# CANADA NICKEL LIMITED

## FUEL SPILL CONTINGENCY PLAN

## FOR THE PETER LAKE PROJECT

## NUNAVUT, CANADA

**May, 2011**

**PREAMBLE:**

This Fuel Spill Contingency Plan applies to exploration programs to be conducted by Canada Nickel Limited in the Rankin Inlet area, Nunavut.

Copies and updates of this Plan may be obtained by writing to:

Glenn Dickson
President
Canada Nickel Limited
1500 – 885 West Georgia Street
Vancouver, B.C.
Canada
V6C 3E8

## 1.0 INTRODUCTION

The purpose of Canada Nickel Corp.'s Fuel Spill Contingency Plan is to provide a plan of action for any spill event during the Company's exploration program in the Rankin Inlet area, Nunavut. This Plan provides the protocols for responding to spills (or potential spills) that minimizes health and safety hazards, environmental damage and clean up costs as well as defining responsibilities of response personnel. This plan is intended to be in effect for the duration of the drilling program which will be during the period of August 15, 2011 to September 30, 2011. Depending on the results of the planned 2011 work an amendment to any permit issued by the NWB may be required at some point in the future. If this occurs then an updated and expanded fuel spill contingency plan will be submitted as part of this amendment which would cover any period after September 30, 2011.

The area of exploration is 40 kilometres west-northwest of Rankin Inlet within NTS maps 55N/1 and 55N/2.

The duration of exploration programs in this region typically extend from March to October. Work could involve mobile skid-mounted drilling in the spring and helicopter supported diamond drilling, mapping, sampling, prospecting and ground geophysical programs during the summer months.

Once the exploration program commences all fuel and hazardous materials will be stored at proposed fuel caches near the area of the drilling activities.

All JET A, gasoline and diesel fuel will be stored in 205 litre steel drums. The locations of these temporary fuel caches are indicated on the enclosed 1:25,000 scale map. Quantities of up to 9 drums of JET A, 19 drums of diesel and 1 drum of gasoline will be located a minimum of 31 metres from normal high water mark and in such a manner that no fuel can enter any such water body. All fuel caches with 205 litre steel drums will have secondary containment in the form of Arctic Insta Berms that are provided by Raymac Environmental Services Inc.

## 2.0 RESPONSE ORGANIZATION

**Project Supervisor** - will be the person in charge of the daily work activities and will be the person responsible for reporting any spill to the 24-Hour Spill Report Line and initiating the clean up. The Project Supervisor will request additional aid from external sources if deemed necessary. The Project Supervisor will be responsible for checking fuel drum conditions and evidence of leakage daily, keeping spill kits and absorbent mats in good repair and accessible.

Project Supervisor – Alan Sexton, P.Geo., M.Sc.
GeoVector Management, 10 Green Street Suite 312
Ottawa Ontario K2J 3Z6, CANADA
Tel: 613-843-8109 Fax: 613-843-8110 mobile: 613-864-3937
Irridium Satellite Phone: 881-651-495-388

24 Hour Emergency Contact for Canada Nickel Limited
Glen Dickson, President & CEO
604-696-9020 (day) ; 778-288-7820 (night) ; 778-288-7820 (mobile)

**Pilots** to report spills or potential spills to the **Project Supervisor**

## 3.0 INITIAL ACTION

1. Stay alert and consider safety first. Identify the source of leak or spill and the type of product.

2. Assess the hazards to persons in the vicinity of the spill.

3. Isolate or remove any potential ignition source.

4. Control danger to human life if possible.

5. Assess whether the spill can be readily stopped or brought under control.

6. If safe (and possible) try to stop the flow.

7. Initiate or resume clean up.

8. Report the spill to the Project Supervisor and to the Yellowknife 24-hour Spill Report Line at (867) 920-8130.

## 4.0 REPORTING PROCEDURE

Communication in the way of two-way radios will be set-up in the event that if a spill occurs at either the drill rig, external fuel cache, or while unloading from an aircraft it can be immediately reported to the Project Supervisor.

All spill kits located at all sources of fuel will have contact information for the Yellowknife Spill Report Line prominently displayed.

A listing of the 24 Hour Spill Report Line as well as other government contacts and company officials will kept in a small notebook that will be stored with the Irridium satellite phone (See Reporting Procedure and Contacts provided below).

**SPILL REPORTING PROCEDURE**

1. Fill, out "SPILL REPORT" form as completely as possible before making the report.
2. Report IMMEDIATELY using the 24-hour Spill Report Line

**24-HOUR SPILL REPORT LINE (867) 920-8130**
**AND TO**
**INAC MANAGER OF FIELD OPERATIONS (NUNAVUT) (867) 975-4295**

NOTE: Telephone calls can be made collect by informing the Operator that you wish to report a spill. RCMP communications may be used if other means are not available.

Additional Information or Assistance:

Environment Canada, Iqaluit
Phone: (867) 975-4644
Fax: (867) 975-4594

GN-Department of Environment
Director of Environmental Protection
Phone: (867) 975-7700
Fax: (867) 975-7739

Department of Fisheries & Oceans
Rankin Inlet
Phone: (867) 645-2871
Fax: (867) 645-2880

Department of Fisheries & Oceans
Nunavut Regional Office
Phone: (867) 979-8000
Fax: (867) 979-8039

Kivalliq Inuit Association
Lands and Resources Officer
Phone: (867) 645-5733
Fax: (867) – 645 - 3855

Nunavut Tunngavik Inc.
Cambridge Bay, NU
Phone: (867) 983-5600
Fax: (867) 983-5624

On Site Project Supervisor
GeoVector Management Inc.
Alan Sexton, P.Geol.
Home (613)-825 -8936
Cell (613)-864-3937
Irridium Sat Phone 881-651-495-388

Canada Nickel Limited
Phone: (604) 696-9020
Glen Dixon, President & CEO
Office (604)-696-9020
Cell (778)-288-7820

RCMP Rankin Inlet (867) – 645 - 1111

A detailed report on each occurrence must also be filed with the DIAND Manager of Field Operations no later than 30 days after initially reporting the event.

## 5.0 ACTION PLAN

In the event of a fuel spill the person noting the spill will immediately contact the project supervisor. The project supervisor will then determine the extent of the spill and implement the appropriate spill response.

The following responses are recommended for fuel spills in differing environments. Depending on the location and size of the exploration program some of the equipment mentioned in the responses listed below will obviously not be located on site but could be transported to the spill if deemed necessary. All spills of oil, fuel or other deleterious material, regardless of size, will be reported to the 24 hour Spill Line (867-920-8130).

*Spills on Land (gravel, rock, soil and vegetation)*

- Trench or ditch to intercept or contain flow of fuel or petroleum products on land where feasible (loose sand, gravel and surface layers of organic materials are amenable to trenching/ditching-trenching in rocky substrates is typically impractical and impossible.)
- Construct a soil berm downslope of the spill. Use of synthetic, impervious sheeting can also be used to act as a barrier.
- Where available, recover spills through manual or mechanical means including shovels, heavy equipment and pumps.
- Absorb petroleum residue with synthetic sorbent pad materials.
- Recover spilled and contaminated material, including soil and vegetation.
- Transport contaminated material to approved disposal or recovery site. Equipment used will depend on the magnitude and location of the spill.

- Land based disposal is only authorized with the approval of government authorities.

*Spills on Snow*

- Trench or ditch to intercept or contain flow of fuel or petroleum products on snow, where feasible (ice, snow, loose sand, gravel and surface layers of organic materials as amenable to trench/ditching; trenching in solid, frozen ground or rocky substrates is typically impractical and impossible).
- Compact snow around the outside perimeter of the spill area.
- Construct a dike or dam out of snow, either manually with shovels or with heavy equipment such a graders and dozers where available.
- If feasible, use synthetic liners to provide an impervious barrier at the spill site.
- Locate the low point of the spill area and clear channels in the snow, directed away from waterways, to allow non-absorbed material to flow into the low point.
- Once collected in the low area, options include shoveling spilled material into containers, picking up with mobile heavy equipment, pumping liquid into tanker trucks or using vacuum truck to pick up material.
- Where safe, disposal can be done through in-situ combustion with approval from government and safety consultants.
- Transport contaminated material to approved disposal site. Equipment used will depend on the magnitude and location of the spill.

*Spills on Ice*

- Contain material spill using methods described above for snow, if feasible and/or mechanical recovery with heavy equipment.
- Prevent fuel/petroleum products from penetrating ice and entering watercourses.
- Remove contaminated material, including snow/ice as soon as possible.
- Containment of fuel/petroleum products under ice surface is difficult given the ice thickness and winter conditions. However, if the materials get under ice, determine area where the fuel/petroleum product is located.
- Drill holes through ice using ice auger to locate fuel/petroleum product.
- Once detected, cut slots in the ice using chain saws and remove ice blocks. Fuel/petroleum products collected in ice slots or holes can be picked up via suction hoses connected to portable pump, vacuum truck or standby tanker. Care should be taken to prevent the end of the suction hose clogging up by snow, ice or debris.
- Fuel/petroleum products that have collected in ice slots may be disposed of by in-situ burning if sufficient holes are drilled in ice. Once all the holes are drilled, the oil which collects in the holes may be ignited. Consult with fire/safety consultants and government authorities to obtain approval.

*Spills on Water*

- Contain spills on open water immediately to restrict the size and extent of the spill.

- Fuel/petroleum products which float on water may be contained through the use of booms, absorbent materials, skimming and the erection of culvers.
- Deploy containment booms to minimize spill area, although effectiveness of booms may be limited by wind, waves and other factors.
- Use sorbent booms to slowly encircle and absorb spilled material. These absorbent are hydrophobic (absorb and repel water).
- Once booms are secured, use skimmers to draw in hydrocarbons and minimal amounts of water. Skimmed material can be pumped through hoses to empty fuel tanks/drums.
- Culverts permit water flow while capturing and collecting fuel along the surface with absorbent materials.
- Chemical methods including dispersants, emulsion - treating agents and shoreline cleaning will be considered.

NOTE:

1. In-situ combustion is a disposal method available for fuels and petroleum products. In-situ burning can be initiated by using a large size portable propane torch (tiger torch) to ignite the fuel/petroleum products. Highly flammable products such as gasoline or alcohol, or combustible material such as wood, may be used to promote ignition of the spilled product. The objective is to raise the temperature for sustained combustion of the spilled product.

   Precautions need to be taken to ensure safety of personnel. Also, spilled product should be confined to control burning. These include area where the spilled material has pooled naturally or been contained via dikes, trenches, depressions or ice slots. Prior to any attempts at in-situ burning, consultation with experts and approval by government authorities are required.

2. Chemical response methods are also available and may include the use of dispersants, Emulsions-treating agents, visco-elastic agents, herding agents, solidifiers, and shoreline cleaning agents.

3. Biological response methods include nutrient enrichment and natural microbe seeding.

4. Site remediation will be completed as per the advice of government authorities.

## 6.0 ENVIRONMENTAL MAPPING

Spill response equipment will be located at the diamond drill and at each fuel cache.

## 7.0 RESOURCE INVENTORY

**Resources available at the drill:**

- Trenching/digging equipment in the form of picks and shovels.
- Absorbent material (pads)
- Pumps
- Impervious sheeting (tarps)
- Plastic bags, buckets, empty drums for collection of contaminated material.

**Resources available from other sources:**

Larger pumps, if necessary: Rankin Inlet, NU
Bobcat/excavator, if necessary: Rankin Inlet NU

Contact: M & T Enterprises Ltd.
Phone: (867) 645-2778

## 8.0 TRAINING/EXERCISE

All contract personnel will be briefed and given a copy of the Fuel Spill Contingency Plan before field operations begin. A mock spill response exercise will be conducted as part of the start-up for the drilling program to ensure response criteria, communication and reporting requirements are met and fully understood.

## 9.0 SPILL KITS

Each spill kit at the diamond drill and each fuel cache will consist of the following:

- 1 – 205 litre, 16 gauge open top drum with bolting ring and gasket
- 1 package of 10 disposable 5 mil polyethylene bags
- 1 shovel
- 4 – 5” x 10” booms
- 10 lb bag of particulate
- 1 bail 17’ x 19’ sorbent sheets (100 sheets per bail)
- 2 PVC oil resistant gloves
- 2 respirators
- 2 pairs of splash protective goggles
- 2 splash protective rain suits

## 10.0 Material Data Sheets (MSDS)

MSDS sheets are attached for Jet A-1, Diesel fuel, unleaded gasoline, motor oil, transmission fluid and propane. These MSDS sheets are for all drilling muds, polymers and greases as well as for diesel, propane and gasoline. The drilling additives are required in the event of poor ground conditions (550X Polymer) and to prevent the drill rods from freezing in the ground while drilling in permafrost (Peladow).

## 11.0 Fuel Inventory

**Fuel Inventory stored at the Peter Lake Project drilling area (starting August, 2011)**

- Maximum 9 drums Jet A-1
- Maximum 19 drums Diesel fuel
- 6 x 100lb propane
- 1 x drum unleaded gasoline
- 6 x 1 litre containers of motor oil
- 2 x 4 litre containers of transmission fluid
- 2 x 20 litre containers of hydraulic oil

Based on the current drilling program it is estimated that 26 drums of Jet A-1 and 60 drums of diesel fuel will be used for this work. The fuel will be flown by helicopter from Rankin Inlet as required with the amounts not exceeding the maximum storage noted above. All empty drums will be flown back to the M & T warehouse / fuel storage complex in Rankin Inlet. It is not possible at this time to estimate the quantities of motor oil, transmission fluid or hydraulic oil that will be used. These amounts will only be available upon completion of the drilling program.

## 12.0 Drilling Additives Inventory

**Drilling Additive Inventory stored at the Peter Lake Project drilling area (starting August, 2011)**

- Maximum 6 x 23 kg bags of 550X Polymer
- Maximum 10 x 23 kg bags of Peladow

It is not possible at this time to estimate the quantities of 550X Polymer or Peladow that will be used because the extent of poor ground conditions the local permafrost conditions are unknown. These amounts will only be available upon completion of the drilling program.