Spill Contingency Plan
Monitoring Well Installation and Groundwater Sampling at Iqaluit Airport, Iqaluit, Nunavut

Originally prepared for Former Iqaluit Vehicle Dump and Community Landfill Remediation Project,

Prepared By: Transport Canada March 2011
Revised April 2017 by Arcadis Canada Inc.
Revised June 2019 by Transport Canada

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Preamble

This spill contingency plan has been developed based on the requirements to submit a water license application to the Nunavut Water Board. The spill response plan has been developed based on the following documents and guidelines and will accompany the Health and Safety Plan as a working document on site at all times:

1. Environmental Protection Act, Spill Contingency Planning and Reporting Regulations R-068-93, Government of Northwest Territories, 1990.
2. Contingency Planning and Spill Reporting in Nunavut, A Guide to the New Regulations
3. NT-NU Spill Report Form

There is no storage of any petroleum products or hazardous materials at this site. The spill plan has been developed for the following potential spills that could occur during the implementation of the Monitoring Well Installation and Sampling Project, Iqaluit, Nunavut:

- Heavy equipment working at the site. Heavy equipment will include an auger drill and accompanying service truck. Heavy equipment operators are required to have their equipment properly maintained without any leaks. No refuelling of equipment is allowed on site. Refuelling will only be allowed in a staging area away from the project location. The use of drip pans will be mandatory when refuelling vehicles;
- Equipment spilling fuel if a rollover is encountered;
- The potential of encountering impacted soil (drill cuttings) and groundwater during drilling and water sampling.

Operators are required to have a 50 gallon spill kit on site with them at all times. Operators will also have the spill plan containing contacts and procedures for emergencies such as hospitals, fire department, police and territorial governmental department; environmental spills 24-hour reporting phone number (867) 920-8130. Should a release of fuel from the equipment occur, the contractor is required to make use of the 50 gallon spill kit on site. All spills are required to be reported regardless of volume to the Spill Inspector at (867) 975-4295.

1) Introduction and Project Details

i) Company Details

Transport Canada has applied for a water license to the Nunavut Water Board to sample groundwater at the Iqaluit Airport, Nunavut.

Contact information:

Project Manager
Transport Canada
Contaminated Sites
Reid Campbell, Environmental Officer
344 Edmonton Street,
Winnipeg, Manitoba R3B 2L4
(204) 984-2720
reid.campbell@tc.gc.ca

24-Hour Spill Reporting:	(867) 920-8130
Ambulance:	(867) 979-4422
Fire Department:	(867) 979-4422
Hospital Emergency Room:	(867) 979-4422
Qikiqtani General Hospital:	(867) 975-8600
Police Department (RCMP):	(867) 979-1111

ii) Effective Date of Plan

Effective date for of spill contingency plan is July 1, 2019

iii) Last Revisions to Plan

The plan was revised in June 2019 in preparation for the project scheduled for the summer of 2019 to reflect the project scope. The June 2019 revisions included:

- Changing the project scope
- Update of project contacts and schedule
- Updating and adding additional information to the Spill Prevention section and Action Plan

While the original plan was developed for a different project, it was previously accepted by the Nunavut Water Board and both of the projects involve the same potential spills are located within the Iqaluit Airport. A final review and updated revisions to the spill contingency plan will be required when a professional environmental consultant is awarded the contract.

iv) Distribution of Plan

Distribution of the plan has been sent to NT for distribution and comments to other federal, territorial governments. The updated plan will be distributed to the Nunavut Water Board, the Consultant and the drilling Contractor.

v) Purpose and Scope of Plan

The purpose of this plan is to outline response actions for potential spills of any sizes, including worst case scenario. The plan identifies key responsibilities in the event of a spill, as well as equipment and other resources available to respond to a spill. As previously mentioned, no storage tanks and hazardous materials are stored on site. No refuelling equipment is allowed on site other than at a staging area away from the work site. The scope of the plan, therefore, addresses the equipment on site potentially releasing fuel. This includes a drill auger and accompanying service vehicle. The source of potential spills could result from the following:

- Equipment leaking;
- Equipment roll over;
- Refuelling at designating staging area;
- Encounter impacted water and soil when drilling the monitoring wells and sampling for groundwater.

vi) Environmental Policy

This project is managed by Transport Canada and must adhere to all federal legislation and territorial requirements.

Upon award of the project contract, the selected environmental consultant and drilling contractor will update the spill contingency plan and as relevant, will indicate herein its company environmental policy.

vii) Site Description

The Iqaluit Airport is located adjacent and to the west of Iqaluit, NU. A former Firefighting Training Area (FFTA) is situated within the Iqaluit Airport, located between the terminal tarmac and the runway. Historical assessment and remediation programs have been completed at the FFTA. Transport Canada proposes the installation of three groundwater monitoring wells between the FFTA and the airport property boundary to assess the presence/absence of contaminants associated with the FFTA. The proposed monitoring wells are centered at Latitude 63°45'4.91"N and Longitude 68°31'58.84"W.

viii) Project Description

The groundwater investigation will be undertaken at the Iqaluit Airport. The purpose of the sampling program is to determine the presence or absence of Per- and Polyfluoroalkyl Substance (PFAS) impacts at the airport property boundary.

Project activities at the site will involve the following activities:

• Drilling three boreholes and completing as monitoring wells (at the property boundary downgradient of the FFTA);

• Collecting groundwater samples from each of the newly installed monitoring wells;

• Submitting samples of groundwater, purge water, and drill cuttings to an accredited laboratory for PFAS analysis.

The groundwater sampling program is proposed to occur in summer of 2019.
The auger drill to be used at the site will be either a tracked or wheeled self-powered unit with mass of 6,000 kg or less. A service truck is expected to accompany the drill. The service truck will include a tank to refuel the drill in a designated location. Drilling activities will be conducted during daylight hours, between 08:30 and 18:00.

The project is scheduled to be implemented between August and September of 2019. The drilling program is expected to take between 1-3 working days. Groundwater sampling will take place over the following week.

ix) List of Hazardous Materials Stored on Site

No hazardous material will be stored on site in relation to this project.

The selected contractor will be responsible for operating the required equipment. At the time of contract award, the selected contractor will be required to update the spill contingency plan with specifics of its refuelling operation (i.e., type, location and volume of fuel and other hazardous material used onsite).

x) Existing preventive measures

The drilling contractor as a minimum will be asked to implement the following preventive measures:

- Refueling at the staging area, away from the site.
- No refuelling allowed on site other than the designated staging area.
- Secondary containment (e.g., drip pans) will be required when refuelling.
- Soil from the drilling operation will be bagged or containerized on site for sampling prior to disposal.

xi) Additional Copies – How to Obtain

Several copies of the plan will be kept on-site with the environmental consultant and drilling contractor while on site.

For additional copies, contact Transport Canada at:

Project Manager
Transport Canada
Contaminated Sites
Reid Campbell, Environmental Officer

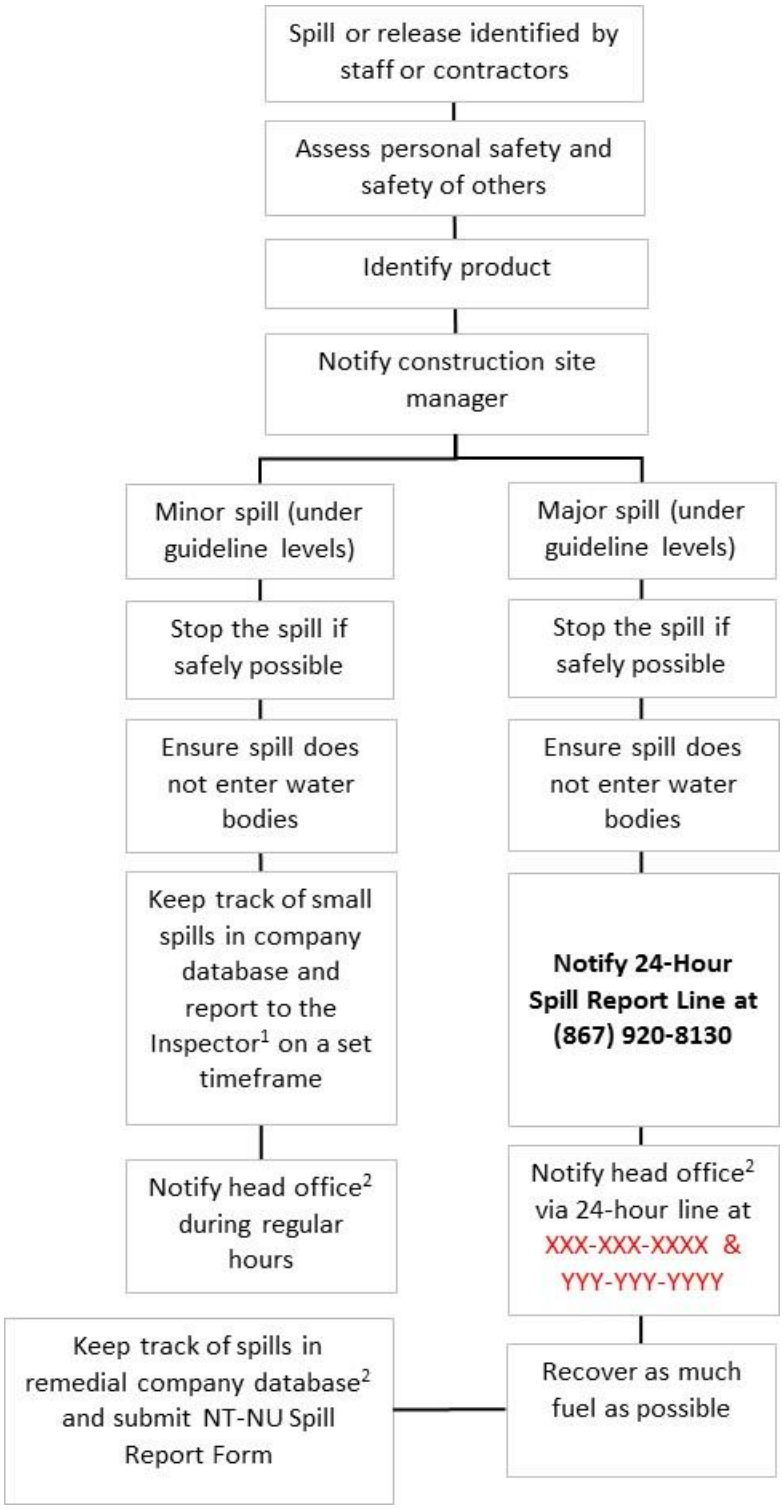
344 Edmonton Street,
Winnipeg, Manitoba R3B 2L4
(204) 984-2720
reid.campbell@tc.gc.ca

xii) Process for staff response to media and public enquiries

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

Media.tc.gc.ca
1-613-993-0055

2) Response Organization



1. 24-Hour Spill Reporting: (867) 920-8130
2. TC Project Manager and the environmental consultant company head office

3) Spill Prevention

The most likely scenarios under which a spill could occur during the Project would be leakage or line failure from the drill or service truck, spilling during fuel transfer, vehicular accident, or leakage from a purge water storage drum. The likelihood of a major spill is negligible as large quantities of contaminants will not be present at the site.
Primary spill prevention measures include:

- All Project workers will receive orientation and training on the SCP and Health and Safety Plan prior to beginning work
- Site workers will participate in daily Health, Safety and Environment tailgate meetings before beginning each work day to review risks and identify safe work practices
- All potentially hazardous materials will be stored at a storage area designated by the airport more than 100 m from the high-water mark of any waterbody
- An emergency spill response kit will be kept on site, its location will be made known to all site workers
- Spill mats and/or drip pans/ trays will be placed under all mobile fueling containers and under equipment when not in use
- All equipment used for operations will be in good working order and free of leaks
- Regular inspection and maintenance will be conducted for all heavy equipment and vehicles, including fuel transfer hoses and fuel/oil lines
- Drums used for purge water storage will be competent and inspected prior to use
- Drips will be cleaned up immediately
- All vehicles and heavy equipment will be equipped with fire extinguishers

4) Action Plan

Potential Spill Size and Source		Potential Environmental Impacts of Spill	Procedures
Diesel Fuel (200 L) Lubricating Oils (8L) Grease (2,400 g) Hydraulic Oil (60L) Impacted Drill Cuttings (<205L) Impacted Groundwater (<205L)	Tank in service truck. Containers stored in service truck Tubes stored in service truck Containers stored in service truck A drum will be used to store drill cuttings A drum will be used to store purged groundwater	Soil and surface water impact.	a. First consider and then remove or minimize any hazards to human life, health, safety or the environment. b. Take necessary steps to initially contain or prevent the spread of the spill. c. Try to identify and stop the source of the spill or leak. d. Collect liquids through the use of such equipment as absorbent pads. e. Immediately, collect and containerize any contaminated soil resulting from the spill for disposal. f. Send for help if required. g. Report the spill to the INAC Spill Inspector and complete the NT- NU Spill Report Form (attached). h. Complete the collection and disposal of contaminated materials as per direction from the regulatory agencies and applicable regulations.
Spills may result from the refuelling of the equipment.		Soil and surface water impact.	The selected contractor will be responsible for operating the required equipment. At the time of contract award, the selected contractor will be required to update the spill contingency plan with specifics of its refuelling operation (i.e., type, location and volume of fuel and other hazardous material used onsite). The remedial contractor as a minimum will be asked to implement the following preventive measures: • Refueling at the staging area, away from the remediation site. • No refuelling allowed on site other than the designated staging area. • Secondary containment (e.g., drip pans) will be required when refuelling.

5) Resource Inventory

Transport Canada has identified the need for the following resources to be at the site during the project implementation.

One 50-gallon, 55-gallon or 205L spill kit will be on site at a designated location adjacent to the work area. The 50-gallon universal sorbent spill kit is an appropriate size due to the volumes of fuel in the equipment. The contents of the spill kit will include at minimum:

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

Upon contractor award, the selected remedial contractor will review the spill contingency plan and may add resources as deemed necessary.

6) Training Program

All individuals entering the site will be required to participate in an orientation session. The session includes responding to a spill and the steps involved including proper use of the spill kit, contact information and how to fill out the proper spill report sheet (attached). During the session, all locations of the spill plan and spill kits will be provided and a copy of the spill plan will remain with the contractor and operators. All contractors will be required to have basic first aid training as well as WHIMS training prior to working on site.

7) Figures

Figure 1: Site Location Plan (1: 50,000)

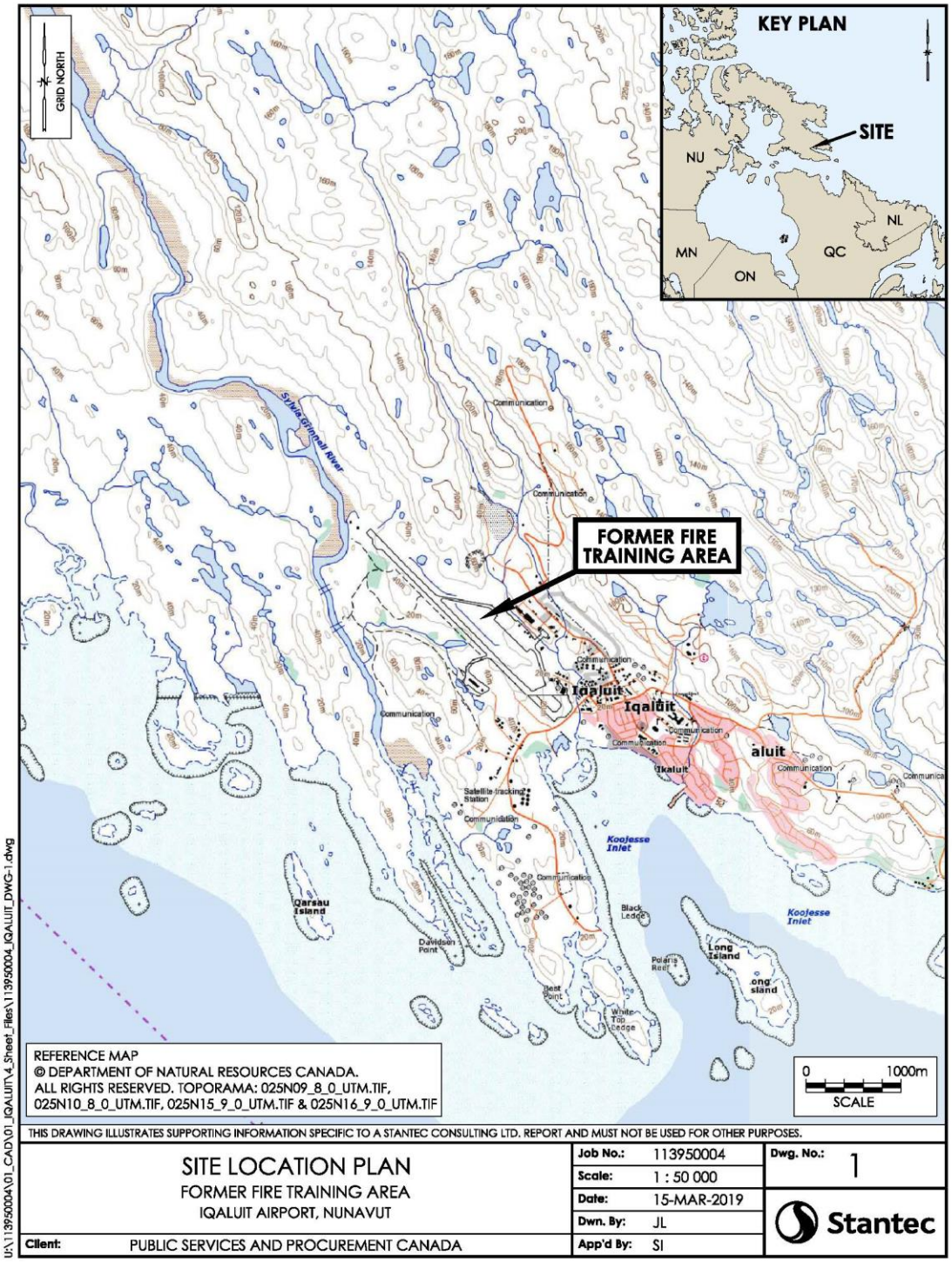


Figure 2: Site map (1: 20,000)

Appendix A: Material Safety Data Sheets (MSDS) for hazardous materials stored on site

To be provided by the selected remedial contractor.

Appendix B: NT Spill Report Form

Follow this link to access on line form:
https://www.gov.nu.ca/environment/documents/nt-nu-spill-report-form-pdf

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			

Appendix C: Immediately Reportable Spill Quantities for NT

Note: L = litre; kg = kilogram; PCB = Polychlorinated Biphenyls; ppm = parts per million

Substance	Reportable Quantity	TDG Class
Explosives	Any amount	1.0
Compressed gas (toxic/corrosive)		2.3/2.4
Infectious substances		6.2
Sewage and Wastewater (unless otherwise authorized)		6.2
Radioactive materials		7.0
Unknown substance		None
Compressed gas (Flammable)	Any amount of gas from containers with a capacity greater than 100L	2.1
Compressed gas (Non-corrosive, non-flammable)		2.2
Flammable liquid	≥100 L	3.1/3.2/3.3
Flammable solid	≥ 25 kg	4.1
Substances liable to spontaneous combustion		4.2
Water reactant substances		4.3
Oxidizing substances	≥ 50 L or 50 kg	5.1
Organic peroxides	≥1 L or 1 kg	5.2
Environmentally hazardous substances intended for disposal		9.0
Toxic substances	≥ 5 L or 5 kg	6.1
Corrosive substances		8.0
Miscellaneous products, substances or organisms		9.0
PCB mixtures of 5 or more ppm	≥ 0.5 L or 0.5 kg	9.0
Other contaminants--for example, crude oil, drilling fluid, produced water, waste or spent	≥ 100 L or 100 kg	None

Substance	Reportable Quantity	TDG Class
chemicals, used or waste oil, vehicle fluids, wastewater.		
Sour natural gas (i.e., contains H_2S) Sweet natural gas	Uncontrolled release or sustained flow of 10 minutes or more	None
Flammable liquid Vehicle fluid	≥ 20 L When released on a frozen water body that is being used as a working surface	3.1/3.2/3.3 None
Reported releases or potential releases of any size that: are near or in an open water body; are near or in a designated sensitive environment or habitat; Pose an imminent threat to human health or safety; or Pose an imminent threat to a listed species at risk or its critical habitat	Any amount	None