Generalized Fuel Caching Recommendations to Preventing and Responding to Fuel Spills

***** Disclaimer *****

This Generalized Fuel Caching Recommendations below attempts to address situations for preventing and responding to fuel spills in northern environments.

This is a generalized document and as such it is the responsibility of the principle investigators or designated staff to understand all potential hazards of fuel caching at their particular site(s), preventative actions that should be taken to avoid a spill and appropriate responses to ensure health and safety and minimize environmental damage should a spill occur.

The Polar Continental Shelf Program (PCSP) does not take responsibility for project specific fuel caches; this is the responsibility of the project leader(s). While PCSP is available to help with questions and situations, the sheer number of projects supported by PCSP, combined by the vast distances and remote locations affiliated with Northern Canada does not make it possible for the Polar Continental Shelf Program to feasibly and regularly inspect caches, ensure preventative measures are being used and address any fuel leaks or spills.

It should also be noted that this document is an evolving document that was written to provide outline good practices that should be followed to avoid a spill and respond to a spill. Since all situations are different (e.g. location, volume of spill) this document can not be considered a universal contingency plan. As stated above it is responsibility of the project leader(s) to ensure a contingency plan is in place to address unique aspects of a fuel cache location and project site.

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Introduction

The purpose of these Generalized Fuel Caching recommendations is to provide guidance to prevent and provide guidance on useful management practices to prevent soil and groundwater contamination from barrel caches at NRCan field sites and facilities, as well respond in the event that a spill occurs.

It defines the responsibilities of key response personnel and outlines the protocols for preventing and responding to spills in a way that minimize potential health and safety hazards, environmental damage and clean up costs. The document has been prepared to provide easy access to all the information needed in dealing with a possible spill. It should be noted that this is a generalized document to address small scale common projects that

are affiliated with the PCSP support (e.g. research projects) and deal with common fuel uses (e.g. Jet B fuel, gasoline, diesel, propane). In the event that either a larger scale projects or different hazardous materials are to be used, additional measures may be warranted in addition to the procedures described within this document.

Fuel storage and handling practices are often checked during an inspection by land use agents. Spills and stains are obvious signs of negligence, and projects can be shut down for such violations. It is the responsibility of the project leader(s) or designated staff affiliated with the project to use proper fuel handling procedures and cleanup any spills or environmental degradation on lands being used in fuel caching.

Additionally it is general practice to:

- Comply with existing regulations;
- Provide such protection of the environment as is technically feasible and economically practical;
- Cooperate with other groups and all levels of government working to protect the environment and ensure safety.
- Anticipate future potential hazards affiliated with a cache (e.g. influences of time and the environment on containers and seals, proper placement of caches to minimize environmental degradation, influences on the fuel cache and containers (snow, wind, water etc…)).
- Keep all relevant parties informed.

Preventive Measures

While response plans are necessary in the event a fuel spill occurs, all involved with fuel handling and storage should strive to take all necessary feasible precautions to ensure fuel spills do not occur. To minimize the risk of a fuel spill many preventative measures and standard operating procedures should be implemented. Some key preventive measures include:

- Following federal and territorial requirements affiliated with storing fuel based on amounts and locations. Some relevant documents for fuel caching in the north are:
    - Territorial Land Use Regulations (Appendix A)
    - Fuel Caching Protocol for National Parks (Appendix B)
    - Recommended Best Practices for the Storage and Handling of Petroleum and Allied Petroleum on Federal Crown Lands in Nunavut (Appendix C)
    - Spill Contingency Planning and Reporting Regulations (Appendix D)
    - Contingency Planning and Spill Reporting in Nunavut (Appendix E)

- All fuel will be stored and transported in approved sealed containers.
- No fuel storage containers will be placed within 30m of the ordinary high water mark of any water body.
- No fuelling or servicing of equipment will be done within 30m of a water body, except where it is impractical due to the size or use of the equipment (e.g. refuelling a small boat, ski work on sea ice). Any portable fuel storage not in use will be placed a minimum of 30m from the ordinary high water mark of any water body.
- Precautions will be taken in the transportation and handling of fuels to prevent contamination of soil or water.
- Fuel storage areas and equipment will be inspected regularly to detect leaks and overall condition. Leaks will be repaired immediately.
- Fuel spill kits and tools needed to contain a fuel spill will be kept handy at the necessary caches as well on board aircraft that use fuel.
- Those refuelling will be trained on proper fuelling procedures (e.g. uses of drip pans, proper drum storage) and equipment (e.g. hand and electric transfer pumps, filter units, spill kits).

Inventory Tracking

Following departmental policies, research team and sector are responsible for material acquisitions. An inventory of barrels sent to each cache should be recorded, including the following information:

- location of the fuel cache (coordinates);
- number of barrels;
- volume of barrels
- date barrels were sent to final destination;
- date barrels were received and placed in temporary storage;
- fuel grade;
- filling date;
- batch number;
- Workplace Hazardous Materials Information System (WHIMIS) information
- Transportation of dangerous goods information

Each barrel should be tracked from date of purchase to date of disposal for each fuel cache. Under no circumstances should empty or surplus barrels be abandoned at the site. All drums, full and empty, shall remain in the secondary containment unit from delivery date to pick-up for disposal. Empty barrels should be stored separately from the full drums. Bungs should be replaced on the empty barrel and stored according to specifications for full barrels to ensure residual fuel in the barrel is not released to the environment. A management plan should be in place for empty barrels when barrels are purchased.

Drum Storage

When a fuel cache is established, it is assumed that the drums will be stored onsite, with minimal human presence for the majority of the storage time. Therefore, drums should be stored in a manner to minimize possible accidents or leaks. Drums can be stored either upright or on their side.

Upright storage:

Fuel drums should be stored canted or tilted slightly to keep water from covering bungs, or stored with a canvas cover on the top tier. This will minimize water infiltrating the drums, and altering fuel quality. Where ground subsidence or settling is expected to occur, fuel drums should be stored on wooden pallets, or using other means of stabilizing the base.

Horizontal storage:

Fuel drums should be stored on their side, with bungs at the 3 o'clock and 9 o'clock positions, and with bungs seals immersed in fuel. Proper support may also be required beneath the first tier of drums to ensure the drums do not settle into the soil. Also, where drums are stored on their side, blocks or spikes should be used to prevent them from rolling, displacing drums stored in higher tiers.

Labels:

Every drum in the storage area should be labelled or marked, indicating at least the type of fuel stored in the drum, the date of filling, and any health and safety requirements for the fuel in the drum (MSDS label), as well as a contact person identified as the owner of the drum. If barrels are stored outdoors for extended periods of time, laminated or plastic labels may be appropriate. If the marking have deteriorated or are no longer legible, the content of the barrel should be verified, and the integrity of the fuel should be confirmed.

If fuel is stored in several tiers (stacked), vertical stacks should contain only one fuel grade.

If large quantities of water or contaminants enter a drum, the quality of the fuel can be compromised, rendering the fuel useless to its intended use. Maintaining the quality of the fuel decreases ongoing costs of managing stock, and decreases waste.

The storage area should be inspected regularly, as well as before and after barrels are moved. Drums should never be left open or un-bunged. When possible, avoid leaving partly filled fuel drums in the fuel storage area. When this is unavoidable, properly mark the drum as being partly used and current level of fuel in the drum. This will ensure the drum is not improperly identified as a "leaking drum" at a later date, and remaining fuel will be used first when another plane uses fuel from the cache.

If a drum is found to be leaking, the product of the faulty drum should be transferred to an empty drum of the same grade and fill date. The quality of the transferred fuel may have been compromised; therefore, testing the product is required before use. Otherwise, drums are considered single-use only; drums should not be refilled under any other circumstance.

Transferring Fuel

Fuel transfers are often the primary causes of fuel contamination, thus all individuals involved with refuelling should undertake reasonable measures to ensure that fuel transfers are done properly to avoid spills and contamination. To minimize the risks of fuel contamination during a fuelling event all persons should be trained and aware of the following:

- Safe operation of the equipment they use;
- Operation of emergency controls;
- Procedures to be followed in the event of a fuel spill or leak and in response to an emergency condition;

Fuelling Procedures on Land

Some key recommendations should be followed to reduce the risk of a fuel spill including:

- All fuel transfers shall comply with applicable federal and territorial laws, regulations and guidelines;
- Fuel and other petroleum products shall be stored and transferred in such a manner as to prevent all spillage into a watercourse or the surrounding land.
- All products should be closed or sealed immediately after use.
- Containers should be filled to eliminate over filling and provide sufficient space for product expansion.
- Fuel transfers should be conducted using secondary containment (e.g. drip pans for small fuel transfers).
- Fuel transfers should be done using approved equipment.
- All individuals involved with fuelling should be aware of proper fuel handling, and regularly scan the area for evidence of possible leaks or spills.

Fuelling Procedures Near or On Water

Occasionally, fuel transfers away from water are not possible because of the equipment involved (e.g. a boat). In such cases special care should be taken when fuelling near water to avoid leaks and spills into the water where it can rapidly spread. Below is some procedural guidance to minimize the risk of fuel contamination or spills:

- Assess the situation and determine if fuelling must be conducted near water. For example, if a boat has a removable gas tank than it may be safer to move the tank to a more stable location on land.
- Can fuelling be done safely under the current conditions? Often wave action or wind can make fuel transferring difficult because of the movement of vehicle being fuelled. If such conditions exist it should be considered if a fuel transfer can wait until conditions improve.
- When mixed with air, gasoline evaporates quickly. Therefore, use caution when fuelling a boat, because gasoline fumes are heavier than air, they can accumulate in the bottom of the vessel and pose a serious explosion hazard.

In the event that a fuel transfer is necessary, additional guidelines are suggested as well as those mentioned in the 'Fuelling Procedures on Land' section of this document. These additional guidelines include:

- Moor the craft.
- Do not smoke in fuelling area.
- Shut down all engines.
- Ensure that all persons not involved in fuelling the craft are ashore.
- Place fire extinguisher within easy reach.
- While fuelling, ground nozzle against filler pipe to prevent the build up of static electricity.
- Avoid over filling the tank or splashing fuel.
- Close the fuel tank and clean up spillage.
- Replace the tank in the vessel and reconnect the fuel line; the tank should be securely fastened in the vessel, as far from the motor as possible.
- The fuel tank should be kept away from sparks and heat and stowed in a well-ventilated location. Always store fuel in a clearly marked fuel container.

Fuelling Procedures On Ice

Some key recommendations should be followed to reduce the risk of a fuel spill including:

- All fuel transfers shall comply with applicable federal and territorial laws, regulations and guidelines;
- Prior to fuelling assess the situation and determine if fuelling must be conducted on the ice or if it can be done on nearby land.
- Since ice poses the danger of falling or slipping when fuelling potentially causing a spill, appropriate footwear (e.g. boots with good grips) should be used to minimize falling.
- Fuel and other petroleum products shall be stored and transferred in such a manner as to prevent all spillage into a watercourse or the surrounding land.
- All products should be closed or sealed immediately after use.
- Where feasibly appropriate all fuel containers should be removed from the ice to a safer location (e.g. 30m from the high water mark on land).

- Containers should be filled to eliminate over filling and provide sufficient space for product expansion.
- Fuel transfers should be conducted using secondary containment (e.g. drip pans for small fuel transfers).
- Fuel transfers should be done using approved equipment.
- All individuals involved with fuelling should be aware of proper fuel handling, the risks of fuelling on ice, and regularly scan the area for evidence of possible leaks or spills.

Responsible Action

It is the responsibility of the project leader to have in place a readily available copy of a contingency plan and appoint one person (or a team) who can act responsibly to assess the dangers affiliated with a spill and proceed with properly addressing an effort to contain and clean the spill. The spill contingency plan for petroleum products and other hazardous waste must be posted in the camp and at all fuel handling locations. All spill clean-up equipment and material must be maintained in a state of readiness sufficient at all times to contain and clean-up any hazardous material spills.

Initial Action

In the event that a fuel spill has occurred, below is a list of procedures and suggested course of action of the first person on the scene who has detected a problem.

1. Be alert and consider your safety first. If possible, identify the product spilled;
2. Assess the hazards to persons in the vicinity of the spill and alert or take appropriate evacuation measures if needed (e.g. eliminate sources of ignition);
3. If possible, control danger to human life;
4. Assess whether the spill can be readily stopped or brought under control;
5. If safe to do so, and if possible, try to stop the flow of material (e.g. stop fuelling, shut off valve (if present), manoeuvring a leaking drum);
6. Gather information on the status of the situation;
7. Report the spill without delay to the spill response person/team affiliated with the project and ensure that where applicable the government is notified at the same time according to via the 24 Hour Spill Report Line for the appropriate jurisdiction (see Reporting Procedures below);
8. Resume any effective action to contain, clean up, or stop the flow of spilled material.

Reporting Procedures

All spills or potential spills of petroleum products or other hazardous materials over a certain volume must be reported to the 24 hour spill report line to ensure that an

investigation may be undertaken by the appropriate government authority. Consult Spill Contingency Planning and Reporting Regulations (Appendix D) for details on reporting a spill.

To report spills that occurs within Nunavut or the Northwest Territory contact:

Nunavut and NWT 24-hour Spill Report Line
Phone (867) 920 – 8130
Fax (867) 873 – 6924

A spill report form is also to be completed as soon as possible and submitted to the spill line. This form can be found in Appendix F.

To report spills that occurs within the Yukon Territory contact:

Yukon 24-hour Spill Report Line
Phone: 667-7244

Additional Information or Assistance:

Department of the Environment (Nunavut):	(867) 975-5900
Environmental Protection Services (NWT):	(867)-873-7654
Mackenzie Valley Land (NWT):	(867)-669-0506
Environment Canada (Federal):	(867)-669-4710

In preparation of making a report to the appropriate officials, the person who is reporting the spill must have specific information on hand requested by the government. The specific information needed is outlined in the Spill Report Form (Appendix F). While no such form exists for the Yukon Territory, it is strongly suggested that the spill report form be filled out to document the details of the spill when reporting and for your own records.

Response Plans

Below are various procedures to deal with fuel spills in a wide variety of situations. While not all situations apply to projects typically affiliated with PCSP, nonetheless procedural guidance is given in the event that it will hopefully never have to be used.

Fuel Spills on Land

The remote location of some projects and field camps means the feasibility of having access to an exhaustive list of equipment to deal with a fuel spill is not possible, however in the event that a fuel spill occurs, standard equipment should be available to enable the project staff to contain and clean a spill. A list of standard equipment should include:

Protective wear (e.g. hand, eye, foot, etc.)
Basic Hand tools (e.g. shovels, picks, axes, rakes, etc…)
A method to move soil (i.e. wheel barrow, buckets)
A competent fuel drum(s) for transferring any leaking fuel
Absorbent materials (i.e. EnviroMat, Sorb-Sox Blankets, granular absorbent sand, etc…)

Procedure

1) The person who first discovers a fuel spill should follow the procedures set out in the 'Initial Action' section of this document.
2) If the spill is not easily contained and/or cleaned up by the person who first discovers it, then that person will immediately report the incident to the project lead or camp/environmental manager.
3) Together with the project lead or camp/environmental manager, the situation will be reassessed and effective actions will be carried out in order to contain, clean up, and stop the flow of the spillage.

   Such actions may include:
   a) Determining the origin of the spill, if fuel drums have been punctured or are leaking due to unsatisfactory seals, the fuel should be transferred into competent drums and/or seals should be replaced;
   b) Absorbents and/or booms should be placed in order to recover all the free fuel before it is allowed to seep into the surrounding ground and/or caught up within any runoff water that may pass to a nearby water source;
   c) The construction of containment dykes and recovery trenches, using available hand tools to divert and control runoff from the leaking fuel to allow for collection before contamination of waterways;
   d) Continual monitoring of the site to ensure no subsequent or new spills have occurred;
   e) Safe and proper disposal of any materials used during the containment and clean up of spilled fuel (i.e. if the amount of fuel is extensive, possibility using old drums to collect and store the contaminated fuel for use in burn pits, burning or packaging of absorbent materials), and
   f) Continual assessment of soils and waterways within the area in order to determine if further remediation is required.

<u>Fuel Spills on Water</u>

Fuel spills on water are an extreme concern because of the potential for the fuel to spread rapidly therefore it is important to **limit immediately** the extent of spills.

The following is the suggested procedure to be implemented when an incident occurs:

1) The person who first discovers a fuel spill should follow the procedures set out in the 'Initial Action' section of this document.
2) If the spill is small, deploy hydrophobic (water-repellent) absorbent pads on water. Hydrophobic pads readily absorb hydrocarbons. Alternatively, an ultra-dry absorbent designed for use on water- based spills may be deployed.
3) If the spill is larger, ready several empty drums to act as refuge containers for the spill.
4) Deploy containment booms on the water surface to "fence in" the spill area gradually and to prevent it from spreading. Keep in mind those environmental factors such as high winds and wave action can adversely affect attempts at spill cleanup.
5) Absorbent booms then can be deployed to encircle and absorb any hydrocarbon spillage that may have escaped the containment boom.
6) Once a boom has been secured, a skimmer may be brought on-scene to aid in capture of the hydrocarbon; once captured; the product should be moved to the empty fuel drums and held for disposal.
7) As soon as possible either during or after the incident, contact the 24-Hour Spill Line. (This will ensure government agencies are informed and can provide equipment or advice in the containment and/or clean up procedures).
8) If the spill is sufficiently large, and cannot be contained by rapid action of personnel present, contact the appropriate authority who can provide assistance.

Fuel Spills on Snow and Ice

Procedure for Spills on Snow

By its nature, snow is an absorbent, and fuel spilled on snow is collected with relative ease, either by shovel, in the case of small-range spills, or other means in the case of more extensive spills.

1) The person who first discovers a fuel spill should follow the procedures set out in the 'Initial Action' section of this document.
2) Assess the nature of the spill. Necessary equipment might include shovels, plastic tarp(s), and empty drums.
3) Shovel or scrape contaminated snow and deposit in empty refuge drums. If the spill is more extensive, build compacted-snow berms with plastic over top, around the affected area.
4) Either during or immediately after the incident, notify the 24-Hour Spill Line.
5) Receive instructions on the preferred disposal method (e.g. storage in empty drums, incineration or deposit in an appropriately placed area.

Procedures for Spills on Ice

Spills on ice are handled in similar fashion as those on snow. However, as ice presents the added danger of immediate access to water, care must be taken to respond quickly to such spills. Should fuel seep or flow through cracks or breaks in the ice, despite all precautions, assistance should be sought immediately.

1) The person who first discovers a fuel spill should follow the procedures set out in the 'Initial Action' section of this document.
2) Construct a compacted-snow berm around the edge of the spill area.
3) Although hard ice will retard or prevent fuel entry to the receiving waters below, all contaminated snow and ice, as well as objects embedded in the ice (such as gravel) must be scraped from the ice surface and disposed of in an appropriate manner.
4) Contact the 24-Hour Spill Line.
5) Receive instructions on the preferred disposal method (e.g. storage in empty drums, incineration or deposit in an appropriately placed area.

Contacts

Environmental Management System (EMS) Group - Corporate Management Services Sector, Real Property and Environmental Management Division
Fax: (613) 957-9500
E-mail: ems-sge@nrcan.gc.ca

NRCan's Departmental Emergency Operations Centre (DEOC)
(613) 943-0000

Province	**Telephone Numbers**
Newfoundland & Labrador	Canadian Coast Guard Marine Communications and Traffic Services Centre (709) 772-2083 (800) 563-9089 (accessible within province)
Prince Edward Island	Canadian Coast Guard Operations Centre (800) 565-1633
Nova Scotia	Canadian Coast Guard Operations Centre (902) 426-6030 (within the Halifax area) (800) 565-1633
New Brunswick	Canadian Coast Guard Operations Centre (800) 565-1633 Quebec Environment Canada (866) 283-2333
Ministry of the Environment of Quebec	(866) 694-5454
Ontario Ministry of the Environment	Spills Action Centre (416) 325-3000 (800) 268-6060
Manitoba Ministry of the Environment	(204) 944-4888 (call collect outside Winnipeg)
Saskatchewan Ministry of the	(800) 667-7525

Province	Telephone Numbers
Environment	
Alberta Ministry of the Environment	(780) 442-4505 (800) 222-6514 (accessible within province)
Northwest Territories	24 hour Spill Line (867) 920-8130
Nunavut	24 hour Spill Line (867) 920-8130
British Columbia	Environment Canada (604) 666-6100
Yukon Territory	Environment Canada (867) 667-7244

References

NRCan Environmental Management Standard Operating Procedures

- Fuel Handling and Tank Maintenance
  http://wwwint.nrcan.gc.ca/ems-sge/sop/fst_psti_e.htm

- Environmental Emergency Response and Preparedness Plans
  http://wwwint.nrcan.gc.ca/ems-sge/sop/eepr_eerpp_e.htm

Appendix A

Territorial Land Use Regulations

Department of Justice Canada Ministère de la Justice Canada

Canada

Territorial Land Use Regulations (C.R.C., c. 1524)
Enabling Statute: Territorial Lands Act

Regulation current to November 25th, 2009
Attention: See coming into force provision and notes, where applicable.
Table of Contents

Territorial Land Use Regulations

C.R.C., c. 1524

TERRITORIAL LANDS ACT

Territorial Land Use Regulations

TERRITORIAL LAND USE REGULATIONS

1. [Repealed, SOR/2003-126, s. 4]

INTERPRETATION

2. In these Regulations,

“Act” means the *Territorial Lands Act*; (*Loi*)

“Class A Permit” means a permit issued pursuant to section 25; (*permis de catégorie A*)

“Class B Permit” means a permit issued pursuant to section 27; (*permis de catégorie B*)

“crossing” means any bridge, causeway or structure or any embankment, cutting, excavation, land clearing or other works used or intended to be used to enable persons, vehicles or machinery to cross any stream, highway or road; (*passage*)

“district oil and gas conservation engineer” means a conservation engineer appointed pursuant to the *Oil and Gas Production and Conservation Act*; (*ingénieur de district pour la conservation du pétrole et du gaz*)

“Dominion Geodesist” means the Dominion Geodesist and Director of the Geodetic Survey, in the Department of Energy, Mines and Resources; (*géodésien fédéral*)

“engineer” means, with respect to particular lands, the engineer designated by the Minister pursuant to section 4 to serve the area in which the lands are located; (*ingénieur*)

“geophysical survey” means any investigation carried out on the surface of the ground to determine the nature and structure of the subsurface; (*levé géophysique*)

“inspector” means an inspector designated by the Minister pursuant to section 5; (*inspecteur*)

“land use operation” means any work or undertaking on territorial lands that requires a permit; (*exploitation des terres*)

“letter of clearance” means a letter issued by the engineer pursuant to section 37; (*lettre d’acquittement*)

“line” means a route used to give surface access to any land for the purpose of carrying out a geophysical, geological or engineering survey; (*ligne de levé*)

“man-day”, with respect to the use of a campsite, means the use of that campsite by one person for 24 hours; (*jour-homme*)

“Minister” means the Minister of Indian Affairs and Northern Development; (*ministre*)

“monument” means any post, stake, peg, mound, pit, trench or any other object, thing or device used to officially mark the boundary of any surveyed lands, or placed or established for any topographic, geodetic or cadastral purpose; (*borne-signal*)

“permit” means a Class A Permit or a Class B Permit; (*permis*)

“permittee” means the holder of a permit and includes a person engaged in a land use operation or anyone employed by a permittee to conduct a land use operation; (*détenteur de permis*)

“rig release date” means the date on which, in the opinion of a district oil and gas conservation engineer, a well drilled for the purpose of discovering or producing oil and gas has been properly terminated; (*date de renvoi de l’équipe*)

“rock trenching” means any excavation carried out on a mineral claim for the purpose of obtaining geological information; (*forage dans le roc*)

“spud-in” means the initial penetration of the ground for the purpose of drilling an oil or gas well; (*percée*)

“stream” means any lake, river, pond, swamp, marsh, channel, gully, coulee or draw that continuously or intermittently contains water; (*cours d’eau*)

“Surveyor General” means the Surveyor General as defined in the *Canada Lands Surveys Act*; (*arpenteur général*)

“territorial lands” means lands in the Northwest Territories that are vested in the Crown or of which the Government of Canada has power to dispose and that are under the control, management and administration of the Minister. (*terres territoriales*)

SOR/88-169, s. 1; 1998, c. 14, s. 101(F); SOR/2003-126, s. 5.

ESTABLISHMENT OF LAND MANAGEMENT ZONES

3. The Northwest Territories is hereby set apart and appropriated as a land management zone.

SOR/2003-126, s. 6.

DESIGNATION OF ENGINEERS

[SOR/82-217, s. 1]

4. The Minister may designate any officer of the Department of Indian Affairs and Northern Development as an engineer for the purposes of these Regulations.

SOR/82-217, s. 1; SOR/88-169, s. 2.

DESIGNATION OF INSPECTORS

5. The Minister may designate any person as an inspector for the purposes of these Regulations.

EXEMPTION FROM REGULATIONS

6. These Regulations do not apply to

(*a*) anything done by a resident of the Northwest Territories in the normal course of hunting, fishing or trapping;

(*b*) anything done in the course of prospecting, staking or locating a mineral claim unless it requires a use of equipment or material that normally requires a permit;

(*c*) lands whose surface rights have all been disposed of by the Minister; and

(*d*) and (*e*) [Repealed, SOR/2003-126, s. 7]

(*f*) land-use operations in the Mackenzie Valley, as that area is defined in section 2 of the *Mackenzie Valley Resource Management Act*, other than

(i) a land-use operation authorized by a permit issued under these Regulations prior to the coming into force of Part 3 of that Act,

(ii) a land-use operation for which an application for a permit under these Regulations was pending on the coming into force of Part 3 of that Act, and

(iii) a land-use operation in respect of which an application is made under section 156 of that Act.

SOR/88-169, s. 3; SOR/98-430, s. 1; SOR/2003-126, s. 7.

7. No person shall engage in a land use operation except in accordance with these Regulations and the *Northern Inland Waters Act* and regulations made thereunder.

PROHIBITIONS

8. No person shall, without a Class A Permit, carry on any work or undertaking on territorial lands that involves

(*a*) the use, in any 30-day period, of more than 150 kg of explosives;

(*b*) the use, except on a public road or trail maintained wholly or in part by federal funds, of any vehicle that exceeds 10 t net vehicle weight;

(*c*) the use of any power driven machinery for earth drilling purposes whose operating weight, excluding the weight of drill rods or stems, bits, pumps and other ancillary equipment, exceeds 2.5 t;

(*d*) the establishment of any campsite that is to be used for more than 400 man-days;

(*e*) the establishment of any petroleum fuel storage facility exceeding 80 000 *l* capacity or the use of a single container for the storage of petroleum fuel that has a capacity exceeding 4 000 *l*;

(*f*) the use of any self-propelled power driven machine for moving earth or clearing land of vegetation;

(*g*) the use of any stationary power driven machine for hydraulic prospecting, moving earth or clearing land, other than a power saw; or

(*h*) the levelling, grading, clearing, cutting or snowploughing of any line, trail or right-of-way exceeding 1.5 m in width and exceeding 4 ha in area.

9. No person shall, without a Class B Permit, carry on any work or undertaking on territorial lands that involves

(*a*) the use, in any 30-day period, of more than 50 kg but less than 150 kg of explosives;

(*b*) the use, except on a public road or trail maintained wholly or in part by federal funds, of any vehicle that is more than 5 t but less than 10 t net vehicle weight, or the use of any vehicle of any weight that exerts pressure on the ground in excess of 35 k pa;

(*c*) the use of any power driven machinery for earth drilling purposes whose operating weight, excluding the weight of drill rods or stems and bits, pumps and other ancillary equipment, is more than 500 kg but less than 2.5 t;

(*d*) the establishment of any campsite that is to be used by more than two people for more than 100 but less than 400 man-days;

(*e*) the establishment of any petroleum fuel storage facility that has a capacity of more than 4 000 *l* but less than 80 000 *l* or the use of a single container for the storage of petroleum fuel that has a capacity of more than 2 000 *l* but less than 4 000 *l*; or

(*f*) the levelling, grading, clearing, cutting or snowploughing of any line, trail or right-of-way exceeding 1.5 m in width but not exceeding 4 ha in area.

10. No permittee shall, unless expressly authorized in his permit or expressly authorized in writing by an inspector,

(*a*) conduct a land use operation within 30 m of a known monument or a known or suspected archaeological site or burial ground;

(*b*) when excavating territorial land within 100 m of any stream, excavate at a point that is below the normal high water mark of that stream;

(*c*) deposit on the bed of any stream any excavated material; or

(*d*) when placing a fuel or supply cache within 100 m of any stream, place the fuel or supply cache below the normal high water mark of that stream.

SMALL FUEL CACHES

11. Every person who establishes a fuel cache of more than 400 *l* and less than 4 000 *l* on territorial land for which a permit is not required shall, within 30 days of the establishment thereof, notify the engineer in writing, giving details of the cache including the amount and type of fuel, size of containers and method of storage and proposed date of removal of the cache.

SOR/88-169, s. 6(E).

EXCAVATION

12. Subject to the terms and conditions of his permit or the express written authority of an inspector, every permittee shall replace all materials removed by him in the course of excavating, other than rock trenching, and shall level and compact the area of the excavation.

WATER CROSSINGS

13. (1) Subject to the terms and conditions of his permit or the express written authority of an inspector, every permittee shall

(*a*) remove any material or debris deposited in any stream in the course of a land use operation, whether for the purpose of constructing a crossing or otherwise, and

(*b*) restore the channel and bed of the stream to their original alignment and cross-section,

prior to the completion of the land use operation or prior to the commencement of spring break-up, whichever occurs first.

(2) Subsection (1) shall not be deemed to permit any person to deposit any material or debris in a stream contrary to the *Northern Inland Waters Act* or the *Fisheries Act* or any regulations made under those Acts.

CLEARING OF LINES, TRAILS OR RIGHTS-OF-WAY

14. (1) Unless expressly authorized in a permit, no permittee shall

(*a*) clear a new line, trail or right-of-way where there is an existing line, trail or right-of-way that he can use;

(*b*) clear a line, trail or right-of-way wider than 10 m; or

(*c*) while clearing a line, trail or right-of-way, leave leaners or debris in standing timber.

(2) Where, in the opinion of an inspector, serious erosion may result from a land use operation, the permittee shall adopt such measures to control erosion as may be required by the inspector.

MONUMENTS

15. (1) Where a boundary monument is damaged, destroyed, moved or altered in the course of a land use operation, the permittee shall

(*a*) report the fact immediately to the Surveyor General and pay to the Surveyor General the costs of

(i) investigating such damage, destruction, movement or alteration, and

(ii) restoring or re-establishing the monument to its original condition or its original place; or

(*b*) with the prior written consent of the Surveyor General, cause the monument to be restored or re-established at his own expense.

(2) Where a topographic or geodetic monument is damaged, destroyed or altered in the course of a land use operation, the permittee shall

(*a*) report the fact immediately to the Dominion Geodesist, and pay to the Dominion Geodesist the costs described in subparagraphs (1)(*a*)(i) and (ii); or

(*b*) with the prior written consent of the Dominion Geodesist, cause the monument to be restored or re-established at his own expense.

(3) The restoration or re-establishment of a monument pursuant to subsection (1) or (2) shall be carried out in accordance with instructions from the Surveyor General or Dominion Geodesist, as the case may be.

1998, c. 14, s. 101(F).

ARCHAEOLOGICAL SITES

16. Where, in the course of a land use operation, a suspected archaeological site or burial ground is unearthed or otherwise discovered, the permittee shall immediately

(*a*) suspend the land use operation on the site; and

(*b*) notify the engineer or an inspector of the location of the site and the nature of any unearthed materials, structures or artifacts.

SOR/88-169, s. 6(E).

CAMPSITES

17. (1) Subject to the terms and conditions of his permit, every permittee shall dispose of all garbage, waste and debris from any campsite used in connection with a land use operation by removal, burning or burial or by such other method as may be directed by an inspector.

(2) Sanitary sewage produced in connection with land use operations shall be disposed of in accordance with the *Public Health Act*,

R.S.N.W.T. 1988, c. P-12, and any regulations and orders made under that Act. SOR/2003-126, s. 8.

RESTORATION OF PERMIT AREA

18. Subject to the terms and conditions of his permit, every permittee shall, after completion of a land use operation, restore the permit area as nearly as possible to the same condition as it was prior to the commencement of the land use operation.

REMOVAL OF BUILDINGS AND EQUIPMENT

19. (1) Subject to subsections (2) and (3), every permittee shall, on completion of a land use operation, remove all buildings, machinery, equipment, materials and fuel drums or other storage containers used in connection with the land use operation.

(2) A permittee may, with the prior written approval of the engineer, leave on territorial lands such buildings, equipment machinery and materials as the permittee deems may be required for future land use operations or other operations in the area, but any equipment, machinery or materials so left shall be stored in a manner, at a location and for a duration approved by the engineer.

(3) Subject to any applicable mining legislation, a permittee may, without the prior approval of the engineer, leave diamond drill cores at a drill site on territorial lands.

SOR/88-169, s. 6(E).

EMERGENCIES

20. Any person may, in an emergency that threatens life, property or natural environment, carry out such operation as he deems necessary to cope with the emergency, whether or not the operation is carried out in accordance with these Regulations or any permit that he may have and such person shall immediately thereafter send a written report to the engineer describing the duration, nature and extent of the operation.

SOR/88-169, s. 6(E).

ELIGIBILITY FOR A PERMIT

21. In order to be eligible for a permit, a person shall

(*a*) where a right to search for, win or exploit minerals or natural resources is to be exercised by the carrying out of the land use operation authorized by the permit, be

(i) the holder of that right,

(ii) the manager of operations, where there is more than one holder of that right and such holders have entered into an exploration or operating agreement designating one of them as manager of operations, or

(iii) the person who contracts to have the land use operations carried out, where there is more than one holder of that right and they have not entered into an exploration or operating agreement designating one of them as manager of operations;

(*b*) where no right to search for, win or exploit minerals or natural resources is to be exercised by the carrying out of the land use operation authorized by the permit, be the person who contracts to have the land use operation carried out; or

(*c*) in any case not provided for in paragraph (*a*) or (*b*), be the person who is to carry out the land use operation.

APPLICATION FOR A PERMIT

22. (1) Any person who, in accordance with section 21, is eligible for a permit may submit to the engineer, in duplicate, an application for a permit in a form approved by the Minister.

(2) Every permit application submitted pursuant to subsection (1) shall be accompanied by the application fee set out in Schedule I, the land use fee set out in Schedule II and a preliminary plan showing

(*a*) the lands proposed to be used and an estimate of their area; and

(*b*) the approximate location of all

(i) existing lines, trails, rights-of-way and cleared areas proposed to be used in the land use operation,

(ii) new lines, trails, rights-of-way and cleared areas proposed to be used in the land use operation,

(iii) buildings, campsites, air landing strips, air navigation aids, fuel and supply storage sites, waste disposal sites, excavations and other works and places proposed to be constructed or used during the land use operation, and

(iv) bridges, dams, ditches, railroads, highways and roads, transmission lines, pipelines, survey lines and monuments, air landing strips, streams and all other features, structures or works that, in the opinion of the applicant, may be affected by the land use operation.

(3) For the purpose of calculating the land use fee payable where territorial lands are proposed to be used for a line, trail or right-of-way, the width of the line, trail or right-of-way shall, unless otherwise specified by the engineer in the permit, be deemed to be 10 m.

SOR/88-169, s. 6(E); SOR/96-113, s. 1.

23. (1) The engineer may, before issuing a permit,

(*a*) order an inspection of the lands proposed to be used thereunder; and

(*b*) require an applicant for a permit to provide him with such information and data concerning the proposed use of the lands and the physical and biological characteristics thereof as will enable the engineer to evaluate any quantitative and qualitative effects of the proposed land use operation.

(2) Where an inspector makes an inspection pursuant to an order of the engineer under paragraph (1)(*a*), he shall investigate and report to the engineer particulars of

(*a*) the existing biological and physical characteristics of the lands proposed to be used and the surrounding lands;

(*b*) any disturbance that the proposed land use operation may cause on the lands proposed to be used and the surrounding lands and the biological characteristics thereof; and

(*c*) the manner in which the disturbance referred to in paragraph (*b*) may be minimized and controlled.

(3) The engineer may, where he deems it necessary or when requested to do so by an applicant, inform the applicant of the nature of an inspector's report referred to in subsection (2).

SOR/88-169, s. 6(E).

24. Where the engineer receives an application for a Class A Permit that is not made in accordance with these Regulations, he shall, within 10 days thereafter, notify the applicant in writing that his application cannot be accepted and give the reasons therefor.

SOR/88-169, s. 6(E).

25. (1) The engineer shall, within 10 days after receipt of an application for a Class A Permit made in accordance with these Regulations,

(*a*) issue a Class A Permit subject to any terms and conditions he may include therein pursuant to subsection 31(1);

(*b*) notify the applicant that further time is required to issue a permit and give the reasons therefor;

(*c*) notify the applicant in writing that he has ordered further studies or investigations to be made respecting the lands proposed to be used and state the reasons therefor; or

(*d*) refuse to issue a permit and notify the applicant in writing of his refusal and the reasons therefor.

(2) Where the engineer has notified an applicant that further time is required to issue a permit pursuant to paragraph (1)(*b*), he shall, within 42 days after the date of receipt of the application, comply with paragraph (1)(*a*), (*c*) or (*d*).

(3) Where the engineer has notified an applicant that he has ordered further studies or investigations to be made pursuant to paragraph (1)(*c*), he shall, within 12 months after the date of receipt of the application, comply with paragraph (1)(*a*) or (*d*).

SOR/88-169, s. 6(E).

26. Where the engineer receives an application for a Class B Permit that is not made in accordance with these Regulations, he shall, within three days thereafter, notify the applicant in writing that his application cannot be accepted and give the reasons therefor.

SOR/88-169, s. 6(E).

27. The engineer shall, within 10 days after receipt of an application for a Class B Permit made in accordance with these Regulations,

(*a*) issue a Class B Permit subject to any terms and conditions he may include therein pursuant to subsection 31(1); or

(*b*) refuse to issue a permit and notify the applicant in writing of his refusal and the reasons therefor.

SOR/88-169, s. 6(E).

28. The engineer may, where he deems it necessary, notify an applicant in writing that his application for a Class B Permit will be considered as an application for a Class A Permit.

SOR/88-169, s. 6(E).

29. The engineer shall assign a number to each permit that he issues.

SOR/88-169, s. 4.

DISPLAY OF PERMIT

30. Every permittee engaged in a work or an undertaking authorized by a permit shall display

(*a*) an exact copy of the permit, including the conditions thereof, in such manner and at such places as the engineer may require; and

(*b*) the number assigned to the permit on such articles and equipment, in such manner and at such places as the engineer may require.

SOR/88-169, s. 6(E).

TERMS AND CONDITIONS OF PERMITS

31. (1) The engineer may include in any permit terms and conditions respecting

(*a*) the location and the area of territorial lands that may be used;

(*b*) the times at which any work or undertaking may be carried on;

(*c*) the type and size of equipment that may be used in the land use operation;

(*d*) the methods and techniques to be employed by the permittee in carrying out the land use operation;

(*e*) the type, location, capacity and operation of all facilities to be used by the permittee in the land use operation;

(*f*) the methods of controlling or preventing ponding of water, flooding, erosion, slides and subsidences of land;

(*g*) the use, storage, handling and ultimate disposal of any chemical or toxic material to be used in the land use operation;

(*h*) the protection of wildlife and fisheries habitat;

(*i*) the protection of objects and places of recreational, scenic and ecological value;

(*j*) the deposit of security in accordance with section 36;

(*k*) the establishment of petroleum fuel storage facilities;

(*l*) the methods and techniques for debris and brush disposal; and

(*m*) such other matters not inconsistent with these Regulations as the engineer thinks necessary for the protection of the biological or physical characteristics of the land management zone.

(2) The engineer may modify any of the terms or conditions included in a permit on receipt of a written request from the permittee that sets out

(*a*) the terms or conditions in the permit that the permittee wishes modified; and

(*b*) the nature of the modification proposed and the reasons therefor.

(3) Where the engineer receives a written request from a permittee pursuant to subsection (2), he shall notify the permittee of his decision and the reasons therefor within 10 days of receipt of the request.

(4) Every permit shall set out the period for which it is valid and such period shall be based on the estimated dates of commencement and completion as set out by the permittee in his application, but in no case shall a permit be valid for a period exceeding two years.

(5) On receipt of a written request from a permittee for an extension of the duration of his permit, the engineer may extend the duration of the permit subject to such conditions not inconsistent with these Regulations as he thinks fit, for such period, not exceeding one year, as he thinks necessary to enable the permittee to complete the land use operation authorized by the permit.

SOR/88-169, s. 6(E).

REPORTS

32. Every permittee shall submit to the inspector or engineer, in a form and on a date satisfactory to the inspector or engineer, such reports as are requested by the inspector or engineer, in order to ascertain the progress of the land use operation.

SOR/88-169, s. 6(E).

FINAL PLAN

33. (1) Every permittee shall, within 60 days after the completion of a land use operation or the expiry of his permit, whichever occurs first, submit a final plan in duplicate to the engineer showing

(*a*) the lands actually subjected to the land use operation;

(*b*) the location of

(i) lines, trails, rights-of-way and cleared areas that were used by the permittee during the land use operation, specifying those that were cleared by the permittee and those that existed before the land use operation began,

(ii) buildings, campsites, air landing strips, air navigation aids, fuel and supply storage sites, waste disposal sites, excavations and other works and places that were constructed or used by the permittee during the land use operation, and

(iii) bridges, dams, ditches, railroads, highways and roads, transmission lines,

pipelines, survey lines and monuments, air landing strips, streams and all other features, structures or works that were affected by the land use operation; and

(*c*) the calculations of the area of territorial lands used in the operation.

(2) The final plan submitted to the engineer pursuant to subsection (1) shall be

(*a*) certified by the permittee or his agent authorized for the purpose as to the accuracy of

(i) locations, distances and areas, and

(ii) the representation of the land use operation; or

(*b*) drawn from and accompanied by positive prints of vertical aerial photographs or aerial photomosaics showing the lands subjected to the land use operation.

(3) On receipt of a written request from a permittee for an extension of the time for filing a final plan, the engineer may extend the time for filing the final plan by not more than 60 days.

(4) The engineer shall reject the final plan if it does not comply with this section and section 35 and the permittee shall, within three weeks after receipt of written notice from the engineer of rejection of the plan, submit to the engineer another final plan that complies with this section and section 35.

(5) Notwithstanding the expiry of a permit or the submission of a final plan, every permittee remains responsible for his obligations arising under the terms and conditions of the permit or under these Regulations until such time as the engineer issues a letter of clearance for the land use operation.

SOR/88-169, s. 6(E).

DETERMINATION OF LAND USE FEE

34. (1) Within 30 days after the engineer has issued a letter of clearance, the permittee shall calculate the land use fee payable based on the actual area of land used in the operation and the engineer shall,

(*a*) where the land use fee submitted with the application is greater than the fee so calculated, refund the excess to the permittee; or

(*b*) where the land use fee submitted with the application is less than the fee so calculated, demand, by notice in writing to the permittee, payment of the deficiency.

(2) Where an application for a permit is refused, the land use fee submitted with the application shall be refunded to the applicant.

(3) No application fee shall be refunded.

SOR/88-169, s. 6(E).

LAND DIVISION AND PLANS

35. Every preliminary plan or final plan submitted under these Regulations shall

(*a*) be drawn to a scale that clearly shows the lands that the applicant for a permit proposes to use or the permittee has used;

(*b*) show the scale to which the plan is drawn; and

(*c*) show locations

(i) in accordance with sections 5 to 9 of the *Canada Oil and Gas Land Regulations*, or

(ii) by giving the geographic co-ordinates thereof.

SECURITY DEPOSIT

36. (1) In order to ensure that a permittee complies with the terms and conditions of his permit and with these Regulations, the engineer may include in the permit a condition that the permittee deposit with the Minister a security deposit not exceeding $100,000.

(2) Where a permit includes a condition requiring a security deposit, the permittee shall not begin the land use operation until a security deposit has been deposited with the Minister.

(3) A security deposit shall be in the form of

(*a*) a promissory note guaranteed by a chartered bank and payable to the Receiver General;

(*b*) a certified cheque drawn on a chartered bank in Canada and payable to the Receiver General;

(*c*) bearer bonds issued or guaranteed by the Government of Canada; or

(*d*) a combination of the securities described in paragraphs (*a*) to (*c*).

(4) A security deposit shall be returned by the Minister when the engineer has issued a letter of clearance in respect of the land use operation.

(5) Where a permittee has not complied with all the terms and conditions of his permit or with these Regulations and the land use operation of the permittee results in damage to the lands, the Minister may retain the whole of the security deposit or such portion of the security deposit as is required to restore the lands to their former condition.

(6) Where the Minister retains a portion of a security deposit pursuant to subsection (5), the Minister shall return the remainder of the security deposit to the permittee.

(7) Where the whole of a security deposit retained by the Minister pursuant to subsection (5) is insufficient to cover the cost of restoring the lands to their former condition, the deficiency shall be collectable as a debt due to the Crown.

SOR/88-169, ss. 5 and 6(E).

LETTER OF CLEARANCE

37. When the engineer is satisfied that a permittee has complied with all the terms and conditions of his permit and with the provisions of these Regulations, he shall issue a letter of clearance to the permittee.

SOR/88-169, s. 6(E).

DUTIES AND POWERS OF INSPECTORS

38. (1) It shall be a condition of every permit that the permittee shall permit an inspector, at any reasonable time, to enter any place or premises on territorial lands under the permittee's ownership or occupation, other than a private dwelling, and make such inspections as he thinks necessary to determine whether the terms and conditions of the

permit or the provisions of these Regulations are being complied with.

(2) An inspector shall be furnished with a certificate of his appointment as an inspector and on entering any place or premises under subsection (1) shall, if so requested, produce the certificate.

(3) Every person in any place or premises entered by an inspector under subsection (1) shall give the inspector such assistance and furnish him with such information as the inspector may, for the purpose of carrying out his duties under these Regulations, reasonably require.

39. No person shall wilfully obstruct or hinder an inspector in carrying out his duties under these Regulations.

40. No person shall knowingly make a false or misleading statement either orally or in writing to an inspector engaged in carrying out his duties under these Regulations.

SUSPENSION OF A LAND USE OPERATION

41. (1) Where an inspector is of the opinion that a permittee has failed to comply with any term or condition of his permit or any provision of these Regulations, he shall so inform the permittee and, if the default continues, the inspector may give notice to the permittee that if the default is not corrected within the time specified in the notice the inspector may order the suspension of the land use operation or any part thereof.

(2) If a permittee does not correct a default within the time specified in a notice given by an inspector under subsection (1), the inspector may order the permittee to suspend the land use operation or any part thereof and the permittee shall thereupon suspend the land use operation or part thereof until the inspector authorizes the permittee to resume the land use operation.

(3) An inspector shall authorize a permittee to resume a land use operation or part thereof suspended under subsection (2) when the inspector or the engineer is satisfied that the default has been corrected, unless the permit has in the meantime been cancelled pursuant to section 42.

(4) Where a permittee has been informed of a default pursuant to subsection (1) or an order has been made in respect thereof pursuant to subsection (2), the engineer may, if the permittee fails to correct the default, take such action as he deems necessary to correct the default.

(5) The costs of any action taken by the engineer pursuant to subsection (4) may be recovered from the permittee as a debt due to the Crown.

(6) Nothing in this section relieves a permittee from prosecution for any violation of these Regulations.

(7) No order pursuant to subsection (2) shall be made in respect of an oil or gas drilling site between the time of spud-in and the rig release date without the concurrence of the district oil and gas conservation engineer.

SOR/88-169, s. 6(E).

CANCELLATION OF PERMIT

42. (1) Where a land use operation has been suspended pursuant to section 41 and the permittee fails or refuses to correct his default in complying with any terms and conditions of a permit or of any provision of these Regulations, the engineer may cancel the permit.

(2) The cancellation of a permit under subsection (1) shall not relieve the permittee from any obligation arising under the terms and conditions of the permit or under these Regulations, or from complying with any notice, direction or order given by an inspector or by the engineer.

SOR/88-169, s. 6(E).

DISCONTINUANCE OF A LAND USE OPERATION

43. (1) Subject to subsection (2), where a permittee wishes to discontinue a land use operation at any time prior to the date of completion set out in the permit, he shall give notice of discontinuance in writing to the engineer indicating the date upon which he proposes to discontinue the land use operation.

(2) A notice of discontinuance given pursuant to subsection (1) shall be given to the engineer at least 10 days prior to the proposed date of the discontinuance.

(3) On receipt of a notice of discontinuance, the engineer shall amend a copy of the permit accordingly and shall forward the amended copy of the permit to the permittee.

(4) The discontinuance of a land use operation pursuant to this section does not relieve the permittee from any obligations arising under the terms and conditions of the permit or under these Regulations up to the time of discontinuance or from complying with any notice, direction or order given by an inspector or by the engineer.

SOR/88-169, s. 6(E).

ASSIGNMENT

44. (1) On receipt of an application in writing for approval of an assignment of a permit and of the fee set out in Schedule I, the engineer may approve the assignment in whole or in part.

(2) An application for approval of an assignment shall be forwarded to the engineer at least 10 days prior to the proposed effective date of the assignment and shall include the permit number of the assignor, the name and address of the proposed assignee and particulars of the interests or rights of the assignee to be benefited by the assignment of the permit.

SOR/88-169, s. 6(E); SOR/96-113, s. 2.

APPEALS

45. (1) An applicant for a permit or a permittee may, within 30 days after any decision, direction or order made by the engineer or an inspector, appeal therefrom to the Minister.

(2) An appeal referred to in subsection (1) shall be by notice in writing setting forth

(*a*) the decision, direction or order appealed from;

(*b*) the relevant circumstances surrounding the giving of the decision, direction or order; and

(*c*) the grounds of the appeal.

(3) A person appealing to the Minister pursuant to subsection (1) shall provide the Minister with such further particulars with respect to the appeal as the Minister may require.

(4) The Minister may, after receipt of an appeal pursuant to subsection (1), set aside, confirm or vary the decision, direction or order appealed from or may remit it to the engineer for reconsideration with such instructions as the Minister deems proper.

(5) A decision, direction or order appealed from remains in full force and effect pending the decision of the Minister or an officer appointed by him pursuant to subsection (6).

(6) The Minister may authorize a senior officer of the Department of Indian Affairs and Northern Development, other than the engineer, to exercise the Minister's powers in respect of any appeal pursuant to this section.

SOR/88-169, s. 6(E).

NOTICE

46. (1) Any direction, notice or order given to a permittee under these Regulations shall be sufficiently given if sent by registered mail to, or left at, the permittee's address as stated in his application for the permit and shall be deemed to have been given to the permittee on the date it was so mailed or left.

(2) Where a direction, notice or order is given to a permittee other than in writing, it shall forthwith be confirmed in writing.

FEES

47. The fee set out in column II of an item of Schedule I is payable for the service set out in column I of that item.

SOR/96-113, s. 3.

SCHEDULE I

(Sections 22, 44 and 47)

SERVICE FEES

Item	Column I Service	Column II Fee
1.	Permit application	$150
2.	Assignment of permit	50
3.	Copies of documents	1.00 per page

SOR/96-113, s. 4.

SCHEDULE II

(Section 22)

LAND USE FEES

Item	Column I Description	Column II Fee

1.	Where area of lands proposed to be used as shown on the preliminary plan is less than or equal to 2 ha	$50
2.	Where area of lands proposed to be used as shown on the preliminary plan is greater than 2 ha	$50 plus $50/ha for each hectare or portion of a hectare in excess of 2 ha

SOR/96-113, s. 4.

Last updated: 2009-12-14

Appendix B

Fuel Caching Protocol for National Parks

Fuel Caching Protocol for National Parks in the Western Arctic

Western Arctic Field Unit
Parks Canada Agency
Inuvik, Northwest Territories
2007

1.0 Introduction

For many years Parks Canada and its partner agencies have been storing fuel drums at various cache sites located within the national parks of the Western Arctic Field Unit in support of various projects as well as regular and emergency operations. Due to the remoteness of these protected areas, the storage of fuel at caches within the Western Arctic Field Unit is necessary for the continuance of park management programs and operations led by this Agency and our partners. Parks Canada – Western Arctic Field Unit has expended considerable resources over recent years in an effort to clean up fuel caches, orphaned barrels and spills at various sites in the field unit. At present there are no regulations related to the storage of fuel drums in small quantities in wilderness areas. In response, Parks Canada is addressing these issues through the implementation of the current *Fuel Caching Protocol for the National Parks of the Western Arctic (2007)*. The protocol will provide Parks Canada, partner agencies, and aircraft charter operators who provide support with instructions to follow when planning projects and/or operations that require fuel caching on national park lands. It will promote best practices in fuel management such as inventory control, secondary containment, and spill response capacity. This document is intended to be a working document that will grow and evolve over time ensuring the protection of the ecological and cultural integrity of our national parks as well as contributing to the safe use and enjoyment of these national treasures by visitors for generations to come.

2.0 Scope

This document applies to the storage of fuel drums on lands administered by Parks Canada in the Western Arctic Field Unit, and supplements any applicable landowner requirements for fuel stored by the Agency on lands administered under other jurisdictions. The protocol identifies the minimum standards that will be required in order to cache fuel within the following national parks and landmark: Ivvavik National Park, Aulavik National Park, Tuktut Nogait National Park and the Pingo Canadian Landmark (Figure 1).

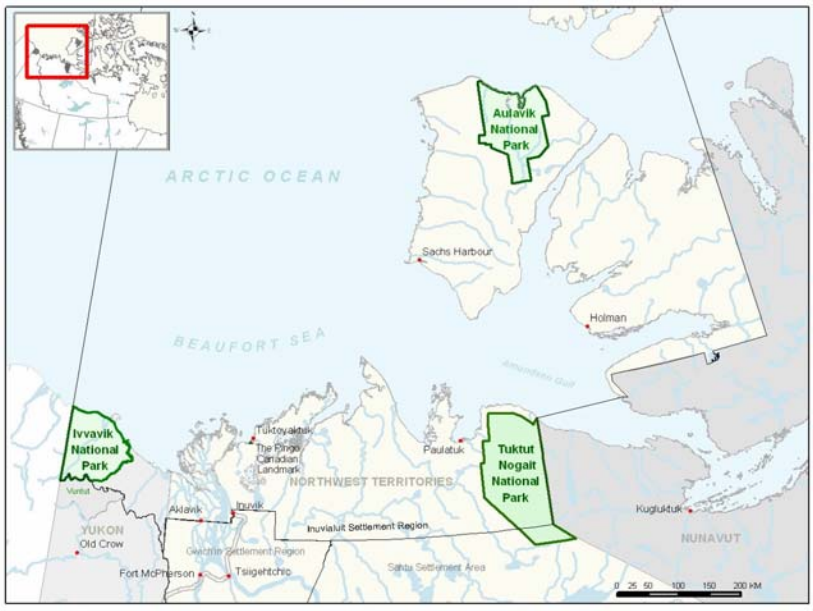

Figure 1. *Regional Map of the National Parks and Landmark in the Western Arctic*

3.0 Goals

- To protect the ecological and cultural integrity of the national parks and landmark in the Western Arctic.
- To support Parks Canada's operational objectives and the operations of management partners.
- To limit visual impairment of the landscape in support of visitor experience.

4.0 Objectives

- To minimize the amount of fuel stored on national park lands for park management and operational needs.
- To improve inventory capacity and control the storage of fuel in the national parks and landmark in the Western Arctic, and prevent the deterioration of drums due to handling, age and corrosion.
- To ensure that equipment is available at all fuel cache sites and clear protocols are in place for fuel containment and spill response.
- To minimize visual impairment and refuse at fuel cache locations.

5.0 Fuel Cache Locations in the National Parks of the Western Arctic

There are four designated fuel cache sites on lands administered by Parks Canada in the Western Arctic Field Unit. Temporary fuel storage at non-designated fuel cache sites will be considered by the Superintendent on a case-by-case basis (Section 7.0). All fuel drums stored in a national park or landmark are subject to the general protocols outlined in this document.

Aulavik National Park of Canada

- ***Green Cabin*** (73° 13′ N / 119° 32′ W)
  The Green Cabin fuel cache is located near the southern park boundary along the Thomsen River. This site also has a cabin and an airstrip.
- ***Polar Bear Cabin*** (74° 08′ N / 119° 59′ W)
  The Polar Bear Cabin fuel cache is located near Nangmagvik Lake. This site also has a cabin and an airstrip situated on the eastern shore of the lake. The Government of Northwest Territories have a Land Use Agreement with Parks Canada for that site. Secondary containment units and fuel should be stored away from the cabin.

Ivvavik National Park of Canada

- ***Komakuk Beach*** (69° 36′ N / 140° 10′ W)
  The Komakuk Beach fuel cache is located along the airstrip adjacent to a Department of National Defence North Warning System facility.
- ***Sheep Creek Station*** (69° 09′ N / 140° 09′ W)
  The Sheep Creek fuel cache is located next to the airstrip at this facility.

Tuktut Nogait National Park of Canada

There are no designated fuel cache sites in Tuktut Nogait National Park.

Pingo Canadian Landmark

There are no designated fuel cache sites in the Pingo Canadian Landmark. The Pingo Canadian Landmark is adjacent to the community of Tuktoyaktuk.

6.0 General Protocols for Fuel Caching

Authorization:

- Written authorization from the Field Unit Superintendent or his/her designate is required before you can cache fuel on lands administered by Parks Canada in the Western Arctic Field Unit. The process for acquiring this authorization is detailed in Section 7.0 of this document.
- Fuel drums must be cached at the designated areas listed in or appended to this protocol, or as authorized by the Field Unit Superintendent. All fuel drums stored in a national park or landmark are subject to the general protocols herein.
- All cached fuel drums must be removed by the end of the period of occupancy indicated on the authorization.

Fuel Drum Delivery:

- Avoid rough handling of fuel drums.
- Delivery of fuel drums will include visual inspection of the bottom and top seam and bung for signs of leakage upon placement at each fuel cache location.
- Delivery of fuel drums will include placement of drums in approved secondary containment.

Fuel Drum Cache:

- All fuel must be stored in new or reconditioned drums that are not damaged, rusted, or leaking.
- All caches must be located at least 100 metres above the high water mark of any water body including ephemeral drainages.
- All drums must bear a Workplace Hazardous Materials Information System (WHMIS) label and product identifier label.
- All fuel drums must be clearly marked with:
  - Type of fuel
  - Responsible department or agency, and
  - Year placed at the cache site

- The permitted period of occupancy for all fuel drums (full, partial, and empty) at fuel cache locations may not exceed **three (3)** years from the date placed at the site.
- Parks Canada provides a spill kit at each designated fuel cache sites (Appendix 1). Please contact the Fuel Cache Coordinator so you are aware of the spill kit location. Spill kits will be required for temporary fuel storage at any non-designated fuel cache sites as authorized by the Superintendent.

Secondary Containment:

- All cached fuel drums must be stored in portable secondary containment units with impermeable fuel catchment basin to contain spilled fuel. Due to the remote nature of the sites, these units must be convenient to transport in an aircraft class available in Inuvik, Northwest Territories and capable of landing at these sites (generally a helicopter or twin otter-type aircraft).

- Construction of permanent fuel containment storage structures within the national parks and landmark of the Western Arctic Field Unit is not permitted.
- The secondary containment unit must be capable of containing a volume of spilled fuel 25% greater then the capacity of the largest fuel container placed herein (e.g. if the largest fuel container is a 205 litre drum, the secondary containment unit must be capable of containing a spill of 255 litres). Please note that the fuel containment capacity requirements of any unit will be subject to the discretion of the Superintendent or his/her designate and may increase depending on factors such as quantity of fuel to be cached in the unit and type of containment unit employed.
- As these sites are sometimes not visited for up to nine months, the containment unit must be weatherproofed to keep water and snow out of the containment area using a system that can easily be accessed and secured by fuel cache users and requires limited upkeep.
- Secondary containment units must not be locked.
- See Appendix 2 - *Examples of approved Secondary Containment Units.*

Inventory:

At the end of each summer field season (**mid-September**), groups storing fuel will be required to provide Parks Canada with an updated fuel drum inventory for cache site(s) by fuel type and year placed at the site, indicating the number of full, partial, and empty drums remaining. Complete the Fuel Cache Inventory Form (Appendix 3) and send it to the Fuel Cache Coordinator.

Non-Compliance:

Failure to comply with general protocols herein will result in fuel drum removal initiated by Parks Canada at the cost of the owner or responsible department/agency.

7.0 Authorization Process for Caching Fuel in the National Parks of the Western Arctic

- If you want to cache fuel within a national park in the Western Arctic Field Unit, please plan for a **minimum of 60 days** from date of your written request is submitted to receipt of authorization.
- Contact our Fuel Cache Coordinator (Section 10.0) early on in your planning process to discuss your caching needs and the application of general protocols.
- Complete the Fuel Caching Request Form (Appendix 4) and send it to the Fuel Cache Coordinator.
- Your request will be reviewed, and upon approval, a written authorization will be issued by the Superintendent or his/her designate, which will permit you to place your fuel on lands administered by Parks Canada subject to the general protocols outlined in this document. Additional terms and conditions may be applied at the discretion of the Superintendent.

8.0 Emergency Response and Spill Containment

A summary of steps to take to manage damaged drums and/or to contain, clean and report fuel spills is found in Appendices 5 and 6.

9.0 Emergency Contact Information

Parks Canada, Western Arctic Field Unit
Office: (867) 777-8800
Cell: (867) 777-4893 (summer only)

Yukon Spill Line
(867) 667-7244

Northwest Territories Spill Line
(867) 920-8130

10.0 Contact Information for Parks Canada's Western Arctic Field Unit Fuel Cache Coordinator

For questions about this protocol or fuel caching in the National Parks of the Western Arctic Field Unit contact:

Fuel Cache Coordinator
Parks Canada - Western Arctic Field Unit
P.O. Box 1840
Inuvik, N.T, X0E 0T0
Office: (867) 777-8800
Fax: (867) 777-8820
Cell: (867) 777-4893 (summer only)

APPROVAL PAGE

Fuel Caching Protocol for National Parks in the Western Arctic (2007).

Protocol Prepared By:

D. Drummond
Park Warden and Fuel Cache Coordinator
Western Arctic Field Unit

J.P. Kors
Park Warden
Western Arctic Field Unit (2004-05)

Recommended By: **Date:**

Original signed by

_____ _____

C. Bucher
Resource Conservation Manager
Western Arctic Field Unit

_____ _____

E. McLean
Ecosystem Scientist II and
Environmental Management Systems Coordinator
Western Arctic Field Unit

Approved By: **Date:**

Original signed by

_____ _____

K. Paul
A/Superintendent
Western Arctic Field Unit

Appendix 1: Contents of Spill Kits

Parks Canada – Western Arctic Field Unit provides a spill kit (for oil and fuel only) at each designated fuel cache site in the national parks of the Western Arctic. The kit is contained within a 55 Gal. blue H.D. polyethylene drum. Please contact the Fuel Cache Coordinator so you are aware of the spill kit location at the designated fuel cache sites.

Each kit includes:

1 x 55 Gal Blue Poly Drum with lid and band
100 x Sorbent Pads (17"x19") 12oz
4 x Sorbent Socks (96"x 3")
12 x Sorbent Socks (48"x 3")
20 x Hand Wipes
6 x Disposal Bags with ties
1 x 20lb Granular All Purpose Absorbent
1 x Knife
1 x Duct Tape
3 x Dust Masks
2 x prs. Green Nitrile Gloves
2 x prs. Goggles
2 x prs. Disposable Coveralls
1 x Instruction Sheet
1 x Plug-n-Dyke drum calking (dry)
1 x Shovel
2 x Tarpaulins

For more information on spill kits:

- ***Acklands Graiger Inc.*** - www.acklandsgrainger.com
- ***Arcus Absorbents Inc.*** - www.arcusabsorbents.com
- ***Can-Ross Environmental Services Ltd.*** - www.canross.com

Appendix 2: Examples of Secondary Containment Units

Secondary Containment

These secondary containment units are designed to minimize environmental damage from a fuel spill resulting from a failure in the drum, a loose bung or damaged bung seal.

a) Outdoor Barrel Containment Unit

- ***Pye Brothers Fuels Ltd.*** - www.pyebrothers.ca/Accessories/index.htm

b) Snap-Up Stinger Berms

- ***Acklands-Grainger Inc.*** - www.acklandsgrainger.com
- ***Clean Spill*** - (905) 293-9995
- ***ENPAC Corporation*** - www.enpac.com

c) Drum Hardcover and Spillpallet

-ENPAC Corporation - www.enpac.com

Appendix 3: Parks Canada – Western Arctic Field Unit Fuel Cache Inventory Form

Fuel Cache Inventory Form

At the end of each summer field season (mid-September), groups that have fuel stored in national parks in the Western Arctic are required to provide Parks Canada – Western Arctic Field Unit with an updated fuel drum inventory. Please fill out this Fuel Cache Inventory form and send to address provided below. Thank you!

Responsible Department/Agency:	**Date:**
Contact Person:	
Phone # :	**E-Mail:**
Project:	

Fuel Cache Location	Fuel Type	# *Full* Drums	# *Partial* Drums	# *Empty* Drums	Year Placed at Site

Comments:

Send Completed Fuel Inventory Form to:

Fuel Cache Coordinator
Parks Canada - Western Arctic Field Unit
P.O. Box 1840
Inuvik, N.T.
X0E 0T0

Fax: 867-777-8820

Parks Canada Parcs Canada

Canada

Fuel Cache Inventory Form (April, 2006)

Appendix 4: Fuel Caching Request Form

Fuel Caching Request Form

Please plan for a **minimum of 60 days** from date of your written request is submitted to receipt of authorization. Contact our fuel cache coordinator early on in your planning process to discuss your caching needs and the application of general protocols.

Department/Agency		**Date**
Name	**Title**	
Project		
Address	**City**	**Postal Code**
Telephone Number	**E-Mail**	
Emergency Contact Number		

Where would you like to cache fuel?

Fuel Cache Location (Check One)	**Fuel Type**	***# of Drums***	**Date Placed at Site**	***Removal Date**
☐ **Sheep Creek Station** (Ivvavik National Park)				
☐ **Komakuk Beach** (Ivvavik National Park)				
☐ **Green Cabin** (Aulavik Nationl Park)				
☐ **Polar Bear Cabin** (Aulavik National Park)				
☐ Other _____ (National Park and UTM)				

*The permitted period of occupancy for all fuel drums (full, partial, and empty) at fuel cache locations may not exceed three years from the date placed at the site.

Do you currently have fuel drums cached in the Western Arctic National Parks ?

Fuel Cache Location	**Fuel Type**	***# of Full* Drums**	***# Partial* Drums**	***# Empty* Drums**	***Year Placed at Site**

Additional Details on Protocol Compliance

On a separate page to be submitted with your Fuel Caching Request Form, briefly outline your plan to comply with general fuel caching protocols, including: name of air charter company to be used for fuel delivery; schedule and budget for deployment and removal of fuel; description of secondary containment system to be used; and any other best practices you intend to implement.

Send Completed Fuel Caching Request Form to:

Fuel Cache Coordinator
Parks Canada - Western Arctic Field Unit
P.O. Box 1840
Inuvik, N.T.
X0E 0T0
Fax: 867-777-8820

Parks Canada Parcs Canada

Canada

Fuel Caching Request Form (April, 2006)

Appendix 5: Emergency Response and Spill Containment

Drum damaged? Follow the instructions below:

1. Maneuver drum so damage is on top to reduce leaking.
2. Put the drum on secondary containment.
3. Drums may be patched by using the Plug-n-Dyke provided in spill kit.
4. Mark damaged drums immediately so contents are not re-used.
5. Remove drums from site immediately. The removal of damaged drums is an operational priority.

Spill occurred? Follow the instructions below:

1. Use spill kit provided to contain and clean-up:
   - Take absorbents from spill kit and soak up as much free product as possible. The shovel provided may be used to dig up product-soaked soil.
   - Use booms to skim contaminants off the top of the water.
   - Place contaminated absorbents and contaminated soil in spill kit drum and/or use tarps provided.
   - Remove contaminated material from site immediately. The removal of these materials is an operational priority.

2. Immediately report all spills to Parks Canada, Western Arctic Field Unit at (867) 777-8800 or (867) 777-4893 (summer only); and

3. For spills that occur in the Yukon Territory, including Ivvavik National Park, report to the Yukon Spill Line at (867) 667-7244. You are legally required to immediately report any spills in the Yukon Territory greater than 200 liters; or

4. For spills that occur in the Northwest Territories, including Aulavik National Park, Tuktut Nogait National Park and the Pingo Canadian Landmark, report to the Northwest Territories Spill Line at (867) 920-8130. You are legally required to immediately report any spills in the Northwest Territories greater than 100 liters.

Appendix 6: Northwest Territories and Yukon Territory Spill Report Forms

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER -
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐	
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM THE NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION Station operator	EMPLOYER	LOCATION CALLED Yellowknife, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC	SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN	FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

Yukon Government

INITIAL SPILL REPORT

Spill #:	

Reported By: Call Back Phone:				
Substance Spilled: **Quantity**:				
Location:				
Cause:				
Responsible Party/Spill Source: Contact name: Address: Phone:				
Date and Time of Occurrence:				
Current Spill Status:				
Hazards (circle one & give brief description):	**Fire**	**Explosion**	**Health**	**Environment**
Lead Agency: Contact: Authority:	Phone: Fax: Date/Time:			
Received by:	**Report Date:**			**Time:**

Appendix C

Recommended Best Practices for the Storage and Handling of Petroleum and Allied Petroleum on Federal Crown Lands in Nunavut

DRAFT RECOMMENDED BEST PRACTICES FOR THE STORAGE AND HANDLING OF PETROLEUM AND ALLIED PETROLEUM PRODUCTS ON FEDERAL CROWN LANDS IN NUNAVUT

March 2009
Nunavut Regional Office
Indian and Northern Affairs Canada

1. Introduction and Background

Indian and Northern Affairs Canada is responsible for issuing land use permits and granting land tenure for crown lands in the Territory of Nunavut. In exercising this responsibility, the department works to ensure, through inspection, that the use of these lands complies with authorizing instruments and applicable laws and regulations.

An important role of the department is to ensure that the use of federal lands in the territory does not result in undue harm to the environment. For this reason, the careful storage, transfer, and handling of petroleum and allied petroleum products is a critical consideration for the department in granting approvals for the use of crown lands in Nunavut. Federal land use inspectors regularly attend remote sites that have been issued land use permits to ensure compliance with the terms and conditions imposed on various proponents.

There exist a number of laws, regulations, and policies governing the use of petroleum and allied petroleum products in Canada and in Nunavut, including requirements specific to federal Crown lands. This document does not replace or override these instruments. Rather it is a general guide designed to assist land users to make decisions regarding fuel management and land use on federal lands in Nunavut.

Moreover, in Nunavut, water use and the deposition of waste is authorized by the Nunavut Water Board. Water Resources Officers of Indian and Northern Affairs Canada inspect land use sites to ensure that land users are working in compliance with their water licences. Licences issued by the Nunavut Water Board may set conditions for fuel storage and handling, and the storage and handling of allied petroleum products. These best practices do not in anyway replace or supersede the decisions of, or the terms of licences issued by, the Nunavut Water Board.

Why These Best Practices?
Errors and faults in fuel storage and handling represent one of the most common environmental problems encountered during inspections on the use of federal Crown lands in Nunavut. Leaks, spills, and releases of fuel and petroleum products can have environmental, health, and economic impacts. Even small amounts of fuel can cause offensive odours, contaminate surface and sub-surface soils, render drinking water non-potable, and affect animals, vegetation and aquatic biota. Spilled fuel may also accumulate in depressions above or under the surface of the land causing risk of inadvertent combustion or explosion. Adherence to these best practices, and to applicable legislation and policy, will help to reduce or avoid negative environmental

impacts arising from fuel use and storage on federal lands in Nunavut. Land users are required to remediate any hydrocarbon related contamination and should consider the high costs associated with this when developing their site fuel management plans.

The Role of the Applicant
Nunavut's system of co-management of the land and its resources is based on a proponent-driven model of application, review, and approval. Prospective users of federal Crown lands must submit an application for land use which is reviewed by Indian and Northern Affairs Canada and then shared with the Nunavut Impact Review Board for screening and comment. Fuel management is an important part of any application for land management. It is expect that applications for the use of federal Crown lands will include comprehensive fuel storage and management plans providing details on the applicant's intentions for fuel storage, fuel use, fuel management, spill response, and contingency planning. The department will expect applicants to adhere to the commitments they make in this plan.

2. Petroleum and Petroleum Allied Products

The Canadian Council of Ministers of the Environment defines petroleum products as a single product with at least 70 percent hydrocarbons by volume refined from crude oil, with or without additives, that is used, or could be used, as a fuel, a lubricant, or a power transmitter. Petroleum products would include such things as:

- Gasoline;
- Diesel fuel;
- Aviation fuel;
- Kerosene;
- Naptha;
- Lubricating oil;
- Fuel oil;
- Engine oil; and
- Used oil.

According to the Council, allied petroleum products are a mixture of hydrocarbons other than a petroleum product that may be water miscible (can be mixed with water) and have a density greater than water. They include such things as:

- Thinners and solvents and some paints;
- Solvents and chemicals like benzene and toluene;
- Isopropanol;
- Methanol; and
- Ethylene Glycol.

Used, or waste, products are also included in these definitions.

3. Types of Storage

On federal lands in Nunavut, above-ground fuel storage is the most common method of storage employed by land users. There are a number of methods and products for above-ground fuel storage. They range in size and complexity from jerry cans and stove fuel canisters, to drums and barrels, to large, double-walled steel fuel tanks and tank farms. Many petroleum and allied-petroleum products are stored in ready-to-use containers of varying sizes. Vehicles and fuel burning equipment also contain quantities of lubricants and fuel.

Each type of fuel storage requires appropriate care and attention in its use in order to avoid environmental contamination. Moreover, fuel storage on federal Crown land, as well as fuel use and disposal more generally, are governed by a number of laws and regulations. Land users must be mindful of the importance of environmental protection in all fuel storage and fuel management activities.

Nunavut is one of few jurisdictions in Canada where collapsible, fabric-based fuel storage products and systems, or 'fuel bladders', are used for high-volume fuel storage and fuel transfer. The use of these systems presents unique technical challenges as well as increased risk of environmental contamination.

While the use of fuel bladders on federal Crown land in Nunavut is not specifically prohibited, applications for land use must explicitly indicate the intention to use fuel bladders plus include a written commitment to adhere to all manufacturers' specifications and guidelines for the installation and use of fuel bladders, including manufacturers' recommendations. In addition, land users must be prepared to accept conditions, particularly relating to location, protection, and secondary containment. Also, in some cases, fuel bladders may not be appropriate for the terrain of a camp or an activity.

Potential Crown land users should be advised that, depending on the licence application submitted and the decisions of the Nunavut Water Board, water licences issued by the Water Board may not permit the use of fuel bladders or may include conditions that either explicitly or implicitly limit their use.

4. Responsibility

Indian and Northern Affairs Canada is committed to the regular inspection of land use permits and leases and water licences in Nunavut

Land users are responsible for all contamination that may arise from the use of fuels or allied-petroleum products during land use activities. The costs of remediation of hydrocarbon contamination in Nunavut can be very high. Land users should be aware that theses costs are the responsibility of the land user. The department expects and appreciates compliance with all permits and licenses.

All fuel spills must be contained immediately, cleaned-up, and reported to the Northwest Territories and Nunavut Spill Line. A complete report must be filed with the inspector within 30 days. Waste generated during spill clean-up shall be packaged, stored, and disposed of accordance with all applicable laws, licenses, permits, and guidelines.

5. Nunavut's Co-Management System

The Nunavut Land Claims Agreement and associated legislation establishes a system of co-management for Nunavut's lands, waters, and resources based on the creation of boards with members nominated by the Inuit and government. In addition, prospective land uses may fall on Inuit Owned Lands (IOL) and land use permits and leases must be obtained from the applicable Designated Inuit Organization. Permits and leases for land use in Nunavut must be screened by the Nunavut Impact Review Board. This screening involves a consultation with stakeholders in a variety of roles and capacities across the territory.

Upon screening, the Nunavut Impact Review Board may recommend measures for the mitigation of environmental impacts that exceed the standards usually imposed by Indian and Northern Affairs Canada for land use permissions. The department of Indian and Northern Affairs Canada incorporates the conditions recommended by the Nunavut Impact and Review Board into its land use authorizations. These conditions may be additional, or in excess of, the basic expectations described below.

The Nunavut Water Board must approve all water use and waste disposal in Nunavut. In issuing water use permissions and licences, the Nunavut Water Board has the latitude and mandate to impose conditions on fuel storage and management. Under the Nunavut Land Claims Agreement and Nunavut waters legislation, Indian and Northern Affairs Canada must enforce water licences issued by the Board. The role of departmental water resource officers is to ensure that licensees are complying with the terms and conditions of their water licences.

6. Storage Containers

Fuel storage containers used on federal Crown lands in Nunavut must comply with all federal and territorial laws, regulations, and guidelines. In addition, the department requires that all fuel storage containers are used in accordance with manufacturers' specifications.

General Considerations

Fuel and petroleum products are used and stored in a wide variety of containers. The department generally requires the following as conditions of federal land use permits:

- Fuel storage containers shall not be placed within 31 metres of the normal high water mark of any water body or at a distance sufficiently far from a water body as to avoid the direct or indirect contamination of water;
- Fuel storage caches or large containers shall be placed in natural depression on a level surface;

- Fuel storage containers shall be installed and used only in adherence with the manufacturer's specifications and applicable laws, regulations, or guidelines;
- All storage containers and piping shall be maintained in a manner that prevents corrosion that is detrimental to the integrity of the container or the piping;
- Fuel and other petroleum products and chemicals shall be stored and transferred in such a manner as to prevent all spillage into a watercourse or onto the surrounding land;
- An approved fuels and hazardous materials spill emergency plan must be in place and a copy posted on-site and easily accessible in the event of a spill;
- Land use sites shall have appropriate spill containment kits readily available for use in the event of a spill;
- Fuel storage caches or large fuel storage containers shall be protected from vehicle traffic by physical impact barriers;
- Large fuel caches and containers which may be accessible to the public should also be gated and locked to avoid the risk of spills due to unauthorized transfer;
- All fuel caches should be expected daily for spills, leaks, or potential leaks; and
- The fuel storage area shall be clearly identified and delineated with safety markers which will remain visible even if the storage area becomes buried in snow.

45 Gallon / 205 Litre Drums

Steel fuel drums are a common method of fuel handling and storage in Nunavut. They are portable, durable, and can be easily stored. Some of the problems encountered during land use and water inspections in Nunavut relating to the use of steel fuel drums include:

- Long-term, multi-season storage of drums;
- Displacement of partially full drums during the off-season due to wind or snow-loading, leading to spills or leaks;
- Corrosion of drums and subsequent leakage of contents;
- Leakage from drums with worn-out seals or re-filled drums with worn seals;
- Horizontal storage of drums in ways that can lead to a higher risk of spill or leakage;
- Abandonment of empty drums, and partly filled drums, at camps and sites; and
- Lack of appropriate secondary containment.

Indian and Northern Affairs Canada works diligently with its clients to ensure that fuel drums are utilized in a manner that protects the environment. In addition to the requirements of applicable federal and territorial laws, standards, regulations, and guidelines, land users generally would be required as conditions of land use permits to:

- Empty and partially-empty fuel drums will be gathered and removed from land use sites annually;
- The contents of corroded drums will be transferred or disposed of and the corroded drums will be stored safely until they can be removed from the land use site;
- Precautionary and protective measures be implemented to avoid collisions with drums by equipment or vehicles;
- Drums with excessively worn seals will not be used for fuel storage and will be removed from land use sites annually;

- Additional provisions for secondary containment will be applied to fuel caches using re-filled drums given the inherent weakness of re-sealed bungs;
- Drums will be organized and stored in a safe manner, shall be placed on reasonably flat ground, and drums stored horizontally will be stored with the bungs at 3 and 9 o'clock;
- For long-term storage (ie: greater than six months), it is strongly recommended that drummed fuel be stored on pallets to prevent rusting;
- All drums should be situated in a manner that allows easy access, such that individual drums can be inspected for leaks and if required, removed or pumped dry; and
- All drums will be labelled visibly (so that it can be read at a distance) with the owner's name, the date of delivery to the site, and the product they contain.

Collapsible Fabric Fuel Storage / Fuel Bladders

Nunavut is among the only jurisdictions in Canada where fuel bladders are used with relative frequency on federal Crown lands. However, they also present unique technical challenges and must be managed effectively in order to ensure that their use does not present a risk to the environment.

Environment Canada is preparing a draft guideline of requirements for collapsible fabric fuel storage tanks (fuel bladders) used on federal Crown lands. This guideline provides guidance on construction, handling, and use of these fuel storage systems. Indian and Northern Affairs Canada will require that all installation, use, and removal of fuel bladders on federal Crown lands in Nunavut comply with this guideline as well as with all manufacturers' specifications and instructions.

Some of the problems encountered with the use of fuel bladders observed during field inspections of land use and water use on federal Crown lands in Nunavut include:

- Fuel bladders stored on uneven or sloping ground or on inappropriate terrain;
- Fuel bladders stored with insufficient secondary containment or secondary containment that has been compromised;
- Over-filled fuel bladders or bladders not maintained according to manufacturer's specifications;
- Fuel seepage through fuel bladder vents;
- Fuel seepage or spills due to snow loading; and
- Failure of bladder seams

The department will generally apply the following as conditions (and may apply additional conditions based on the land use site and activity) in its land use authorizations with respect to the use of fuel bladders:

- All fuel bladders, and their use, will comply with the Environment Canada Draft Guidelines for Collapsible Fabric Storage Tanks;
- All fuel bladders will be used in strict adherence with manufacturers' specifications, instructions, and requirements;
- All fuel bladders must be stored within appropriate secondary containment (see secondary containment below);

- All fuel bladders will be stored on even ground, and where possible, in a natural depression;
- All fuel bladders will be cleared of snow or other debris with sufficient frequency to the avoid snow-loading or the accumulation of excess weight on the bladders;
- Protective obstacles will be placed around fuel bladders to protect them from possible impacts from vehicles or equipment; and
- All fuel bladders will be labelled visibly (so that it can be read at a distance) with the owner's name, the date of delivery to the site, and the product they contain.

Double-Walled Steel Storage Tanks
Environment Canada has set standards for the use of steel storage tanks on federal Crown lands through its Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations issued June 12, 2008. All use of fuel storage tanks on federal Crown lands in Nunavut will be expected to comply fully with these regulations.

7. Fuel Transfer and Fuel Spills

Fuel transfer is one of the primary causes of hydrocarbon contamination encountered during inspections of federal Crown land use in Nunavut. The department expects land users to undertake all reasonable measures to ensure that fuel transfer does not result in spills or contamination. Moreover, in the event of a spill, land users are required to report the spill immediately and undertake clean-up. The department will generally apply the following as conditions of land use permits issued in Nunavut.

- All fuel transfer shall comply with applicable federal and territorial laws, regulations, and guidelines.
- Fuel and other petroleum products and chemicals shall be stored and transferred in such a manner as to prevent all spillage into a watercourse or onto the surrounding land.
- All petroleum and allied petroleum products containers shall be closed or sealed after use.
- All containers will be filled in such a way as to avoid over-filling and to provide sufficient space for expansion of the product.
- All fuel spills must be contained immediately, cleaned-up, and reported to the spill line (see Annex C). A complete report must be filed with the inspector within 30 days. Waste generated during spill clean-up shall be packaged, stored, and disposed of appropriately.
- A fuels and hazardous materials spill emergency plan must be in place and a copy of it posted on-site and easily accessible in the event of a spill. Land use sites shall have appropriate spill containment kits readily available for use in the event of a spill.
- Fuel transfer shall be conducted in an area that is equipped with secondary containment. Drip pans are only appropriate secondary containment for small-scale fuel transfer.
- Vehicles must be maintained and operated in a manner designed to prevent spills of fuel or oil.

- Fuel transfer and the dispensing of fuel shall be done using pumping equipment and/or approved nozzles and hoses in order to avoid inadvertent spills.
- All staff involved in the handling or transfer of fuels should be trained and aware of proper fuel handling procedures and should regularly scan the area adjacent to fuel handling and storage sites for evidence of possible leaks or spills.

8. Secondary Containment

Secondary containment is used to protect the environment from widespread or severe impact arising from a failure, spill, or leak in fuel storage or fuel handling. Secondary containment structures are impermeable to petroleum and allied petroleum products and come in many forms. Due to the remoteness of most land use on federal Crown lands in Nunavut, and because of risks associated with the harsh arctic climate, the department encourages all users of federal Crown lands in the territory to consider secondary containment as part of a sound fuel management plan.

Indian and Northern Affairs Canada will require that all fuel bladders are placed within suitable secondary containment capable of accommodating a complete failure of the fabric storage system and capable of withstanding the territory's harsh climate and the rigours of hard use in an industrial context.

Additional and/or applicable requirements for secondary containment are contained in legislation, regulations, and guidelines. The department will generally require, as conditions of land use permits, the following.

- Secondary containment structures will be composed of, or lined with, materials impervious to petroleum products.
- Secondary containment structures will be capable of holding 110 percent of the volume of the largest fuel reservoir, or 110 percent of the combined volume of all interconnected reservoirs, placed within the containment structure.
- Secondary containment structures will be of sufficient height/depth to not be breached by the wave arising from a major fuel container failure.
- Secondary containment structures will be sufficiently durable to withstand the rigours of Nunavut's harsh climate and the demands of hard industrial use on rocky and broken land in Nunavut.
- Dyked secondary containment structures must comply with all applicable federal and territorial laws, regulations, and guidelines. This includes the use of geomembranes, which should not be seamed in the field if possible.
- Woven polyethylene tarpaulins will not be accepted as part of a secondary containment system.
- For large secondary containment structures, oil/water separators may be required.
- Secondary containment should be cleared of snow and/or water regularly using equipment and methods recommended by the manufacturer.
- Secondary containment should be inspected daily for punctures or potential failure and should be tested for leaks regularly.

- While secondary containment is preferred for all fuel storage, it will be required for all fuel caches and containers exceeding 4,000 litres in size. This includes barrel caches.
- All secondary containment structures shall be installed and used in strict accordance with the manufacturer's specifications and directions.

Secondary containment is an effective safeguard in the prevention of potential environmental impact arising from the storage and handling of fuels. It is also a low-cost measure that can avoid the high costs of remediation after an inadvertent release of fuel or petroleum products. For this reason, Indian and Northern Affairs Canada strongly recommends the use of secondary containment for all fuel storage and handling.

9. Used or Waste Petroleum and Allied Petroleum Products

The storage, transfer, and destruction of used or waste petroleum and allied petroleum products is governed by both federal and territorial legislation, regulations, and guidelines. Land users should be aware of, and comply with, all requirements that apply to the management of used and waste petroleum products and allied petroleum products.

APPENDIX A: SAMPLE LAND USE PERMIT OR LAND LEASE REQUIREMENTS FOR FUEL STORAGE AND TRANSFER

31 (1) (k) - Petroleum Fuel Storage

11.1	The Permittee shall report in writing to a Land Use Inspector the location and quantity of all petroleum fuel caches within ten (10) days after the establishment.	REPORT FUEL LOCATION
	Rationale: The intent of this condition is to inform the Land Use Inspector of the location of all fuel caches so that inspections can be conducted when the land use operation has been completed to ensure the site is restored and all fuel containers have been removed. The Land Use Inspector may want to conduct interim inspections of fuel caches adjacent to streams frequented by fish or upstream from bird colonies.	
11.2	The Permittee shall not place any petroleum fuel storage containers within thirty one (31) metres of the normal high water mark of any stream.	FUEL BY STREAM
	Rationale: This condition applies to petroleum fuel caches where the Permittee is not required to construct dykes around the fuel containers. The fuel containers would consist primarily of barrels and kegs. The fuel caches would be of a temporary nature in most instances, no more than one year.	
11.3	The Permittee shall locate mobile fuel facilities on land when stationary for any period of time exceeding twelve (12) hours.	FUEL ON LAND
	Rationale: This condition applies only to mobile fuel facilities unless stored for any period of time, and this relates to Fisheries concern about getting fuel into water, and applies mainly in seismic situations.	
11.4	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT

	Rationale: This condition applies to all land use operations where petroleum fuel is used. The intent is that spilled or leaked petroleum fuel, if allowed to spread to surrounding lands or into bodies of water, could harm vegetation, create a fire hazard, or be detrimental to fish and other aquatic life, if the volume is large enough.	
11.5	The Permittee shall have one extra fuel storage container on site equal to, or greater than, the size of the largest fuel container.	FUEL EXTRA CONTAINER
	Rationale: This condition will apply to fuel caches where the quantity of fuel exceeds 10,000 gallons (44,803 litres) in any one tank and the fuel cache is located in a critical wildlife area or upstream from a community water supply. This condition will be used with discretion and probably applies in most cases with bladders.	
11.6	The Permittee shall construct a dyke around each stationary fuel container or group of stationary fuel containers where any one container has a capacity exceeding 4,000 litres.	DYKE FUEL CONTAINERS
	Rationale: This condition will apply to all land use operations having fuel storage facilities established for less than three years. The condition specifically requires only dyking, but does not require an impermeable dyke, that is a separate condition. The intent of this condition is to protect vegetation, fish and other aquatic life from being harmed by fuel spills. There are NWT fire ordinances which require this as well.	
11.7	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
	Rationale: This condition will be used along with the condition requiring that the dyked area be impermeable. It simply requires that a plastic film liner be installed. A committee chaired by the Environmental Protection Service called the Technical Sub-Committee on Petroleum dyking has evaluated and reported on different type of liners which are acceptable for the north.	

11.8	The volume of the dyked area shall be 10% greater than the capacity of the largest fuel container placed therein.	CAPACITY
	Rationale: The condition ensures that the dyke area is large enough to contain all of the fuel that may be spilled from any one container in addition to some room left over for displaced volume by the container.	
11.9	The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times	IMPERMEABLE DYKE
	Rationale: The intent of this condition is that dykes must be impermeable to spilled petroleum if the petroleum is to be contained effectively. It does not specify how the dykes are to be maintained impermeable. Therefore, this condition would normally be used with other conditions requiring dyking and requiring lining of the dyke. Other methods of constructing impermeable dykes may be acceptable, depending on the situation. These include grouting with bentonite, cement or some other impervious material. Clay or snow/ice dykes may also be impervious under some situations.	
11.10	The Permittee shall: a) examine all fuel storage containers for leaks a minimum of once every ____ days. (b) repair all leaks immediately.	CHECK FOR LEAKS
	Rationale: The frequency of checks would be designated by the Land Use Inspector on the basis of quantity of fuel, type of container, location, etc.	
11.11	The Permittee shall maintain a watchman at the site at all times when fuel is stored on site.	WATCHMAN
	Rationale: This would apply to sites accessible to the public where large quantities of fuel are stored. An alternative may be to use locks or fence the storage areas.	

11.12	The Permittee may not use collapsible fuel storage systems (fuel bladders) where site conditions are not appropriate.	FUEL BLADDER USE CONTINGENT ON SITE CONDITIONS
	Rationale: Bladders may not be used where a suitable base cannot be constructed. Also, bladders are known to rupture more frequently than fuel tanks; therefore, in critical areas of fish and wildlife habitat, bladders should not be used.	
11.13	The Permittee shall not use collapsible fuel storage systems (fuel bladders) to transport fuel where site conditions are not appropriate.	FUEL BLADDER USE CONTINGENT ON SITE CONDITIONS
	Rationale: Transporting of fuel in this case applies to trucks, not aircraft. This is a special condition. There are some advantages to using bladders over tanks.	
11.14	The Permittee shall mark all stationary petroleum products storage facilities with flags, posts or similar devices so that they are at all times plainly visible to local vehicle travel.	MARK FUEL LOCATION
	Rationale: This condition applies to most stationary petroleum fuel caches, particularly where bladders are used. It can also apply to fuel caches where barrels or kegs are used and the aggregate total volume of the stored fuel is 892.8 gallons (4,000 Litres) or more. The intent of the condition is to mark the fuel caches so they are visible to equipment operators so that they won't run their machinery over the fuel containers, especially in tundra and barren regions.	
11.15	The Permittee shall seal all container outlets except the outlet currently in use.	SEAL OUTLET
	Rationale: The intent of this condition is to prevent leakage of petroleum fuel from valves, nozzles or other orifices on fuel containers from which fuel is not being used, particularly where fuel caches are unattended. This is to prevent leakage of gasses that could be a hazard to wildlife or vegetation. Leaking combustible gasses could be a fire	

	hazard if adjacent to forest and vegetation during fire season. Cylinders and tanks not currently in use should be stored in an upright position.	
11.16	The Permittee shall mark all fuel containers with the Permittee's name.	MARK CONTAINERS
	Rationale: This condition applies to heavy use area where more than one Permittee will be carrying out operations in an area, particularly where Permittees use a common stockpile site. The intent of marking containers is so the Land Use Inspector can identify the owner(s) of any containers left after the operations cease.	

APPENDIX A: EXAMPLES OF APPLICABLE LEGISLATION AND REGULATIONS

General

Environmental Code of Practice for Aboveground and Underground Storage Tanks Systems Containing Petroleum and Allied Petroleum Products, 2003 - CCME

National Fire Code 1995

Storage Tanks Systems for Petroleum Products and Allied Petroleum Products Regulations 2008
Territorial Lands Act 1985
Territorial Lands Regulations
Territorial Land Use Regulations

Nunavut Waters and Nunavut Surface Rights Tribunal Act 2002

Canada Oil and Gas Operations Act 1985

Canadian Environmental Protection Act

Fisheries Act

Transportation of Dangerous Goods Act and Regulations

Mine Site Reclamation Policy for Nunavut

Site Specific

Canada National Parks Act 2000
Canada Wildlife Act 1985
Migratory Birds Convention Act 1994

Shipping

Canada Shipping Act (storage in barges)
Arctic Waters Pollution Prevention Act

Territorial Acts and Regulations

Environmental Protection Act
Spill Contingency Planning and Reporting Regulations

Environmental Guidelines

A Guide to the Spill Contingency Planning and Reporting Regulations

Environmental Guideline for Contaminated Site Remediation

Environmental Guideline for Industrial Projects on Commissioner's Lands

Environmental Guideline for Industrial Waste Discharge

Environmental Guideline for Management of Hazardous Wastes

Illustrated Homeowner's Guide to Heating Oil Tank Inspections

Appendix D

Spill Contingency Planning and Reporting Regulation

CONSOLIDATION OF REGULATION R-068-93 *SPILL CONTINGENCY PLANNING AND REPORTING REGULATIONS* (Dated 22 July, 1993)

AS AMENDED BY:

USE OF CONSOLIDATION

This Consolidation is provided for use by the Department of Resources, Wildlife and Economic Development staff only. It is not provided to the public. The public may purchase Gazette copies of Legislation or subscriptions to receive Legislation from the company contracted by the Government of the Northwest Territories for that purpose.

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SPILL CONTINGENCY PLANNING AND REPORTING REGULATIONS

TABLE OF CONTENTS

SPILLS

R-068-93

ENVIRONMENTAL PROTECTION ACT

SPILL CONTINGENCY PLANNING AND REPORTING REGULATIONS

The Commission, on the recommendation of the Minister, under section 34 of the *Environmental Protection Act* and every enabling power, makes the *Spill Contingency Planning and Reporting Regulations*.

1. In this regulations,

"above ground facility" means a facility that is stationary for a period of 30 days or more and is not an underground facility;

"Act" means the *Environmental Protection Act*;

"facility" means any thing capable of storing or containing contaminants and includes any thing used in the transfer of contaminants to and from the facility;

"PCB" means the chlorobiphenyls that have the molecular formula $C_{12}H_{10-N}Cl_N$ in which N is great than 2;

"spill" means a discharge of a contaminant in contravention of the Act or regulations made under the Act or a permit or license issued under the Act or regulations made under the Act;

"storage capacity" means the aggregate capacity of all facilities placed together in one location;

"TDGA Class" means a class of dangerous goods set out in the Schedule to the *Transportation of Dangerous Goods Act, 1992* (Canada), and any division of a class established in regulations made or continued under that Act;

"underground facility" means a facility having more than 10% of its structure beneath ground level.

2. **(1)** Sections 3 to 8 of these regulations to not apply to the following:

(a) a motor vehicle, as defined in the *Motor Vehicles Act*, unless that motor vehicle is an above ground facility;
(b) sewage and sewage sludge.

(2) Contaminants used solely for domestic purposes and discharged from within a dwelling-house are exempt from the requirements of these regulations.

(3) In Schedule A, the amounts set out in column 3 under the heading "Storage Capacity" refer to liquids, where the amount is expressed in liters, and to solids, where the amount is expressed in kilograms.

(4) In Schedule B, the amounts set out in column 4 under the heading "Amount Spilled" refer to liquids, where the amount is expressed in liters, and to solids, where the amount is expressed in kilograms.

SPILL CONTINGENCY PLAN

3. **(1)** No person shall store contaminants in a facility where the storage capacity of the facility equals or exceeds the storage capacity shown in Schedule A unless a spill contingency plan has been prepared and filed in accordance with these regulations.

(2) Where the storage capacity of a facility is less than the storage capacity shown in Schedule A and where, in the opinion of the Chief Environmental Protection Officer a spill contingency plan is necessary for the protection of the environment, the Chief Environmental Protection Officer may require the owner or person in charge, management or control of a facility to prepare a spill contingency plan.

(3) Where the Chief Environmental Protection Officer is satisfied, on reasonable grounds, that a person uses a means of storing contaminants and a method of dealing with the spill of contaminants, that provide a level of environmental protection a t least equivalent to that which would be provided by compliance with these regulations, the Chief Environmental Protection Officer may, in writing, subject to such conditions as the Chief Environmental Protection Officer considers necessary,

(a) exempt a person from the requirement to file a spill contingency plan under subsection (1); or
(b) exempt a person from the requirement to include in a spill contingency plan information required in one or more of paragraphs 4(2)(a) to (j).

4. **(1)** The owner or person in charge, management or control of a facility shall ensure that a spill contingency plan is prepared.

(2) A spill contingency plan for a facility must contain the following information:

(a) the name, address and job title of the owner or person in charge, management or control;
(b) the name, job title and 24-hour telephone number for the persons responsible for activating the spill contingency plan;
(c) a description of the facility including the location, size and storage capacity;
(d) a description of the type and amount of contaminants normally stored at the location described in paragraph (c);
(e) a site map of the location described in paragraph (c);
(f) the steps to be taken to report, contain, clean up and dispose of contaminants in the case of a spill;
(g) the means by which the spill contingency plan is activated;
(h) a description of the training provided to employees to respond to a spill;
(i) an inventory of and the location of response and clean-up equipment available to implement the spill contingency plan;
(j) the date the contingency plan was prepared.

5. (1) Subject to subsection (2), the person responsible for preparing a spill contingency plan shall file the plan with the Chief Environmental Protection Officer before making use of a facility.

(2) Where a facility is already in use on the day these regulations come into force, the person responsible for preparing a spill contingency plan shall file the plan with the Chief Environmental Protection Officer within one year after that day.

6. (1) The Chief Environmental Protection Officer shall review each spill contingency plan after it is filed.

(2) The Chief Environmental Protection Officer may require the person who filed the spill contingency plan to make changes to it.

(3) Where the Chief Environmental Protection Officer requires changes under subsection (2), he or she may indicate a reasonable period of time within which the changes must be filed.

(4) The person who filed a spill contingency plan shall make and file any changes required under subsection (2).

7. (1) The person responsible for preparing a spill contingency plan shall review the plan annually.

(2) The person responsible for preparing a spill contingency plan shall, in writing,

notify the Chief Environmental Protection Officer when a review under subsection (1) has been completed and shall immediately file with the Chief Environmental Protection Officer any changes made to the plan.

8. Once a spill contingency plan has been filed, the person responsible for preparing the plan shall implement the plan.

SPILLS

9. **(1)** The owner or person in charge, management or control of contaminants at the time a spill occurs shall immediately report the spill where the spill is of an amount equal to or greater than the amount set out in Schedule B.

(2) Where there is a reasonable likelihood of a spill in an amount equal to or greater than the amount set out in Schedule B, the owner or person in charge, management or control of the contaminants shall immediately report the potential spill.

10. A person reporting a spill shall contact the 24 Hour Spill Report Line by calling ***(403) 920-8130***.

11. **(1)** A person reporting a spill shall give as much of the following information as possible:

(a) date and time of spill;
(b) location of spill;
(c) direction spill is moving;
(d) name and phone number of a contact person close to the location of spill;
(e) type of contaminant spilled and quantity spilled;
(f) cause of spill;
(g) whether spill is continuing or has stopped;
(h) description of existing contaminant;
(i) action taken to contain, recover, clean-up and dispose of spilled contaminant;
(j) name, address and phone number of person reporting spill;
(k) name of owner or person in charge, management or control of contaminants at time of spill.

(2) No person shall delay reporting a spill because of lack of knowledge of any of the factors listed in subsection (1).

12. No person shall knowingly make a false report of a spill or a potential spill.

13. **(1)** For the purposes of evaluating the effectiveness of the spill contingency plan, the Chief Environmental Protection Officer may require, in writing, the owner or person in charge, management or control of a facility at the time a spill occurred to prepare and file a written report concerning the spill.

(2) The person required to prepare the report described in subsection (1) shall provide all information required by the Chief Environmental Protection Officer.

Dated at Yellowknife July 22, 1993.

Original signed by
D.L. Norris
Commissioner of the Northwest Territories

SCHEDULE A

(Section 3)

Item No.	***Type of Facility***	***Storage Capacity***
1.	Above-ground facility	20,000 l or 20,000 kg
2.	Under-ground facility	4,000 l or 4,000 kg

SCHEDULE B

(Section 9)

Item No.	*TDGA Class*	*Description of Contaminant*	*Amount Spoiled*
1.	1	Explosives	Any amount
2.	2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity greater than 100 l.
3.	2.2	Compressed gas (non-corrosive, non flammable)	Any amount of gas from containers with a capacity greater than 100 l.
4.	2.3	Compressed gas (toxic)	Any amount
5.	2.4	Compressed gas (corrosive)	Any amount
6.	3.1, 3.2, 3.3	Flammable liquid	100 l
7.	4.1	Flammable solid	25 kg
8.	4.2	Spontaneously combustible solids	25 kg
9.	4.3	Water reactant solids	25 kg
10.	5.1	Oxidizing substances	50 l or 50 kg
11.	5.2	Organic Peroxides	1 l or 1 kg
12.	6.1	Poisonous substances	5 l or 5 kg
13.	6.2	Infectious substances	Any amount
14.	7	Radioactive	Any amount
15.	8	Corrosive substances	5 l or 5 kg
16.	9.1 (in part)	Miscellaneous products or substances, excluding PCB mixtures	50 l or 50 kg
17.	9.2	Environmentally hazardous	1 l or 1 kg
18.	9.3	Dangerous wastes	5 l or 5 kg
19.	9.1 (in part)	PCB mixtures of 5 or more parts per million	0.5 l or 0.5 kg
20.	None	Other contaminants	100 l or 100 kg

Appendix E

Contingency Planning and Spill Reporting in Nunavut

CONTINGENCY PLANNING AND SPILL REPORTING IN NUNAVUT

A Guide to the New Regulations

CONTINGENCY PLANNING

The *Spill Contingency Planning and Reporting Regulations* for Nunavut include the requirement for a contingency plan to be prepared and filed for facilities where petroleum, chemicals and other contaminants are stored. This guide has been developed to assist individuals or companies in preparing a contingency plan. They explain the requirements under the regulations, as well as suggesting supplementary information which may enhance any plan.

To assist you in using this guide it is important to note two things. First, as with any legislation, it is important to read the regulations in respect of the *Environmental Protection Act* (EPA). If a definition is not in the regulations, refer to the act. Second, the act and regulations will, by policy, be enforced on Commissioner's Land by Government of Nunavut employees familiar with the legislation. There is no intention to duplicate the requirements of other regulatory agencies.

What is a contingency plan?

A contingency plan, also called an emergency response plan or a spill response plan, is a set of procedures to be followed to minimize the effects of an abnormal event, such as a spill. It is important to note that the plan is not something you read after the fact. It serves as a guide or reminder of the steps to take during your response and identifies personnel and their responsibilities. To be effective, the information in the plan must be material with which you are already familiar. You do not want to be reading your plan for the first time during an emergency.

Why have one?

An emergency, such as a spill, is often a stressful situation. Under such conditions, important steps of response can be overlooked or forgotten. Following a plan helps to ensure all necessary concerns are addressed, i.e. life is protected, injuries are minimized, resources are used effectively, environmental impact is kept to a minimum and essential reporting is completed.

Who is required to file a plan?

Under the *Spill Contingency Planning and Reporting Regulations,* any person storing contaminants in an underground facility with a capacity equal to or greater than 4000 litres or kilograms, or any person storing contaminants in an aboveground storage facility with a capacity equal to or greater than 20,000 litres or kilograms, is required to file a plan. Although these quantities represent the minimum requirements for filing a plan, we recommend anyone who stores any quantity of contaminants prepare a plan.

The Chief Environmental Protection Officer may require a plan be submitted for a facility which does not meet the above requirements or may exempt a person from the requirements. These regulations are not intended to require a person who is already required to submit a contingency plan to another regulatory authority to also submit their plan to the Chief Environmental Protection Officer.

When must a plan be filed?

Owners of existing facilities have one year after the regulations are proclaimed within which to file a plan. Owners of new facilities must file a plan before the facility is used. It is a requirement to review and update the plan annually and to file the changes. The most common types of amendments include telephone numbers, named response personnel, equipment available, contaminants stored and handles, and emergency services available. The Chief Environmental Protection Officer will review all filed plans and amendments and may require changes. This review does not constitute a guarantee that the plan is adequate not provide a defence to liability imposed under the EPA.

Who should prepare the plan?

The best person to prepare the plan is you, the person who will use the plan. Who knows your facility and the surrounding area better than you or your employees? The references at the end of the guidelines include several sources of information which can assist you in developing a simple and effective plan.

What is in the plan?

The regulations require the following information be included in a contingency plan:

"(a) the name and address of the person in charge, management or control;"

> This is the on-site person responsible for managing the facility. When a spill occurs or is likely to occur, Section 5.1 of the *Environmental Protection Act* describes who is responsible for doing what. Included is the person in charge, management or control of the contaminant. It is likely that the person will be initially responsible for clean up activities. This section could also define the scope of the authority and responsibility designated to this person. Should this person have limited authority, the procedure to activate the higher levels of response should be indicated.

"(b) the name and address of the employer if the person described in paragraph (a) where applicable;"

> this is the person or company ultimately responsible for the facility, usually the owner.

"(c) a description of the facility including the location, size and storage capacity;"

> All responders must be familiar with the facility and its' contents. This is particularly important if persons unfamiliar with the facility are to assist in the planning or undertaking of the clean-up. The description could include a map and / or diagrams.

"(d) a description of the type and amount of contaminants normally stored on the site;"

This section would include the chemical name(s) and the volumes or weights of the contaminants. Volumes or weights would be the maximum amount of contaminant that may be on-site at anytime. This information is vital, ensuring safety of on-scene response personnel.

"(e) the steps to be taken to report, contain, clean up and dispose of a contaminant in the case of a spill;"

Reporting is the notification of all parties involved. This can include internal as well as external reporting procedures. A copy of the spill report form can be included. As well, a description of a public reporting procedure used to alert anyone who may be affected by the spill is required.

Clean up is the removal of the contaminant from the environment. You should consider the possible scenarios or spill incidents that occur at your facility including a worst case scenario, and describe how you would address those situations. A detailed description of actual containment and cleanup techniques or methods may or may not be included. Remember this is not a training manual. Your methods should already be familiar to your employees.

Disposal is treatment if the contaminant such that it is no longer a threat to the environment. Contingency plans must contain appropriate disposal procedures for the materials stored at the facility. Plans may include locations of disposal sites approved to accept wastes, means of storage prior to disposal and other approvals required. As the disposal techniques can be complex, the disposal of any contaminated soil or water must be authorized by the regulatory agency investigating the incident. However, the regulator is there to ensure clean up and disposal occurs, not to tell you what to do. Your disposal techniques should already be identified in your plan.

"(f) a site map;"

This map is intended to illustrate the facilities relationship to other areas which may be affected by a spill. The map should be to scale and be large enough to include the location of your facility, nearby buildings or facilities, roads, culverts, catch basins, drainage patterns and any nearby bodies of water which could be impacted by a spill or topographic features which would affect access and response.

"(g) the name, job title and 24 hour telephone number for the persons responsible for activating the contingency plan;"

This ensures the employee discovering the spill can activate a response and provides a 24 hour point of contact for the authority investigating the spill.

"(h) a description of the training provided to employees to respond to a spill;"

A sound training program is necessary when dealing with an emergency situation. The description can include a syllabus or brief outline of any training, whether it be on-the-job or formal courses. Fundamentals should include knowledge and use of any response equipment that may be used as well as knowledge of the hazards from the products that may be encountered. The training should provide for rapid and competent response consistent with company policies and procedures.

"(i) the means by which the contingency plan is activated;"

This section should outline internal company procedures to activate appropriate response equipment and personnel.

"(j) an inventory and the location of response and clean-up equipment available to implement the plan;"

This includes your equipment as well as any to be used by another person responding to the spill on your behalf. It is imperative, for your protection, that written agreements be made with others who will respond to your spills. This is a commitment made by then to act on your behalf. Another company with a response capability will not necessarily respond on anyone's behalf at anytime of the day or night.

"(k) the date the contingency plan was prepared;"

The following types of information, although not required, will enhance the effectiveness of the plan.

A listing of local contractors or clean-up specialists who may be called upon to assist in responding to spills.

A listing if emergency numbers such as fire, ambulance and police. Also include local health emergency numbers.

Material Safety Data Sheets for each product or contaminant stored at your facility.

We also suggest sending a copy of your plan to your local emergency response agency such as the fire department.

Holders of contingency plans should conduct simulation exercises to test the plan's effectiveness. This kind of assessment can be conducted in stages on various parts of the plan or on full-scale. Realism is critical to good assessment. Practice gives people confidence and can go a long way toward ensuring a more successful response in an actual emergency. Exercises should be noted in the plan.

For questions or clarification of the regulations or the guide contact:

Environmental Protection Service
Department of Sustainable Development
P.O. Box 1000, Station 1195
Iqaluit, Nunavut, X0A 0H0
Phone: (867) 975-5900
Fax: (867) 979-5981

Contingency plans are to be submitted to the above address.

SPILL REPORTING

The *Spill Contingency Planning and Reporting Regulations* for Nunavut include the requirement to report spills of contaminants in excess of specifies quantities. The minimum reportable quantities in Schedule B are listed by type of contaminant. For consistency, descriptions of the different types of contaminants comes from the *Transportation of Dangerous Goods Act* (TDG). Contaminants not described in the TDG Act are usually in "Other contaminants". An example is lube oil.

There may be times when the volume of spilled material is close to the reportable quantity or you are not sure if the spilled material is classified as a contaminant. If in doubt as to whether or not a spill should be reported, it is recommended to report the incident.

As noted in clause 11(2) if the regulations, you cannot delay the reporting of a spill because you so not have all of the required information.

Remember, the Act required you to clean up **any** spill and to notify any member of the public who may be affected by the incident, regardless if the spill is reportable or not.

REFERENCES

1. Canadian Standards Association, *Emergency Planning for Industry*. CAN/CSA-Z731-M91, CSA, Rexdale, Ontario, 1991

2. Northwest Territories Water Board, *Guidelines for Contingency Planning.* Yellowknife, NWT, 1987

3. Environmental Protection Service, Department of Resources, Wildlife and Economic Development, Government of Nunavut, *Spill Contaminant and Clean-up Course*. Yellowknife, NWT, 1991

4. Tilden, D.C., and H.E. Westermann, *Guidelines for the Preparation of Hazardous Material Spill Contingency Plans*. Environment Canada, Yellowknife, NWT, 1990

If you would like to be placed on a mailing list to receive guideline amendments or for public consultation on Environmental Protection Service legislation please fill this out and mail or fax to:

Environmental Protection Service
Department of Sustainable Development
P.O. Box 1000, Station 1195
Iqaluit, Nunavut, X0A 0H0
Fax: (867) 979-5981

Users of this guide are encouraged to report any errors, misspellings, etc. contained within, to EPS at the above address

Mailing List for Environmental Protection Service Information

Name: _____

Title: _____

Address: _____

_____

Phone / Fax Number: _____

Appendix F

Nunavut & NWT Spill Report Form

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER ____-_____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME		

C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS

F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION	
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION	
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS		

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			