

Spill Contingency Plan

Taloyoak Facilities

Hamlet of Taloyoak

1.0 Introduction

The purpose of this plan is to outline response actions for potential spills. The plan identifies key persons and their roles in the event of a spill, as well as the equipment and other resources available to clean up a spill. This plan will explain and enable the hamlet on spill response procedures to minimize potential health and safety hazards, environmental protection, aquatic life threat and compliance to regulation. This included the responses Contact list for Nunavut and the reporting requirements of sewage waste, chemical, fuel, or hazardous waste spill.

1.1 Scope and purpose

The scope and purpose of the plan is to:

- Provide an understanding statement and procedure to be followed in response to a spill
- Minimize the potential environmental impact of a spill by establishing a pre-determined Action Plan
- Protect public health and ensure safety of the personnel involve in the Spill Response activities
- Provide a Response Reporting and Follow-up Action for Spills or Emergency Situation
- Ensure site protection, restoration, and re-business the facility for sewage deposition
- Identify the Roles and Responsibilities involve in the Spill Response activities and
- Identify skill personnel, materials and equipment needed to make an adequate response to a spill.

1.2 Community Policy

The Hamlet of Taloyoak is committed to operate the sewage lagoon and waste in an environmentally sensitive way and complying requirements of the Standard set out in the Nunavut Water Board since the facility remains waiting for upgrading or improvement or expansion inclusion. This plan will be used for activities associated with hamlet operations in the Standard Operation of the sewage disposal in north.

1.3 Possible Spills and Contaminant Storage:

Hamlet used to store 12% solution in pails but has recently changed to 65% crystal tablets of sodium hypochlorite in 25 kg weight plastic containers at the Intake pumphouse and Treatment Plant building to be used to disinfect drinking water. Beside this Chlorine chemicals, fuel oil is used for building heating to keep pumps running and other equipment out of freezing chances. The outside fuel storage tank with a capacity 4540 litres and Day tank inside the building of capacity 40 litres are keeping natural heating well which are at the bank of the water source Canso Lake but at a distance more than 33m from the actual water intake point as identified by the regulation. Fuels are delivered to outside tank by the fuel truck from where it feeds the Day tank inside. These tanks and connected pipelines are double walled.

Sewage trucks drive from community to sewage lagoon to 3.2 km distance after collecting raw sewage from house sewage tanks. All these are in the risk list of possible spills in conjunction to water, sewage waste and municipal waste.

1.4 Petroleum product, waste oil, paint, and antifreeze:

Many operational uses of petroleum products in the community for transportation, heating, water, and waste systems used oil and paint empty drums end up at the waste disposal facility. These products may spill from their operation such as gas tank filling, to constant leaks from pipelines that comes to repair and major spills from line or joint failure cause large contamination to soil and supply water source.

Depending on the location of the spill, a petroleum product spill may result in contaminated soil, snow, ice or water. The contaminated materials must be cleaned up and removed for disposal along with the spilled petroleum product.

Waste oil, paint, antifreeze, or engine coolant products are used in automotive engines and generally consist of ethylene glycol or propylene glycol mixed with distilled water (propylene glycol is significantly less toxic). Like petroleum products, used antifreeze product drums or other containers end up at the waste disposal facility and can range from minor spills to large area spills.

Petroleum and antifreeze product spills can be handled in the same manner. Refer to WHMIS (Workplace Hazardous Materials Information System) labels and MSDS (material safety data sheets).

1.5 Potential Environmental Impacts of sewage spill:

Sewage spills impacts normal life and living causing nuisance to human movement. In general, sewage spills, environmental impacts are lower during the winter, as snow is a natural sorbent and ice forms a barrier lining for limiting soil or water contamination. Spills can be more readily recovered when identified and reported.

1.6 Sewage Spill concerns:

- Human and wildlife health hazard, and unsightly appearance and
- High nutrient concentrations could negatively impact to water bodies and runoff into water bodies

Worst Case Scenario: If a full sewage truck releases all its contents on ground or into water body and surrounding environment or substantial failure of sewage lagoon berm that releases the entire contents of the lagoon uncontrolled into the surrounding environment.

2.0 Action Plan in the event of a spill

The Hamlet of Taloyoak remains responsible for Spill Response and Clean up in the event of a spill during the facility operation and sewage waste collection or disposal program. For severe issues and large spills, expert consultation will be required. This plan explains details information and responsive action in the event of a spill for immediate action and follow-up measures for regulatory reporting.

2.1 Initial Action:

In the event of a sewage spill, the following measures should be followed by the first person on the scene:

- Ensure safety of the assessor and associates.
- Assess the spill's risk and affected personnel, pets, and assets.
- If possible, facilitate for ventilation of the area of leak or spill (opening doors and windows).
- Gather information of causes of spills, time and sources, and status of spills as much as possible
- Estimate the size and amount of spill and affected area

2.2 Actual response to spill:

- Plan, prepare and make all precaution related to safety measures necessary to deal with spills
- Wear personal protective equipment (shoes, gloves, safety glasses, safety long-sleeved shirt if any).
- Wear respirator/self-contained breathing apparatus (SCBA) for large spills and chemicals spills
- Remove all other non-affected chemicals from the area if safe to do and secure them in container
- Spray water to dilute sewage spills, mop or wipe up and other spills to place in proper container.
- Contain by diking, absorb with inert material (soil/dry sand/kitty litter) and by placing chemical waste container. After mopping up chemical, wash the affected area with soap and water, mop into spill container and store safely.
- Avoid using any combustible materials such as sawdust, plywood, cardboard and remove them if any in or around the spill area.
- Contain runoff from spill clean-up into temporary container and cover it properly
- Notify the Northwest Territories/Nunavut twenty-four (24) hour spill reporting centre at (867) 920-8130 and receive disposal information

2.3 Procedures for Containing and Controlling Spill

General procedures noted below will be used to contain and control all spills, specifically for spills on land, water, snow, and ice.

- First anticipate what will be affected by the spill
- Assess direction and speed of spill, and any factors that could affect these
- Determine best location for containing spill

2.3.1 Spills on Land:

Spills can be contained in trenches with liner on sides. Soil from the spill area can be dug out and piled up to create a barrier for the spill. A liner retention tarp can be placed at the base of the ditch with a gradient of flow, the frozen layer can be helpful in making such containment and the pooled material can be removed with sorbent materials. Once spills substrate is contained, it can be pumped out, or removed by using sorbent materials. If the spill is minimum, such ditch may not be necessary and the material can be removed before migrating away from the location.

2.3.2 Spills on Water:

Spills on water are considered the most serious. Often, there is no harmful containment of the spilled material and water quality and aquatic life are negatively impacted, but it does not impact the drinking water quality. Booms and weirs can be installed to contain the spill if spills are in ocean or lake. Booms are designed to float and are made of absorbent material to soak spills of suspended and colloidal. They are deployed from the shore or a boat to create a circle around the spill. Weirs are installed across a stream to prevent further migration. Barriers made of fence or netting can be used as well, with sorbent material placed at the base of the barrier. Once contained, spill contents can be removed by absorbent materials, pump out or can be dried out through natural evaporation.

2.3.3 Spills on Snow:

Spills on snow can be managed more easily and is visible. Snow acts as a natural sorbent for spills too. A spill on snow is easily visible and can be shoveled into empty drums or barrels for proper disposal. If the spill is migrating around in down gradient, a snow dyke can be constructed to contain spill. A plastic tarp can be placed at the base of the dyke where spills can be pooled. Collected spill and impacted snow can be removed with absorbent or shoveled into barrels for disposal other places.

2.3.4 Spills on Ice:

Spills on ice layer considered impermeable, in general easy to clean up. Spills can be cleaned by placing absorbent materials on top of the ice. Impacted snow and slush can then be removed by shovels and placing in barrels for disposal. For larger spills, dyke and trench can be constructed to contain the spill. The pooled spill can then be removed by adsorbent materials or pump out. Impacted snow and slush can be shoveled into barrels for disposal.

The worst-case scenario includes dike or trench overflowing and large spill on water that cannot be housed with materials and resources available in the community. A trench or collection pit could be constructed downstream to collect spills; if not able to manage, an emergency response team would need to be called with appropriate equipment to deal with spills.

3.0 Spills Response Training

Hamlet operations personnel should have up-to-date spill training so that they are prepared in the event of a chemical, fuel, or waste spills. This training will not be limited to but include on job training, reading coaching, mentoring, spill training courses and on-site spill training exercises (mock spills). Manager and operators may receive formal spill response training from the Department of Environment, GN in Iqaluit.

If Hamlet bring contractors on-site to make modifications to water and waste facilities, the contractors should be made aware of procedures to be followed in the event of a spill.

Workplace Hazardous Materials Information System (WHMIS) training should be given to employees. WHMIS training is legally required in Canada for all employees who are exposed/likely will be exposed to a hazardous material at the workplace.

3.1 Spill prevention measures

In consideration to the environment and possibility of a spill, the hamlet must take the following spill prevention measures for sewage and wastewater facility:

- Sewage truck operators must be trained in safe truck operation and sewage disposal procedures.
- Operators must take caution to ensure that sewage trucks are not filled to full capacity, hose valve fully stopped, hose ends secured at the back or on side and hose is empty after sewage collection.
- Sewage truck should be driven slowly and avoid sharp turning, avoid driving very end of the road, step down hill or climbing up gradient.
- Sewage trucks cleaned at the sewage disposal pad (lagoon) end of the day uses and park inside secured garage away from public movement.

3.2 Managing spills waste

In the event of a spill, cleaning generally starts at the outer line of the affected spot and move towards the point of the spill. Sponging, sorbent materials and hand tools such as cans and shovels are used for smaller spills. Larger spills can be managed with the use of a pump or other suction equipment. Spills wastes include absorbent materials and containers of impacted spill water should also be contained in a container of larger size or pooled. Sorbent materials should be placed in plastic bags for proper disposal. The containers of impacted water and snow should be sealed and stored until disposal at an approved facility. Following a spill, all used materials need to be properly washed and replaced in secured places.

3.3 Restoring affected area or spot:

Once a spill has been contained, community personnel will consult with regulatory personnel assigned to the file to determine the level of clean-up required. Regulatory personnel may request to conduct a site-specific study to ensure appropriate clean-up levels are met.

3.4 Follow-Up Action:

After cleaning up spills, other reporting, disposal, and follow-up activities may be required. The following measures should be taken if applicable:

- Disposal of chemical, inert absorbent material, and mop-up water as directed by Spill Reporting Line
- Arrange for repair or replacement of chemical containers, pipelines, and equipment, if damaged
- Submittal of a detailed report on the occurrence to a CIRNAC Inspector within thirty (30) days of reporting the event.

4.0 Spill Reporting Procedures

- Spills should be reported immediately to the municipal supervisor and/or SAO who will determine if the spill is to be reported to the 24-Hour Spill Report Line at 867-920-8130.
- Copies of Spills Report Form are available in each spill kit. The Form will be filled out by the Public Works Foreman or Director and faxed or emailed to the 24-Hour
- Spill Report Line. Contact information is as follows:
24-Hour Spill Report Line; Phone: (867) 920-8130 Fax: (867) 873-6924 Email: spills@gov.nt.ca

Spill Response Contact List

Organization	Contact /Location	Phone / contact Number
CIRNAC Water Resources	Water Resource Officers in Iqaluit	Ph: (867) 975-4295 Ph: (867) 975-4500
Northwest Territories/Nunavut 24 Hour Spill Report Line		Ph: (867) 920-8130 Fax: 867-873-6924 spills@gov.nt.ca
Nunavut Department of Environment Conservation Office		Ph : (867) 983-4164
Environment Canada	Environmental Protection Operations, Environmental Emergencies	Ph: (780) 951-8861
Kitikmeot Inuit Association	Cambridge Bay	Ph: (867) 983-2458
Fisheries Management, Department of Fisheries and Oceans.	Iqaluit	Ph: (867) 979-8000

4.1 Reporting Requirements

The Water License calls for any chemical or petroleum product spill or unauthorized discharge of waste to be reported immediately to both the twenty-four (24) hour Spill Reporting Line and an CIRNAC Water Resources Inspector. Spills to be reported include spills that have already occurred, or potential spills that are about to occur. Spills must be reported if the amount is greater than or equal to the amount listed in the Nunavut (or interim GNWT) Spill Contingency Planning and Reporting Regulations for each contaminant.

Environment Canada requires that spills or environmental accidents be reported to the twenty-four (24) hour Spill Report Line. When reporting a spill to the twenty-four (24) Hour Report Line, give as much of the following information as possible:

- Date and time of spill,
- Location of spill,
- Direction spill is moving,
- Name and phone number of a contact person close to the location of spill,
- Type and quantity of contaminant spilled,
- Whether spill is continuing or stopped,
- Actions taken to contain, recover, clean-up and dispose of contaminant,
- Name and phone number of person reporting spill and person in charge of the facility.

The Hamlet must also submit to an Inspector a detailed report on the occurrence within thirty (30) days of reporting the event.

4.2 Public Notification Procedure

- The Contingency Planning and Spill Reporting Regulations for Nunavut require that Spill Contingency Plans include a public reporting procedure used to alert anyone who may be affected by a spill.
- On a case-by-case basis, hamlet's Senior Operating Officer and the Hamlet Council decide on the type of public notification procedure that is to be implemented to ensure public health and safety in the case of a spill.
- Typically, in the case of a large-scale spills that is deemed to have a potential impact on public health and safety, the Hamlet will notify residents verbally and in person via household visits.
- In the case of a small spill, where a negative impact on public health and safety is unlikely, the hamlet gives public notice of the spill via the local community radio.



Canada

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		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____-_____	
	B OCCURRENCE DATE: MONTH – DAY – YEAR		B 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 <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> 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	EMPLOYER	LOCATION CALLED	REPORT LINE NUMBER
		STATION OPERATOR		YELLOWKNIFE, NT	(867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

5.0 Spill Kit

A spill kit should be in the safe storage and available when required in the event of a spill. The kit should include:

- Heavy-duty gloves
- Safety glasses
- Mop/wringer/spill squeegee
- Shovel/ broom/dustpan
- Chemical spill container with sealable lid
- Sand/kitty litter (absorbent, non-flammable material)

It is recommended that the hamlet retain one spill kit in the community, located at operator working area. The spill kit should contain the following with a 56 Gallon Universal Sorbent:

- (30)–3" x 48" socks
- (6)–3" x 10' socks
- (50)–15" x 17" pads
- (4)–pillows
- (50)–wipers
- (24)–disposal bags and ties
- (5)–tamperproof seals
- (4)–pair nitrile gloves
- (4)–shovels
- (2) Spill signs
- (1)–emergency response guidebook
- (1) Safety and Compliance Directory

5.1 First Aid

The following first aid recommendations relate to spills of sodium hypochlorite. For first aid with other chemicals, follow any chemical-specific instructions or call the twenty-four (24) hour Spill Reporting Line for assistance.

5.1.1 Skin Contact

Immediately flush skin with water for at least twenty (20) minutes while removing all exposed clothing. Get medical attention immediately. Wash all exposed clothing with soap and water and dry before reuse, thoroughly clean exposed shoes.

5.1.2 Inhalation

Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Ensure the person is at rest – no physical exertion. Get medical attention immediately.