Cambridge Bay Land Treatment Unit
Spill Contingency Plan

Prepared by
Transport Canada

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Cambridge Bay Land Treatment Unit
Spill Contingency Plan

Introduction

This spill contingency plan has been developed based on the Nunavut Water Board License requirements Section H Part 1 – 6 for the Land Treatment Unit (LTU) at the Cambridge Bay Airport, Nunavut. The plan itemizes Section H Part 1in the following narrative. The spill response plan also has been developed based on the following documents and guidelines attached for ease of reference and will accompany the spill response plan as a working document on site at all times:

1) *Environmental Protection Act*, Spill Contingency Planning and Reporting Regulations R-068-93, Government of Northwest Territories, 1990.
2) Contingency Planning and Spill Reporting in Nunavut, A Guide to the New Regulations
3) Guidelines for Spill Contingency Planning, Water Resources Division Indian and Northern Affairs Canada, 2007.
4) NT-NU Spill Report Form

There is no storage of any petroleum products or hazardous materials at this site. The Spill Contingency Plan will focus on heavy equipment working at the site and delivering contaminated soil to the facility or equipment used during tilling/fertilizing and maintaining the site. Heavy equipment may include a backhoe and dump trucks. Heavy equipment operators are required to have their equipment properly maintained without any leaks. No refuelling of equipment is allowed on site. Operators are required to have 1 (one) 50 gallon spill kit with them at all times while on site. Operators will also have the spill plan containing contacts and procedures for emergencies such as hospitals, fire department, police and territorial governmental department; environmental spills **24-hour reporting phone number (867) 920-8130**. Should a release of fuel from the equipment occur, the contractor is required to make use of the 50 gallon spill kit on site. All spills are required to be reported regardless of volume to the Spill Inspector at (867) 975-4295.

1) Project Details

a. Company Details

Transport Canada is applying for a water license to the Nunavut Water Board to operate the LTU at the Cambridge Bay Airport, Nunavut. Contact information is as follows:

Transport Canada
Prairie and Northern Region
Dale Kirkland, Manager Environmental Affairs
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-6046

24-Hour Spill Reporting:	**(867) 920-8130**
INAC's Spill Inspector:	**(867) 975-4295**
GN Airports	**(867) 983-4184**
Fire Department:	**(867) 983-2222**
RCMP Detachment:	**(867) 983-1111**
Ambulance:	**(867) 983-2531**

b. Effective Date of Plan

Effective date for of spill contingency plan is April 1, 2012.

c. Last Revisions to Plan

Last revisions to the spill contingency plan is March 6, 2012

d. Distribution of Plan

Distribution of the plan has been sent to NWB for distribution, review and comments to other federal, territorial governments.

e. Purpose and Scope of Plan

Transport Canada will be constructing a LTU in 2012/13 to remediate soil from the decommissioned Fire Training Area (FTA) and Apron excavation. Approximately 7700m3 of petroleum hydrocarbon contaminated soil will be placed in the LTU from the FTA and approximately 4000m^3 of petroleum hydrocarbon contaminated soil will be placed in the LTU from the Apron. The purpose of this plan is to outline response actions for potential spills of appropriate sizes including worst case scenario. The plan identifies key responsibilities in the event of a spill, as well as equipment and additional options available to respond to a spill. As previously outlined, no fuel storage tanks and hazardous materials are stored on site. No refuelling equipment is allowed on site. The scope of the plan, therefore, addresses the equipment on site potentially releasing fuel. This includes a backhoe and dump truck. The source of potential spills

would result from a piece of equipment leaking or tipping over. A second source of spilling is from contaminated soil spilling over outside the LTU from a dump truck.

f. Environmental Policy

As a Federal Department, Transport Canada must adhere to all federal legislation and territorial requirements.

g. Site Description

Prior to July 1, 1995 Cambridge Bay Airport was owned by the Government of Canada and operated by the Quebec Region of the Department of Transport. From July 1, 1995 until April 1, 1999 the airport was owned by the Government of Northwest Territories (GNWT) and operated by the Arctic Airports Division of the Department of Transportation. Since April 1, 1999 the airport has been owned by the Government of Nunavut and operated by the Nunavut Airports Division of the Nunavut Department of Community Government, Housing and Transportation.

As a condition of the Arctic A Airport transfer agreement (July 1995) between GNWT and Transport Canada (TC), the environmental issues, which existed prior to the airport transfer, are to be remediated as well as any items identified by the GNWT within six years of the transfer date. Works identified under this document address some of the issues identified in the transfer agreement as well as post transfer issues. Transport Canada is obligated to remediate all hazardous substances that are the department's responsibility that do not comply with the applicable environmental laws.

Transport Canada will be constructing a LTU in 2012-13 to remediate soil from the decommissioned Fire Training Area (FTA) and the Apron excavation. The LTU will be located at the Cambridge Bay Airport, located 3km west of the Hamlet of Cambridge Bay 69 degrees 06' 40"N 105 degrees 09' 40"W. The LTU will be located adjacent to the existing Fire Training Area, which is southwest of the northwest end of the runway.

The nearest building is the DND Frontec Building to the east of the Site, the Airport Runway to the north of the Site, and the West Arm of Cambridge Bay is present to the south of the site. The area surrounding the airport is flat lying close to the roadside, with topography then beginning to drop off quite steeply (+/-10 m drop) towards the shoreline and West Arm of Cambridge Bay. The map scale is 1:25,000. Please see **Annex I** for location/contour map.

The LTU is located in a developed area at the Cambridge Bay airport. Therefore, it does not impact communities, traditional use areas (hunting and trapping camps), sensitive areas, parks, game preserves, and resource harvesting areas, fish spawning areas, waterfowl habitat, animal migration routes, beaches, archaeological and historic sites, public or private water supplies.

The construction of the facility will take place over a period of several weeks using an excavator and it will be capable of holding 11,700m3 of hydrocarbon-contaminated soil at a 1.0-meter depth (770m3 from FTA and 4000m3 from Apron). The facility will also be lined with a 30 mil hydrocarbon-resistant geomembrane material. The maintenance will take place once per year consisting of mechanically turn the soil within the cell. Tilling will be completed using an excavator with a toothless bucket. The soil will be turned over, broken up and mixed to maximize bio-degradation. Once the tilling of the soil is completed, twelve (12) composite soil samples will be taken from the LTU measuring 220m X 130m. Water samples from each of the monitoring wells (8) will be submitted to a certified laboratory for analysis **(See Annex I – Engineer Site Drawing)**. Fertilizer will be added to the LTU cell in the appropriate amounts as recommended by the manufacturer to achieve the target ratio for the specific volume of soil in the LTU to speed bio-degradation. The fertilizer used will have a content consisting of a carbon:nitrogen:phosphorus (C:N:P) ratio between 100:10:1 to 100:1:0.5.

h. List of Hazardous Material on Site

No hazardous materials are stored on site.

i. Existing Preventative Measures (Secondary Containment /Fuel Handling)

No hazardous materials are on site and no fuel storage tanks on site. In addition, no refuelling is allowed on site. Therefore, no secondary containment and fuel handling preventative measures are required.

j. Additional Copies – How to Obtain

Several copies of the plan are kept on-site with the contractor and the Transport Canada Project Officer while on site.

Contact Transport Canada at:

Project Officer
Transport Canada
Prairie and Northern Region
Corinne Miller, Contaminated Sites
1100, 9700 Jasper Avenue
Edmonton, Alberta T5J 4E6
(780) 495-3980

k. Process for Staff Response to Media and Public

The process for enquiries is to contact Transport Canada Communications at:

Glyniss Hutchings
Communications
Transport Canada
344 Edmonton Street
Winnipeg, Manitoba
R3C 0P6
(204) 984-2256

2) Action Plan

Potential Spill Size/Impacts/Procedures/Reporting/Restoration

Potential spill sizes would likely not exceed 50 gallons of diesel fuel. This is based on the size of fuel tanks in a dump truck or a rubber tire backhoe. The potential of a piece of equipment tipping over would be the source of the fuel. Should this occur in the LTU the spill would be contained. If the spill occurs outside the LTU, the area would be small due to the limited amount of fuel stored in the equipment.

The procedure for initial action is to ensure the safety of the operator and safe extraction and remove all source of ignition. Once this is complete, the equipment will need to be assessed if fuel is leaking and take appropriate action to prevent and stop all fuel leaking. Once this is completed the spill can be assessed and the spill response kit may be used to absorb any free product. If fuel entered into the soil, this may be removed and placed into the LTU. The contractor on site will be required to enact and respond to the spill. If the spill kit absorbent pad/socks are used, they may be placed back into the spill kit container for later disposal at a licensed facility in Cambridge Bay or shipped outside of Government of Nunavut if required.

The second form of spill may result due to contaminated soil spilled outside the LTU. In the event of a spill of contaminated soil, the soil will be collected and placed into the LTU. In the event of a spill, the following procedures should be considered:

a. First consider and then remove or minimize any hazards to human life, health, safety or the environment.
b. Take necessary steps to initially contain or prevent the spread of the spill.
c. Try to identify and stop the source of the spill or leak.
d. Collect liquids through the use of such equipment as absorbent pads.
e. Immediately, collect and transport any contaminated soil resulting from the spill to the LTU for treatment.
f. Send for help if required.
g. Report the spill to the INAC Spill Inspector and complete the NT-NU Spill Report Form **(See Annex I)**.
h. Complete the collection and disposal of contaminated materials as per direction from the regulatory agencies and applicable regulations.

Spill reporting consists of completing the attached NT-NU Spill Report form and submitting it to Government of Nunavut. Reporting should also consist of contacting the INAC's Manager of Field Operations pursuant to Schedule B of the Spill Contingency Planning and Reporting Regulations at **(867) 975-4295 or by fax at (867) 979-6445**. Spill reporting will be the responsibility of the contractor working on site.

The facility will have monitoring wells to identify if there is any contamination leaking from the facility. The wells will be tested once per year at a minimum. If fuel is identified in a well the following steps will be implemented:

i) Sample the well and identify the contamination from a certified lab
ii) Identify the location where the potential contamination is originating
iii) The likely location will be from the LTU, therefore, limit the search to the area nearest to the monitoring well
iv) Sample soil outside the facility to identify the direction of the source of contamination
v) Inspect the liner for any rips and tears
vi) Remove the contaminate soil from the LTU up gradient from the well. The soil can be placed further back in the LTU or if required place in the adjacent LTU. Inspect the liner for any rips and tears. Continue until the source can be identified. In the event of a tear in the liner, a proper weld/patch will be completed according to the manufacture specifications.
vii) If contaminated soil is identified outside the facility, remove and place into the LTU and backfill the excavation with clean fill material.
viii) Continue to sample monitoring wells 2-3 times per year to ensure the source of contamination has been eliminated

If the sump area is full of water and is required to be removed due to a wet season, the following steps are in place:

i) Test the water to ensure the water may be discharged as per the requirements in the water license issued by NWB.
ii) If the water does not meet the required discharge levels the water will need to be treated with in a oil water separator. The system will operate to treat the water prior to discharge. The water will be treated then sampled and sent to a certified lab to ensure it meets the discharge requirements under the water license. Only if it meets this requirement may it be discharged.
iii) If an oil water separator is not sufficient to treat the water, the water will be pumped into 205L drums and sent to a certified facility to treat the contaminated water.

3) Resource Inventory

A 50-gallon spill kit will be on site at a designated location adjacent to the work area. The 50 – gallon universal sorbent spill kit is an appropriate size due to the volumes of fuel in the equipment. The contents of the spill kit include:

a. 10 socks
b. 100 pads
c. 8 pillows
d. 1 caution tape
e. 2 pairs nitrile gloves
f. 2 pairs safety goggles
g. 2 protective coveralls
h. 10 disposable bags
i. 1 instruction book

In addition, earth moving equipment located at the site may be required to clean the small spill such as:

1) Small backhoe
2) Dump truck

4) Training Program

All individuals entering the site are required to participate in an orientation session. The session includes responding to a spill and the steps involved including proper use of the spill kit, contact information and how to fill out the proper spill report documents. During the session, all locations of the spill plan

and spill kits are provided and a copy of the spill plan will remain with the contractor and operators. All contractors are required to have basic first aid training as well as WHIMS training prior to working on site.

ANNEX I

NT-NU Spill Report
Contour Location Map
Engineer Site Drawing