of the project

- All barrels shall be individually identified. The label is to be to industry standards and should provide all information necessary for health and safety, and environmental purposes. Conduct regular inspections of all machinery hydraulic, fuel and cooling systems. Repair leaks immediately.
- Pre-assemble and maintain emergency spill response equipment including at least two fuel pumps, empty 200 liter barrels and absorbent materials.
- Remove all used barrels, redundant fuel storage sites and associated materials and equipment from the site.

4.0 Machinery Inspection (Bulldozer)

- Conduct regular inspections of all machinery hydraulic, fuel and cooling systems.
- Repair leaks immediately
- Daily/weekly records of inspection to be charted and kept on file. (At Arctic Watch – crew change is not applicable)

5.0 Potential Safety Hazards

The most significant potential safety hazard related to a fuel spill at Arctic Watch Lodge is the possible soil, gravel substrate and water contamination from the spill. The fuel storage area is located away from waterbodies and watercourses to avoid this hazard. Although soil contamination is a real potential hazard, the likelihood is small and spill volumes are small.

6.0 Equipment Inventory

The following equipment will be onsite at Arctic Watch Lodge.

- ATVs (15)
- Diesel Generator (3)
- Diesel Furnace (8)
- Water Heaters (3)
- Unimog Truck (2)
- Bulldozer JD550 (1)
- Compactor Cat CB-224E (1)

7.0 Prevention Strategies

nstituting preventive maintenance programs to avoid spills resulting from equipment Any installed or onstructed equipment, structure, or mechanism to be monitored and maintained in good repair f there is any possibility of leakage the equipment will be immediately drained until repair can be erformed.

ersonnel to be trained in the operation, maintenance and monitoring of any installed or onstructed equipment, structure or mechanism.

laking available containment structures to prevent spilled material from entering the natural nvironment.

nsuring appropriate material, equipment and personnel are available to monitor and control the novement of pollutants and their potential adverse effects for spills.