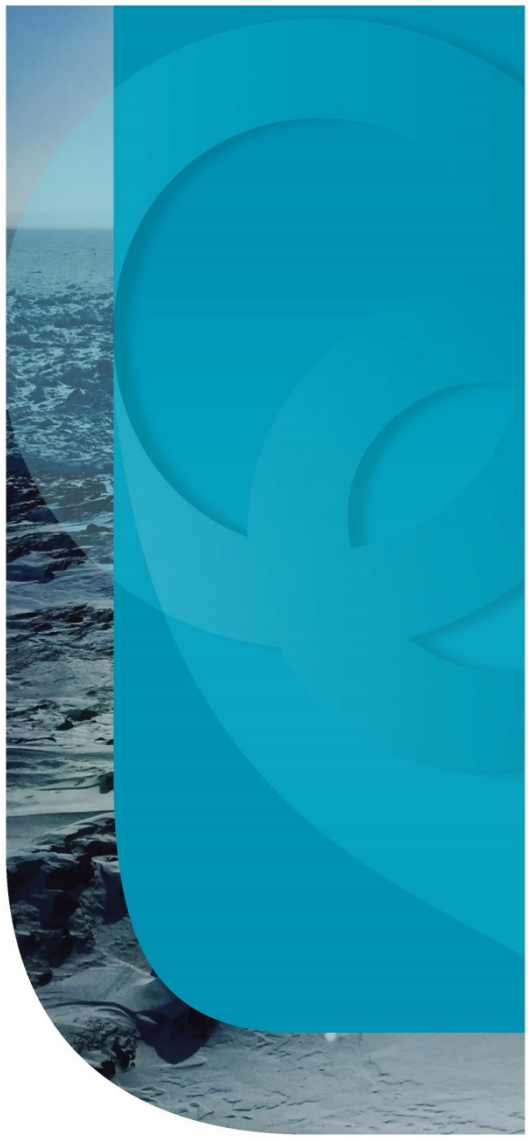
SPILL CONTINGENCY PLAN

ENVIRONMENTAL WASTE PROCESSING FACILITY

Qikqtaaluk Environmental Inc.
PO Box 2110
2027 Iqaluit Lane
Iqaluit, Nunavut X0A 0H0



September 27, 2019

O/Ref.: QE19-100-8

Qikiqtaaluk environmental
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2027 Iqaluit Lane
Iqaluit, Nunavut X0A 0H0

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Director

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PREAMBLE

This Emergency and Spill Response Plan for the Environmental Waste Processing Facility in Iqaluit has been in effect since the start of operations, and applies to all related activities on-site.

The Plan is updated and reviewed, as necessary, if operations are modified, or if the type and quantity of stored waste changes.

Formal distribution of the Plan is made to:

Department of Environment - Environmental Protection Division
PO Box 1000, Station 1300
Iqaluit, Nunavut X0A 0H0
Tel.: 867 975-7700
Fax: 867 975-7742

Crown-Indigenous Relations and Northern Affairs Canada
969 Qimugjuk Building, 2nd Floor
PO Box 2200
Iqaluit, Nunavut X0A 0H0
Tel.: 867 975-4500
Fax: 867 975-4560

City of Iqaluit
PO Box 460
Iqaluit, Nunavut X0A 0H0
Tel: 867 979-5600
Fax: 867 979-5922

Additional copies and updates of this Plan may be obtained from:

Qikiqtaaluk Environmental Inc.
2027 Iqaluit Lane, PO Box 2110
Iqaluit, Nunavut X0A 0H0
Toll Free: 1 866 634-6367
info@qenv.ca

Refer to Table 2 for additional contact information.

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1. INTRODUCTION

The spill contingency plan was developed to assist Qikiqtaaluk Environmental Inc. (QE) with implementing measures to protect the environment and minimize impacts resulting from spill events. It provides precise instructions with which all personnel shall be familiar during emergency spill response situations. This plan outlines procedures for responding to spills while minimizing potential health and safety hazards, environmental impacts, and clean-up costs.

This spill contingency plan is required as part of the implementation of an Environmental Waste Processing Facility (EWPF) in Iqaluit, Nunavut. The following activities will be conducted at the EWPF:

- Receiving and handling (loading and unloading) waste materials contained primarily in 205 L drums;
- Consolidation of small containers (cans, bottles, pails, etc.) into larger containers (drums, waste wranglers) to form labpacks;
- Storage of waste drums and wranglers placed outdoors in the temporary liquid waste storage area or 20 ft marine containers;
- Crushing of fluorescent tubes using specialized equipment;
- Puncturing and drainage of aerosol cans using specialized equipment;
- Placement of drums and wranglers on pallets and packaging according to maritime transport regulations;
- Treatment of contaminated water through a water filtration unit;
- Treatment of hydrocarbon-impacted soils using physical, chemical and biological techniques.

The EWPF is located at 2027 Iqaluit Lane, in Iqaluit, more specifically: Lot 666, Plan 1673, Parcels O and Q (central point coordinates in decimal degrees: $63^0$44’38.22” N, $68^0$32’58.59” W). A drainage ditch is located along the lot limits of the EWPF. Drainage ditches flow into the City of Iqaluit’s municipal drainage pathway which, in time, flows toward the ocean, approximately 700 m from the Site. Figure 1, on the following page, presents a general overview of the EWPF site.

Waste management activities take place in areas designed to control run-off or contact water, minimize contaminant dispersion, and contain accidental spills. A large lined water collection pond is available to store possibly contaminated water or snow from a spill or incident. Surface drainage water is directed in such a way that it can be controlled with silt fences, sorbent booms and/or easily contained before reaching the drainage ditch.

FIGURE 1 Location of the Environmental Waste Processing Facility

Source:Google Maps, 2017

The spill contingency plan was implemented to ensure that the EWPF complies with applicable laws, regulations and requirements of authorities having jurisdiction. QE will obtain and comply with the permits, approvals and authorizations required for the operations. The following applicable regulations and documents constitute an integral part of the spill contingency plan:

- Federal Legislation:
  - The *Canadian Environmental Protection Act*[1] controls hazardous substances from their production and/or import, their consumption, storage and/or disposal;
  - The *Nunavut Waters and Nunavut Surface Rights Tribunal Act*[2] provides for the conservation and utilization of waters in Nunavut, in a manner that will provide the optimum benefit for the residents of Nunavut;
  - The *Northwest Territories Waters Regulations*[3] requires that every licensee maintain accurate and detailed books and records, to be submitted to the Board each year, stating the quantity of water used under the licence as well as the quantity, concentration and type of any waste deposited;
  - The federal *Transportation of Dangerous Goods Act*[4] and *Regulations*[5] ensure the protection of public health and safety, and the environment during the handling and transport of dangerous goods. The Regulations apply to all modes of transportation, by road, by sea, and by air.
- Territorial Legislation:
  - The Government of Nunavut *Environmental Protection Act*[6] governs the protection of the environment from contaminants. The act defines offences and penalties as well as the powers of government inspectors.
- Guidelines and Policies:
  - The CCME[7]:
    - *Code of Practice for Used Oil Management*[8]: defines appropriate environmental options for the handling, storage, collection, recycling, transport, re-use and/or disposal of used oils in Canada. It helps regulatory authorities formulate provincial and/or regional strategies for used oil management,
    - CEQG[9]: establishes the guideline values for contaminated soils,
    - CWQG[10] for the Protection of Aquatic Life: establishes the guideline values for contaminated water;

1 Canadian Environmental Protection Act (S.C. 1999, c. 33)
2 Nunavut Waters and Nunavut Surface Rights Tribunal Act (S.C. 200, c. 10)
3 Northwest Territories Waters Act)S.C. 1992, c. 39)
4 Transportation of Dangerous Goods Act (S.C. 1992, c. 34)
5 Transportation of Dangerous Goods Regulations (SOR/2001-286)
6 Environmental Protection Act (R.S.N.W.T. 1988, c.E-7)
7. Canadian Council of Ministers of the Environment
8 *Code of Practice for Used Oil Management in Canada*, Canadian Council of Ministers of the Environment, CCME-TS/WM-TRE—6E, August 1989
9 Canadian Environmental Quality Guidelines
10 Canadian Water Quality Guidelines

- The *Guidelines for the Preparation of Hazardous Material Spill Contingency Plans*[1] describes parameters that should be considered in the development of hazardous materials spill emergency plans. It also defines the information that should be incorporated into a comprehensive contingency plan;
- The *Nunavut Spill Contingency Planning and Reporting Regulations*[2] describe the requirements for spill reporting and emergency planning;
- The *Land Transportation Emergency Response Guideline for Petroleum Spills*[3] developed by the Canadian Petroleum Products Institute outlines the scope, emergency response code of practice, response time guidelines, response equipment and personnel capability requirements.

1 *Guidelines for the Preparation of Hazardous Material Spill Contingency Plans*, Environment Canada, 1990
2 Spill Contengnecy Planning and Reporting Regulations, July 15, 1998
3 *Land Transportation Emergency Response Guideline for Petroleum Spill*, Canadian Fuels Association, January 2013

2. HAZARDOUS MATERIALS – TRANSPORT AND STORAGE

Several types of hazardous waste will be managed at the EWPF. Quantities remaining in storage will be minimal after the last sealift of the season (i.e. October) and will increase throughout the winter season, to reach maximum capacity before the first sealift of the season (i.e. July).

Furthermore, as part of the soil treatment process, sodium persulfate (a solid oxidizing agent) may be used and therefore stored on-site before use. Because of its oxidizing properties, the sodium persulfate bags will be segregated from flammable and combustible waste products, and stored in a separate storage container.

In order to prevent dangerous reactions between incompatible materials, hazardous materials and waste will be stored in compliance with general chemical segregation rules.

Table 1, hereinafter, presents the approximate maximum quantities of hazardous products and waste materials that will be present at the transfer station before the first sealift of the season.

The safety data sheets (SDS) for the products stored on-site can be found in the SDS binder, located in the QE Site Office.

TABLE 1
Estimated Maximum Materials Storage Capacity

Shipping Name	Description	TDG[1] Class	Maximum Storage Capacity	Type and Number of Containers
Waste lubricating oil	Used oil	N/A	32,000 L	160 drums or 32 tote tanks or any combination of both
Waste glycol	Waste antifreeze	N/A	19,200 L	96 drums or 19 tote tanks or any combination of both
Oily water (and snow)	Water and PHC[2] mixture	N/A	10,000 L	10,000 L open tank
Batteries, wet, filled with acid	Vehicle batteries	8	6,800 kg	10 battery packs
Batteries, dry, containing potassium hydroxide, solid	Small batteries	8	800 kg	4 drums
Paints and paint-related materials	Paints, thinner	3	16,000 kg	15 waste wranglers
Flammable liquids, not otherwise specified (gasoline)	Various petroleum products mixtures	3	32,000 L	160 drums
Oily contaminated solids (rags, absorbents, filters)	Oily solids	N/A	7,200 kg	32 drums
Hydrocarbon contaminated soil	Oily soils	N/A	3,000 m^3	Covered containment cells
Environmentally hazardous substances, solids, not otherwise specified (mercury)	Crushed fluorescent light tubes and bulbs	9	2,400 kg	11 drums
Propane	Propane tanks	2.1	800 kg	Bulk storage
Butane	Butane tanks	2.1	400 kg	4 waste wranglers
Acetylene	Gas cylinders	2.1	800 kg	Bulk storage
Oxygen	Gas cylinders	2.2 (5.1)	800 kg	Bulk storage
Helium	Gas cylinders	2.2	800 kg	Bulk storage
Argon	Gas cylinders	2.2	800 kg	Bulk storage
Aerosols	Aerosol cans, paint/solvents	2.1	2,000 kg	10 waste wranglers
Aerosols	Aerosol cans, oven cleaner	2.2 (8)	2,000 kg	10 waste wranglers
Organic solids, toxins, N.O.S.[3] (medication)	Spent medication	6.1	200 kg	1 drum or 10 pails
Sodium persulfate	Soil treatment oxidizing agent (solid)	5.1	2,000 kg	25 kg bags stacked on pallets
Biomedical waste	Medical sharps	6.2	5,000 kg	7,500 UN[4]-approved sharps containers (5 L each)

1 Transportation of Dangerous Goods
2 Petroleum hydrocarbons
3 Not otherwise specified
4 United Nations
N/A Not applicable

Notes: Pails are assumed to be high-density polyethylene (HDPE), 20 L capacity
Drums are assumed to be steel, 205 L capacity
Tote tanks are assumed to be HDPE, 1,000 L capacity
Bulk bags are assumed to be 1 yd^3 (approximately 750 L) capacity
Waste wranglers (Quatrex bags) are assumed to be 1 yd^3 (approximately 750 L) capacity
Battery packs are assumed to be 0.5 yd^3 (approximately 380 L) capacity

The largest single storage container used for TDG[1]-regulated liquid waste, such as Class 3 flammable liquids, is the 340 L open-top steel salvage drum.

The largest single storage container used for non-TDG regulated liquid waste, such as waste oil and antifreeze, is the 1,000 L HDPE[2] tote tank with steel frame and pallet.

Solid waste, which is non-spillable, will be stored in either:

- 20 L open-top HDPE pails, with lid and gasket;
- 205 L or 340 L open-top steel drums, with lid and gasket;
- 0.75 m^3 waste wranglers made of woven polypropylene with reinforced sides and 6 mil inner liner;
- 0.75 m^3 bulk bags made of woven polypropylene with a 6 mil inner liner;
- 3.75 m^3 doubled bulk bags made of woven polypropylene with a 6 mil inner liner.

Emergency spill response equipment (i.e. spill kits) will be available at the EWPF. The spill kits will be regularly inspected and maintained. Spill kits will contain the appropriate type, size and quantity of equipment for the volume and type of product present at the storage location, as well as the environment likely to be affected by a spill (i.e. ground).

1. Transport of dangerous goods
2 High-density polyethylene

3. DUTIES AND RESPONSIBILITIES

As part of the emergency spill response plan, QE is responsible for implementing, through its management team, the following procedures:

- Train Site personnel in spill response procedures and the proper use of response equipment and materials;
- In the event of a spill, mobilize all available Site personnel, equipment and tools, as required;
- Implement all required health and safety procedures at the spill location;
- Eliminate all fire hazards and potential ignition sources near the spill area;
- Control the source of the spill (i.e. reduce or stop product discharge);
- Contain the spilled product using the most appropriate methods and equipment (i.e. dykes, ditches, sorbent materials, containment booms, and other barriers);
- Evaluate the possibility of recovering the spilled materials;
- Obtain, if required, assistance from government agencies such as the Government of Nunavut Department of Environment (GN DoE) and/or Environment and Climate Change Canada;
- Comply with all applicable guidelines and regulations;
- Conduct a preliminary assessment of the environmental impacts;
- Within 24 hours of the event, report the spill to the Government of Nunavut Spill Report Line and submit a written spill report using the appropriate form (see below for the list of information required in the report).

Table 2, below, presents the management team responsible for overseeing emergency spill response operations and their contact information.

TABLE 2
QE Management Contact Information

Position	Contact
Olivier Simard / Chase Perry EWPF Manager	Mobile: 867 222-8194 **(24 hrs)**
Jennifer Godin EWPF Director	Office Tel.: 450 466-2123, ext. 127 Mobile: 514 207-0667 **(24 hrs)**
On-Duty Environmental Technician Hazmat Specialist	Mobile: 867 222-3246
Harry Flaherty Corporate Contact – President	Office Tel.: 867 979-8406 Mobile: 867 222-1713

As part of the spill response plan, the On-Duty Environmental Technician, acting as incident commander, is responsible for implementing the following procedures:

- Assume authority over the spill scene and the personnel involved;
- Activate the Spill Response Plan;
- Evaluate the initial situation and assess the magnitude of the spill;
- Develop an overall plan of action;
- Report to the EWPF Manager and provide recommendations regarding resource requirements (additional manpower, equipment, materials, etc.) to complete the clean-up effort. The responsibility of the On-Duty Environmental Technician is to mobilize personnel and equipment to implement the clean-up.

The responsibilities of the EWPF Manager, with support from the EWPF Director, include the following:

- Report the spill to NT-NU 24 hour Spill Report Line at (867) 920-8130;
- Act as a liaison with Management to keep them informed of clean-up activities;
- Obtain additional required resources not available on-site for spill response and clean-up;
- Act as the spokesperson with government agencies as well as the public and the media, as appropriate;
- Document the cause of the spill and effectiveness of the clean-up effort, and implement the appropriate measures to prevent a recurrence of the spill;
- Prepare and submit follow-up documentation required by appropriate regulators;
- Ensure that the spill is cleaned up and all follow-up communications and reports are filed with the GN DoE and Environment and Climate Change Canada offices.

The responsibilities of the EWPF Director include the following:

- Work with the EWPF Manager on regulatory follow-up, as necessary;
- Act as the spokesperson with the government agencies, as well as the public and media, on any significant spill events.

Once a spill event has been reported, the EWPF Manager will establish a specific strategy for containing and controlling the spill and initiate the clean-up activities. The On-Duty Environmental Technician, as well as other external resources such as the Iqaluit Fire Department and GN DoE, may act as technical advisors prior to and during the intervention. The trained Spill Response Team will conduct all emergency spill response operations under the leadership of the EWPF Manager. During the clean-up phase of the intervention, other site personnel (e.g., heavy equipment operators, labourers, etc.) may be involved in the intervention. Figure 2 presents an organizational chart of the Spill Response Team.

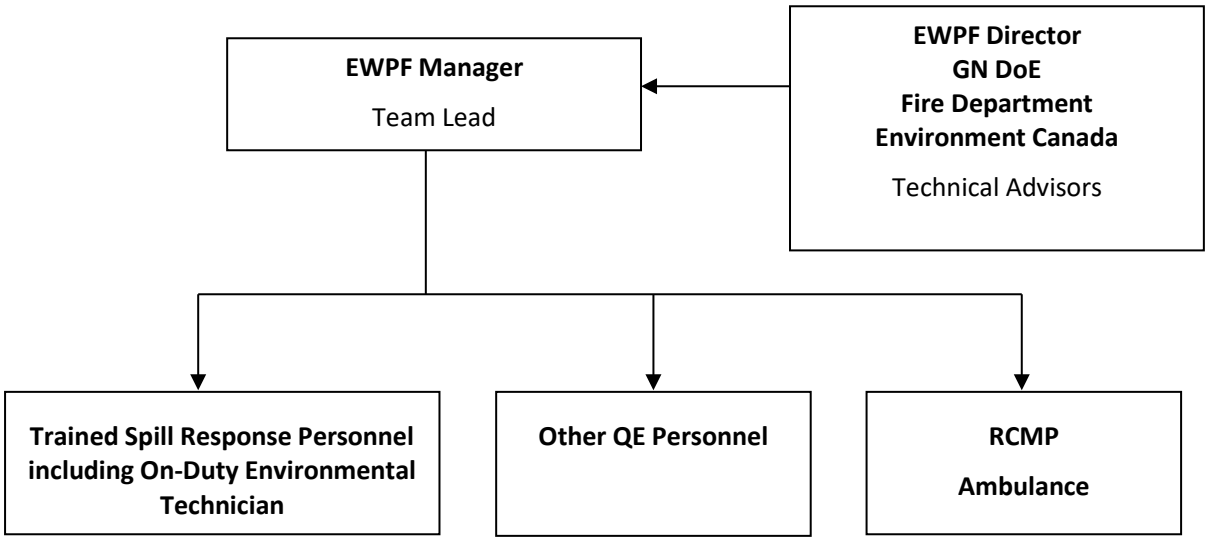


FIGURE 2 Spill Response Team Organizational Chart

QE will ensure that all contracted maritime shipping companies possess a spill contingency plan to respond to spill events during operations. When shipping hazardous materials to and from the EWPF, transport companies are required to carry out their operations in accordance with federal and international regulations (i.e. TDGR-Clear language, IMDG[1], IATA[2]).

During transport, in the event of a hazardous materials spill exceeding the quantities listed in Part 8.1 (1) of the TDGR, the shipping company will immediately report the incident to the RCMP and Nunavut Emergency Management at 1 800 693-1666 (as stated in Part 8.1 (5), TDGR). The immediate report must include as much of the information listed in Part 8.2 of the TDGR as is known at the time of the report. A follow-up report must be made, in writing, to the Director General within 30 days following the occurrence of the accidental release, the “dangerous goods accident” or the “dangerous goods incident”. The follow-up report must include the information listed in Part 8.3 of the TDGR.

If a spill occurs during transport on water or during the transfer of hazardous materials from ship to land, the shipping company will be responsible for implementing the appropriate spill response measures in accordance with their spill contingency plan.

1. International Maritime Dangerous Goods
2. International Air Transport Association

4. TRAINING AND DRILLS

Site personnel shall be informed that any spill of hazardous liquids or solids, whatever the extent, must be immediately reported to the EWPF Manager.

The EWPF Manager will select a certain number of workers to form the Spill Response Team. Crew members will be trained in emergency spill response procedures and operations. Training will include knowledge of the following:

- Properties of the hazardous materials stored on-site;
- Common causes of spills;
- Environmental effects of spills;
- Worker health and safety during emergency interventions;
- PPE[1] and clothing;
- Spill response procedures and techniques on land and snow, and during all 4 seasons;
- Spill response equipment and materials.

Training will also include the analysis of potential spill events that are more likely to occur during waste management operations. Spills are more likely to be caused by:

- Human error during the handling of a hazardous product and waste containers; or
- Rupture of containers due to accidental damage, deterioration or equipment failure.

Training will include classroom training and spill response drills.

1. Personal protective equipment

5. MATERIALS AND EQUIPMENT

To prevent spills and provide an adequate response in the event of a spill, QE will maintain on-site the appropriate types and quantities of response equipment and materials.

To facilitate immediate first response in the event of a fluid release on land, 2 spill kits will be strategically placed in the waste container handling areas. The contents of the spill kits are listed in Table 3, below.

TABLE 3
Spill Kit Contents

Spill Kit	Contents	Quantity
Q Ultra 75 Hydrophobic 140-gallon capacity	75-gal yellow metal overpack drum	1
	12 oz 15” x19” sorbent pads	100
	3” x 4 ft sorbent socks	15
	5” x 10 ft sorbent booms	4
	25 lb granular sorbent	1
	Shovel	1
	30” x 60” x 6 mil disposal bags	5
	Epoxy sticks	2
	Coverall and boot covers	2
	Pair of safety goggles	2
	Pair of gloves	2

In addition to the spill response materials listed above, an excavator and dump truck are available to assist with spill response and recovery efforts.

6. SPILL RESPONSE PROCEDURES

A spill is defined as the discharge of a hazardous product out of its containment and into the environment. Potentially hazardous to humans, vegetation, and wildlife, they vary in severity, depending on several factors including: the nature of the material, the spill quantity, the location and season. Waste petroleum products (waste oils, waste fuels, oil-based paints) are the main group of waste material that may be spilled; therefore, spill response procedures will focus on this type of hazardous material.

Site personnel will be briefed on the procedures to be followed to report a spill and initiate spill response. The first person to notice a spill will take the following steps:

1. Immediately warn other personnel working near the spill area;
2. Evacuate the area if the health and safety of personnel is threatened;
3. Notify the EWPF Manager, who will initiate the spill response operations;
4. In the absence of danger, and before the spill response team arrives on the scene, take any safe and reasonable measures to stop, contain and identify the nature of the spill.

All spill response interventions carried out by the spill response team will follow these general procedures:

- **Source Control:** Reduce or stop the flow of product without endangering anyone. This may involve very simple actions such as sealing a puncture hole with whatever is at hand (e.g., a rag, a piece of wood, tape, etc.), repositioning a leaking container such that the puncture hole is facing up, or transferring fluid from leaking containers;
- **Control of Free Product:** Prevent or limit the spread of the spilled material. Accumulate/concentrate the spilled product in an area to facilitate recovery. Barriers positioned downgradient of the spill will slow or stop the progression of the spill. Barriers can consist of absorbent booms, dykes, berms, or trenches dug into the ground;
- **Protection:** Assess the potential dangers of the spill to protect sensitive ecosystems and natural resources. Contain or divert the spilled material away from sensitive receptors. This can also be achieved by using varying types of barriers;
- **Clean-up the Spill:** Recover and containerize as much free product as possible. Recover and containerize/treat contaminated soils, water, and snow;
- **Report the Spill:** Provide basic information such as the date and time of the spill, the type and amount of product discharged, the location and approximate size of the spill, the actions already taken to stop and contain the spill, the meteorological conditions, and any perceived threat to human health or the environment. Reporting requirements are presented in Section 8 of the present document.

Specific response procedures for spills on land and snow are presented in the following sections. Because the containers used to store liquids are of relatively small volume (205 L and 1,000 L), and because of the mitigation measures to be implemented to control surface drainage, any liquid spills will likely not reach any drainage ditches. As such, response to spills on water is not discussed in this Plan.

Procedures will vary depending on the season.

The spill response flowchart is presented in Appendix A.

6.1 Spills on Land

Response to spills on land will include the previously detailed general procedures. The main spill control techniques involve the use of 2 types of barriers: dykes and trenches. Barriers should be placed on the downgrade (down slope) from the source of the spill, and as close as possible to the source of the spill. Barriers will slow the progression of the petroleum product and will also serve as containment to allow recovery of the fluids.

Depending on the volume spilled, the site of the spill, as well as available materials, a dyke may be built using soils, booms, lumber, snow, etc. A plastic liner should be placed at the foot of and over the dykes to protect the underlying soils, or other materials, and to facilitate recovery of the fuel. Construct dykes in such a way as to accumulate a thick layer of free product in a single area (V- or U-shaped).

Trenches are useful in the presence of permeable soils, and when the spilled fluid is migrating below the ground surface. A plastic liner should be placed on the downgrade edge of the trench to protect the underlying soils. Liners should not be placed at the bottom of the trench so as to allow water to continue to flow underneath the layer of floating oil.

The use of large quantities of absorbent materials to recover significant volumes of oil should be avoided. Large volumes of free product shall be recovered, as much as possible, using vacuums and pumps, then containerized. Mixtures of water and oil may be processed through an oil-water separator. Absorbent sheets should be used to soak up residual oil on water, on the ground (soils and rock), and vegetation. Peat moss may also be sprinkled on vegetation to absorb films of petroleum products.

6.2 Spills on Water

Although rare, since the only water on the site is located in the ditches, response to spills on water will include the previously detailed general procedures. More specifically, an absorbant berm will be constructed to contain the spill and allow for the recovery of fluids.

6.3 Spills on Snow

In general, snow and ice will slow the movement of hydrocarbons. The presence of snow may also hide the oil slick and make it more difficult to follow its progression. Snow is generally a good natural sorbent, as hydrocarbons tend to be soaked up by snow through capillary action. However, the use of snow as a sorbent material shall be limited as much as possible. Snow and frozen ground will also prevent hydrocarbons from migrating into soils, or at minimum slow the migration process.

Response to spills on snow and ice will include the previously detailed general procedures. Most response procedures for spills on land may be used for spills on snow and ice. The use of dykes (i.e. compacted snow berms lined with plastic sheeting) will slow the progression of the oil, and will also serve as a containment to recover the oil.

Free product shall be recovered using a vacuum, a pump, or sorbent materials. Contaminated snow and ice will be scraped up manually or using heavy equipment, depending on volumes. The contaminated snow and ice will be placed in containers. Once melted, the oily water will be processed through the Water Treatment Facility.

6.4 Disposal of Spilled Materials

Steel drums and waste wranglers will be used to contain used sorbent materials for transport by sealift to an authorized disposal facility in the south.

7. POTENTIAL SPILL ANALYSIS

To prepare for emergency spill response, a potential spill analysis was conducted on various "worst case" scenarios. The exercise serves to identify potential risk areas, as well as determine the fate of spilled products and their environmental effects. For the EWPF, 2 potential spill scenarios were identified:

- Tote tank spill; and
- Vandalism spill.

These 2 spill scenarios are analyzed in detail, below.

Scenario #1: Tote Tank Spill

Description of incident: The contents of a tote tank containing waste oil spilled on the ground while being transferred from the storage container to a flatbed trailer using heavy equipment. Oil spilled by gravity. Spill occurs in the storage yard.

Potential causes: Tote tank drops from a height of 5 ft (1.5 m), human error, accident.

Hazardous products spilled: Waste oil.

Maximum volume spilled: 1,000 L.

Estimated time to spill entire volume: 5 minutes.

Immediate receiving medium: Soil.

Most probable direction of oil slick migration: As the ground has a slight slope towards the east, the spill should slowly flow towards the east.

Distance and direction to nearest receiving body of water: Drainage ditch (along property limits) located 65 m to the east.

Estimated emergency spill response time: 5 minutes after spill is noticed.

Spill response procedures: Generally, contain and recover oil spilled on the ground using dykes or booms as described in Section 6.1. Prevent the oil from reaching the drainage ditches. Collect free product for temporary storage. Excavate contaminated soils and/or snow, store and manage appropriately.

More specifically, an oil spill, flowing toward the east, will be intercepted by the access road (to the east of the site) which is at a higher grade than the natural ground surface. A dyke or boom placed perpendicular to the road will act as a low point to collect the free product before it reaches the drainage ditch.

Scenario #2: Vandalism Spill

Description of incident: Spill on the ground of part of the contents of 4 tote tanks containing waste oil caused by loader forks puncturing tote tanks. Oil spilled by gravity. Spill occurs in the storage yard.

Potential causes: Vandalism by a disgruntled worker.

Hazardous products spilled: Waste oil.

Maximum volume spilled: 2,000 L.

Estimated time to spill entire volume: 10 minutes.

Immediate receiving medium: Soils.

Most probable direction of slick migration: As the ground has a slight slope toward the east, the spill should slowly flow toward the east in a plume shape.

Distance and direction to nearest receiving body of water: Drainage ditch (along property limits), located 65 m to the east.

Estimated emergency spill response time: 5 minutes after spill is noticed.

Spill response procedures: Plug 8 puncture holes with rags, absorbent sheets, duct tape, etc. Contain oil spill on the ground and recover using dykes or booms as described in Section 6.1. Prevent the oil from reaching the drainage ditches. Collect free product for temporary storage. Excavate contaminated soils and/or snow, store and manage appropriately.

More specifically, an oil spill, flowing toward the east will be intercepted by the access road (to the east of the site) which is at a higher grade than the natural ground surface. A dyke or boom placed perpendicular to the road will act as a low point to collect the free product before it reaches the drainage ditch.

8. REPORTING REQUIREMENTS

Quantities of spilled hazardous substances requiring reporting are listed in Schedule B of the Nunavut Spill Contingency and Reporting Regulation. For example, for all flammable liquids (Class 3), spills of volumes equal to or greater than 100 L (half a drum) require reporting.

After the initial field emergency response to the spill event, the spill will be reported to the 24-hour Spill Report Line:

24-Hour Spill Report Line

Tel. 867 920-8130

or

Fax: 867 920-8127

Failure to report a spill can lead to fines. It is the responsibility of the EWPF Manager to prepare the proper reports and transmit them to the regulatory authorities. Table 4 presents an additional contact list for spill reporting.

TABLE 4
Contact List for Spill Reporting

Department	Contact Person	E-mail	Telephone
GN DOE[1]	-	-	867 975-7726
Fire Department (General) Fire Department (Emergency)	-	-	867 979-5655 867 979-4422
RCMP - Iqaluit	-	-	867 979-0123
Ambulance	-	-	867 979-4422
CIRNAC[2]	-	-	1 800 567-9604

1 Government of Nunavut Department of Environment
2 Crown-Indigenous Relations and Northern Affairs Canada

After, the spill event must be reported in writing using the standard Spill Report Form presented in Appendix B.

The written report will include the following information:

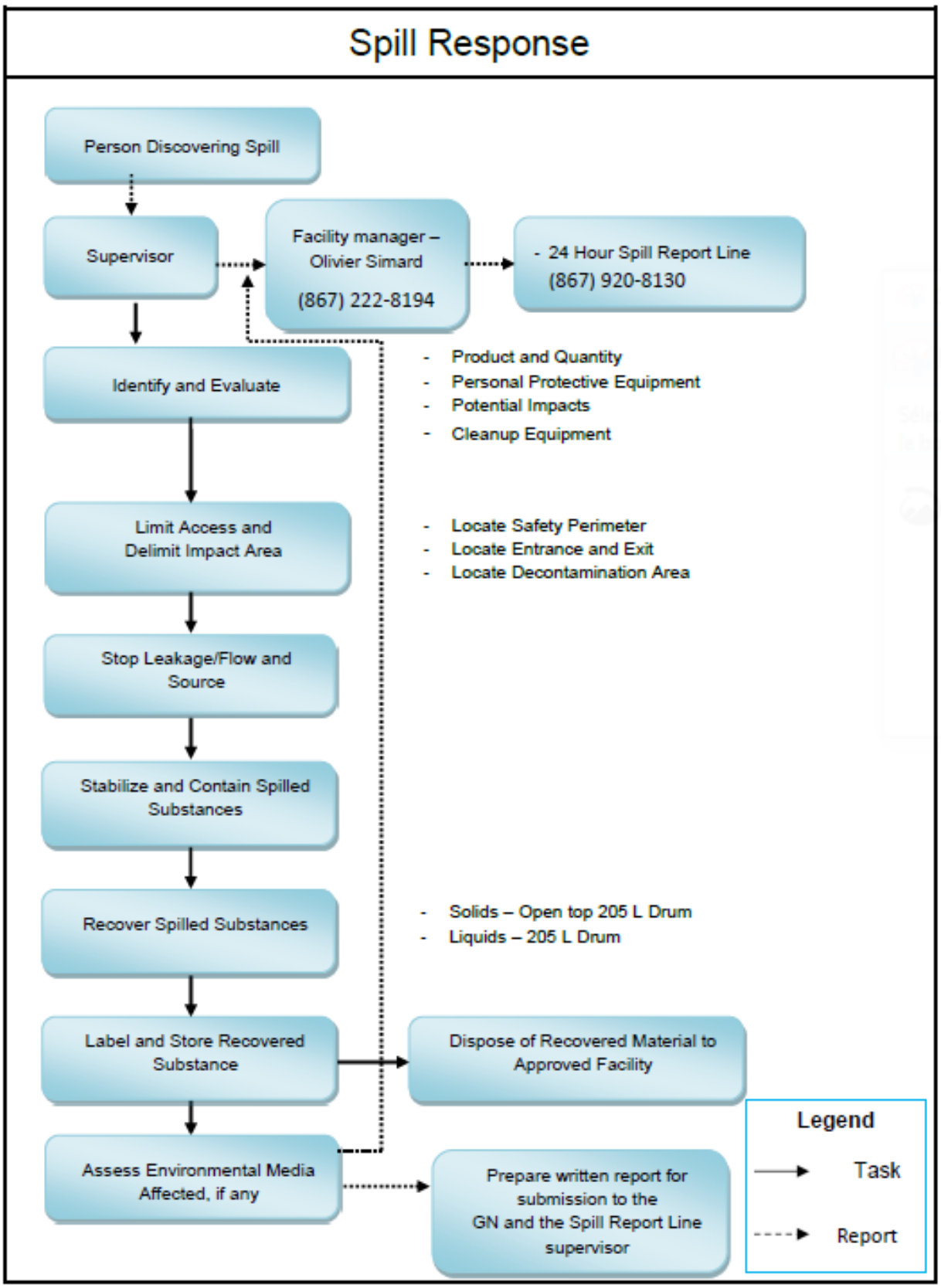
- Date and time of the incident;
- Location or map coordinates and direction of spill movement, if not at steady state;
- Party responsible for the spill;
- Type and estimated quantities of spilled contaminant(s);
- The specific cause of the incident;
- Status of the spill, indicating if spilled materials are still moving or now at steady state;

- Approximate surface area of the contaminated zone;
- Factors affecting spill or recovery, such as temperature, wind, etc.;
- Status of containment actions, indicating whether:
  - Naturally;
  - Booms, dykes or other;
  - No containment has been implemented;
- Corrective action taken, or proposed, to clean-up, contain or dispose of the spilled materials;
- Whether assistance is required, and in what form;
- Whether the spill poses a hazard to persons or property (i.e. fire, drinking water);
- Comments and recommendations;
- The name, position and employer of the person reporting the spill; and,
- The name, position and department of the person to whom the spill is reported.

In the event of a spill involving the marine carrier delivering waste, QE will ensure the subcontractor reports any spill event under its responsibility.

APPENDIX A

Spill Response Flowchart


Spill Response
Person Discovering Spill
Supervisor
Facility manager – Olivier Simard
(867) 222-8194
- 24 Hour Spill Report Line
(867) 920-8130
Identify and Evaluate
- Product and Quantity
- Personal Protective Equipment
- Potential Impacts
- Cleanup Equipment
Limit Access and Delimit Impact Area
- Locate Safety Perimeter
- Locate Entrance and Exit
- Locate Decontamination Area
Stop Leakage/Flow and Source
Stabilize and Contain Spilled Substances
Recover Spilled Substances
- Solids – Open top 205 L Drum
- Liquids – 205 L Drum
Label and Store Recovered Substance
Dispose of Recovered Material to Approved Facility
Assess Environmental Media Affected, if any
Prepare written report for submission to the GN and the Spill Report Line supervisor
Legend
Task
Report

APPENDIX B

Standard Nunavut 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 ENVIRONMENT
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			

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