AGNICO EAGLE

MELIADINE GOLD PROJECT

Spill Contingency Plan

APRIL 2015
VERSION 4
6513-MPS-05

ᓇᐃᓈᖅᓯᒪᔪᖅ

ᑯᕕᔪᖃᑐᐃᓐᓇᕆᐊᖃᖅᑐᒧᑦ ᐸᕐᓇᐅᑎ (SCP) ᐊᒡᓃᑯᒃᑯᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᖓᓄᑦ ᑕᓯᕐᔪᐊᕐᒥᑦ ᒨᓗᒧᑦ (ᐱᓕᕆᐊᖅ) ᐅᖃᐅᓯᖃᖅᑐᖅ ᑕᓯᕐᔪᐊᕐᒥᑦ ᐅᔭᕋᖕᓂᐊᕐᕕᒃᓴᐅᑉ ᐃᓂᖓᓂᑦ, ᑲᖏᖅᖠᓂᐅᑉ ᐃᑎᕕᐊᖓᓂᑦ ᐱᖁᑎᖃᕐᕕᖓᓐᓂᑦ, ᐊᒪᓗ ᐅᑭᐅᓗᒃᑖᖅ ᐊᑉᖁᑎᒥᒃ ᐱᔾᔪᑎᖃᖅᑐᖅ ᑕᒪᐃᓂᒃ ᐊᑉᖁᑎᓂᒃ ᐊᒪᓗ ᐊᑯᓐᓂᖓᓂᑦ, ᐃᓚᐅᑉᓗᓂ ᑲᖏᖅᖠᓂᕐᒥᑦ ᐊᑉᖁᑎ. ᐱᑎᑦᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐸᕐᓇᐅᑏᑦ ᐅᒥᐊᕐᔪᐊᕐᒥᑦ ᓯᒡᔭᒧᐊᖅᑎᕆᓂᕐᒧᑦ ᐃᑎᕕᐊᓂᑦ ᐅᖅᓱᐊᓗᖃᐅᓯᕝᕕᒃᓴᒧᑦ ᑲᖏᖅᖠᓂᕐᒥᑦ ᓇᓂᔭᐅᔪᖕᓇᖅᑐᖅ ᐅᖅᓱᐊᓗᖕᓂᙶᖅᑐᓂᒃ ᑐᐊᕕᓇᖅᑐᓕᕆᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᒥᑦ (ᐊᒡᓃᑯᒃᑯᑦ 2014).

SCP ᐊᒡᓃᑯᒃᑯᓐᓂᑦ ᐊᑐᑦᑎᐊᖅᑎᑦᑎᔪᖅ ᑕᒪᐃᓂᒃ ᑲᓇᑕᐅᑉᓗ ᓄᓇᕗᑦᓗ ᒪᓕᒐᖏᓐᓂᒃ, ᐊᒪᓗ ᒪᓕᒋᐊᖃᖅᑐᖏᓐᓂᒃ ᑯᕕᔪᖃᖅᐸᒧᑦ ᓄᓇᒧᑦ, ᐃᒪᕐᒧᑦ ᐊᒪᓗ/ᐅᕙᓘᓃᑦ ᓯᑯᒧᑦ. ᓯᓚᑖᓂ ᐅᖃᐅᓯᐅᔭᕆᐊᖃᖅᑐᑦ ᑯᕕᔪᖃᖅᐸᑦ ᐅᖃᐅᓯᓂᐊᖅᑐᑦ ᐊᒡᓃᑯᒃᑯᓐᓂᑦ NT-NU 24-ᐃᑲᕐᕋᐃᑦ ᐅᖃᐅᓯᐅᔪᖕᓇᕐᕕᖕᒧᑦ, ᐃᓄᓕᕆᔨᒃᑯᓐᓄᑦ ᐊᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᒥᑦ ᐱᕙᓪᓕᐊᔪᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥᑦ, ᑭᕙᓪᓕᕐᒥᑦ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᑯᖏᓐᓄᑦ, ᐊᒪᓗ ᓄᓇᕗᒻᒥ ᐃᒪᕐᒧᑦ ᑲᑎᒪᔨᓄᑦ.

ᑐᕌᒐᖓᑦ SCP ᒥᒃᓕᒋᐊᖅᑎᓐᓂᕐᒧᑦ ᐊᒃᑐᖅᓯᓂᐅᔪᑦ ᑯᕕᔪᓂᒃ ᓴᖅᑭᑦᑎᓗᓂ ᓇᓗᓇᐃᖅᓯᒪᕚᖅᑐᓂᒃ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐊᒪᓗ ᐸᕐᓇᐅᑎᓂᒃ ᖃᓄᐃᓕᐅᕐᓂᕐᒨᖓᔪᓂᒃ, ᐊᒪᓗ ᒥᐊᓂᖅᓯᓂᕐᒧᑦ ᐊᑦᑕᓇᖅᑐᒦᑎᑦᑎᖏᓐᓂᕐᒧᑦᓗ ᐱᓕᕆᔨᐅᔪᓂᒃ ᑳᓐᑐᕌᖃᖃᑦᑕᖅᑐᓂᒡᓗ ᑯᕕᔪᖃᖅᐸᑦ. ᑐᕌᒐᐅᔪᖅ ᑎᑭᐅᑎᔭᐅᓂᐊᖅᑐᖅ ᐊᑐᕐᓗᓂ ᐱᐅᓛᒃᑯᑦ ᐊᐅᓚᑦᑎᓂᕐᒥᒃ ᐊᑐᖃᑦᑕᕐᓂᕐᒥᒃ, ᓴᖅᑭᑎᓪᓗᒋᑦ ᐊᕙᑎᒥᒃ ᐅᔾᔨᕈᓱᖕᓂᖅ ᐊᒪᓗ ᐊᑦᑕᓇᖅᑐᒦᑎᑦᑎᑕᐃᓕᒪᓂᖅ, ᐱᑦᑕᐃᓕᓂᖅᑕᖃᖅᑎᓪᓗᒍ ᐊᒪᓗ ᐱᓕᕆᐊᕆᖃᑦᑕᕐᓗᒋᑦ, ᐊᒪᓗ ᑯᕕᔪᖃᖅᐸᑦ ᓴᓗᒻᒪᖅᓴᐃᓂᒃᑯᑦ, ᑯᕕᔪᑦ, ᐅᕙᓘᓃᑦ ᓄᓇᒧᐊᖅᑐᑦ, ᐃᒪᕐᒧᑦ, ᓯᑯᒧᑦ ᐊᒪᓗ ᐊᐳᑎᒧᑦ.

ᐅᖅᓱᐊᓗᕋᓗᐃᑦ SCP–ᒦᑦᑐᑦ ᐃᓚᐅᔪᑦ hydrocarbons–ᒥᙶᖅᑐᑦ, ᑭᓂᖅᑐᑦ ᐊᒪᓗ ᐸᓂᖅᑐᑦ ᐅᓗᕆᐊᓇᖅᑐᑦ, ᐊᒪᓗ ᑲᑎᑎᖅᓯᒪᔪᑦ ᐅᖅᓱᐃᑦ.

ᑯᕕᔪᓄᑦ ᑐᐊᕕᓇᖅᑐᓗᒃᑖᑦ, ᐱᓕᕆᐊᖑᖅᑲᐅᑕᐅᔭᕆᐊᖃᖅᑐᑦ ᐅᑯᐊ: (1) ᐅᐸᓗᐊᑲᐅᑎᒋᓗᓂ, (2) ᐊᑦᑕᓇᖅᑐᒦᑦᑐᖃᙱᓪᓗᓂ, ᐊᒪᓗ (3) ᐅᖃᐅᓯᕆᓗᒍ ᑯᕕᔪᖅ. SCP ᑕᑯᒃᓴᐅᑎᑦᑎᔪᖅ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐋᖅᑭᒃᓯᒪᔪᒥᒃ ᐊᒪᓗ ᐅᖃᖃᑦᑕᐅᑎᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ, ᐊᒪᓗ ᑎᑎᕋᖅᓯᒪᐸᓗᑎᒃ ᑐᐊᕕᓇᖅᑐᓄᑦ ᐅᐸᓗᐊᓂᕐᒧᑦ ᖃᐅᔨᒋᐊᕐᕕᐅᔭᓇᐊᓖᑦ. ᐃᓄᒃ ᑯᕕᑎᑦᑎᔪᖅ, ᐅᕙᓘᓃᑦ ᖃᐅᔨᖅᑲᐅᑕᐅᔪᖅ ᑯᕕᔪᒥᒃ, ᑭᐅᔾᔪᑎᖃᖅᑲᐅᑕᐅᖃᑦᑕᖅᑐᖅ. ᓯᕗᓪᓕᖅᐸᐅᔪᖅ ᑭᐅᔾᔪᑎᖃᖅᑐᖅ ᖃᐅᔨᑎᑦᑎᓂᐊᖅᑐᖅ ᐃᓯᒪᑕᐅᔪᒥᒃ ᐅᐸᓗᐊᓂᕐᒥᒃ. ᐊᒡᓃᑯᒃᑯᑦ ᑐᐊᕕᓇᖅᑐᓕᕆᔨᖃᕐᓂᐊᖅᑐᑦ (ERT) ᐊᔪᕈᓐᓃᖅᓴᖅᑕᐅᓂᐊᖅᓱᑎᒃ ᐊᒪᓗ ᐅᐸᓗᐊᔨᐅᔭᕆᐊᖃᖅᓗᑎᒃ ᑯᕕᖅᔪᐊᖅᑐᓄᑦ. ERT–ᒥᐅᑕᓗᒃᑖᑦ ᐊᔪᕈᓐᓃᖅᓴᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᒪᓗ ᖃᐅᔨᒪᓕᖅᑎᑕᐅᓗᑎᒃ ᑐᐊᕕᓇᖅᑐᓂᒃ ᐊᒪᓗ ᑯᕕᔪᖃᖅᐸᒧᑦ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐱᖖᕕᐅᔪᕐᓇᖅᑐᓂᒃ, SCP, ᐊᒪᓗ ᑐᐊᕕᓇᖅᑐᓄᑦ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᓂᒃ. ERT–ᓕᕆᔩᑦ ᐊᖏᔪᒥᒃ ᐊᔪᕈᓐᓃᖅᓴᖅᑕᐅᓂᖃᕐᓂᐊᖅᑐᑦ ᐅᓗᕆᐊᓇᖅᑐᐃᑦ ᒥᒃᓵᓄᑦ (ᐊᑐᖅᑕᐅᔪᑦ

ᐊᑦᑕᓇᖅᑐᒃᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᓄᓴᐅᑎᑦ/ᑎᑎᖅᑲᐃᑦ ᐊᓕᓚᕆᐃᑦ) ᐊᒪᓗ ᐃᓕᓴᐅᓗᑎᒃ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐊᑐᖅᓗᑎᒃ ᐊᓐᓄᖅᓂᒃ ᐊᓐᓂᖅᑕᐃᓕᒪᓂᕐᒧᑦ. ᐅᓴᖏᓐᓂᐊᕐᕕᖓᑦ ᐃᓱᒪᑕᖅ, ᐊᐋᑎᓕᓵᓂᕐᒧᑦ ᐃᓱᒪᑕᖅ, ᐃᓐᓂᐊᖅᑲᑕᐃᓕᒪᓕᓵᔨᑦ ᐊᒪᓗ ᐊᑦᑕᓇᖅᑐᒃᑎᑦᑕᐃᓕᒪᔪᓕᓵᔨᖅᑯᓐᓄᑦ ᐃᓱᒪᑕᖅ ᐊᒪᓗ ᐃᓐᓂᐊᖅᑲᑕᐃᓕᒪᔪᓕᓵᔨᖅᑯᓐᓄᑦ ᐱᓕᓵᔨᑦ ᐃᓕᓴᕆᐅᒪᓗᒃᑑᖅᑐᑦ ᐃᓕᑭᐅᓂᖏᑐᓄᑦ ᑯᐊᕕᖅᑳᖅᑐᑦ ᐅᐸᓗᐊᓂᐅᔪᓂᒃ.

ᑯᕕᔪᖅᑳᖅᑳᑦ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ ᐃᓂᖅᑲᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᐱᓴᓚᐊᖅᑲᓂᐅᔪᓂᒃ ᐃᓂᑭᓴᐅᓂᕐᒧᑦ. ᐃᖏᑭᖅᑐᖓᓂᕐᒧᑦ ᓄᓇᒃᑯᑭᑐᑎᑦ ᐃᓂᐅᔪᓕᑦ (ᓄᓇᒃᑯᑭᑐᑎᖅᔪᐊᖅ) ᑯᕕᔪᖅᑳᖅᑳᑦ ᐅᐸᓗᐊᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᒃᓴᓂᒃ ᐱᑕᖅᑲᖅᑎᓂᐊᖅᑐᑦ. ᐃᖏᑭᖅᑐᖓᓄᑕᒥᒃ ᐊᖏᑎᒥᑦ ᑐᐊᑎᖅᑲᖅᑕᒥᑦᑕᖅᑐᑦ ᐃᓂᐅᔪᓕᒫᓂᐊᖅᑐᑦ. ᑐᖅᑯᓂᖅᐃᐃᓐᓇᑦ ᑯᕕᔪᖅᑳᖅᑳᑦ ᐃᓗᓕᖅᑎᑦᑕᐅᓂᐊᖅᑐᑦ ᐊᑐᖅᑕᐅᖅᑎᑦᑕᖅᑐᓂᒃ ᐊᒪᓗ ᑐᖅᑯᓂᖅᐃᐃᓐᓇᑦ ᑯᕕᔪᖅᑳᖅᑳᑦ ᐊᐅᓪᓚᕆᐊᖅᑐᑦ ᐊᒪᓗ ᐱᓴᐊᖅᑎᑦᑕᐃᓕᒪᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᖅᑎᑦᑕᖅᑐᓂᒃ (ᓄᓴᓗ, ᑯᓕᖅᑎᑕᐅᔪᑦ ᐊᒪᓗ ᐃᓗᑐᖅᑕᐅᔪᑦ, ᐳᖅᑕᓴᖅᑎᑕᐅᔪᑦ, ᑕᒪᖅᑯᐊᖅᑐᓗᐃᐃᑦ). ᖃᓄᐃᓐᓂᑐᑐᑦ ᐅᑎᖅᑎᑕᐅᓗᒃᑲᓇᐊᖅᑎᑦᑕᖅᑐᑦ ᒥᓗᑦᑕᑕᐅᑎᓂᒃ ᐊᑐᖅᓗᑎᒃ, ᓄᑦᓗᓕᓐᓂᑦ, ᑕᒪᖅᑯᓂᐦᑐᓗᖅ ᐊᒪᓗ ᑐᖅᑯᓂᖅᐃᐃᐊᓐᓂᐊᖅᑕᐅᓄᒪᓗᑎᒃ. ᒥᓗᓄᓇᓐᓇᖅᑐᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᒥᓗᓄᓂᕐᒧᑦ ᖃᑉᒪᑎᑦᑐᓂᒃ. ᓄᑦᑐᑦ ᐅᑎᖅᑎᑕᐅᓂᐊᖅᑐᑦ, ᑐᖅᑯᓂᖅᑕᐅᓗᑎᑐᓗ, ᐊᒪᓗ ᓄᓇᐅᓂᖏᑐᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓄᒪᓗᑎᒃ ᑐᖅᑯᓂᖅᑕᐅᓄᒪᒪᓕᕐᓂᕐᒧᑦ. ᖃᒃᓄᐃᓐᓂᑐᓴᓂᒃ ᓄᑦᑐᑦ ᒪᓕᐦᑐᓗ, ᐸᓂᖅᑐᑦ ᐃᓂᐅᔪᓕᑦ ᐱᓴᓚᐊᖅᑲᓂᐅᔪᓂᒃ ᐅᖓᔪᓂᑦ, ᐃᒋᑕᐅᓗᑎᒃ ᑕᑯᖓᓂ ᐃᓂᐅᔪᓕᑦ ᐊᔪᖅᓇᖏᑦᑐᑦ, ᐅᖓᔪᓂᑦ ᐊᐅᓪᓚᕆᐊᖅᑎᑦᑕᖅᑐᓂᒃ ᐃᓂᐅᔪᓂ ᓄᓪᓕᐊᑐᑦ ᓇᓕᒪᑦᑕᐅᓄᒪᓕᕐᓂᕐᒧᑦ ᑕᒪᖅᑯᓂᖅᐃᐃᓐᓇᓕᓇᖅᑐᓂᒃ ᐊᒪᓗ ᐊᐱᕆᔭᖅᑐᓂᒃ.

EXECUTIVE SUMMARY

The Spill Contingency Plan (SCP) for the Agnico Eagle Mines Limited (Agnico Eagle) Meliadine Gold Project (Project) covers: the proposed Meliadine site; Rankin Inlet Itivia land-based facilities; and All-weather Access Road and associated roads on-site and in between, including the Rankin Inlet bypass road. The contingency plans for ship-to-shore transfer at the proposed Itivia Oil Handling Facility in Rankin Inlet can be found in the Oil Pollution Emergency Plan (Agnico Eagle 2014).

This SCP ensures that Agnico Eagle respects all applicable federal and territorial laws, regulations, and guidelines for spills to land, water and/or ice. External reportable spills will be reported by Agnico Eagle to the NT-NU 24-Hour Spill Report Line, Aboriginal Affairs and Northern Development Canada, Kivalliq Inuit Association, and Nunavut Water Board.

The goal of the SCP is to minimize the impacts of spills by the establishment of predetermined lines of response and plans of action, and to protect the safety of workers and contractors in the event of a spill. This goal will be achieved by applying best management practices, by promoting environmental awareness and safety, by encouraging prevention and maintenance, and by facilitating efficient cleanup of spills, releases, or discharges to land, water, ice and snow.

Substances covered by the SCP include hydrocarbons products, liquid and solid hazardous substances, and compressed gas.

For all spill emergencies, priority actions are: (1) respond quickly, (2) ensure safety, and (3) report the spill. The SCP outlines response organization and communication lines, and lists emergency response contacts. The person who causes a spill, or the first to observe a spill, is the first responder. The first responder shall contact a Supervisor or the Incident Commander, which will be responsible for initiating appropriate spill emergency response. Agnico Eagle will have an Emergency Response Team (ERT) that will be trained and responsible for responding to major spills. All members of the ERT will be trained and familiar with emergency and spill response resources, the SCP, and appropriate emergency spill response methodologies. The ERT members will receive extensive training on hazardous materials (Material Safety Data Sheets) and will learn how to respond while wearing Personal Protective Equipment. The General Mine Manager, Environment Superintendent, Health and Safety Superintendent and Health care personnel are all identified as key elements to spill emergency response.

Spill response kits will be strategically located where required on-site. All mobile equipment on-site (heavy equipment) will also be equipped with an emergency spill kit. A mobile environmental emergency trailer will be located on-site. Sea cans with spill response equipment and supplies will also be located near the Meliadine River and at Itivia.

Action plans will first involve standard and appropriate spill control and containment techniques (e.g., dikes and trenches, floating booms, etc.). Free-product will be recovered as much as possible using vacuums, pumps, etc. and placed in appropriate containers. Absorbent materials will be used to soak up residual products. Contaminated materials will be salvaged, put into appropriate containers, and labelled for temporary storage. Depending on the nature of the contamination, solid materials will be either treated on-site (landfarm), disposed on-site if possible, or eventually shipped off-site to an approved treatment and disposal facility.

TABLE OF CONTENTS

TABLES AND FIGURES

DOCUMENT CONTROL

Version	Date	Section	Page	Revision	Author
1	October 2012			First draft of the Spill Contingency Plan	John Witteman, Env. Consultant, Agnico Eagle
2	March 2013			DEIS re-submission	Rebranding
3	April 2014	7	23-24	Included Tables 7-2 and 7-3 as per Information Request answer (TC_149)	John Witteman, Env. Consultant, Agnico Eagle
		6.5	21	Included commitment from technical review wrt TDGR	
		App. H	A-32 - A-36	Completed regulations table (ref. information requests)	Josée Noël, Env. Coord., Agnico Eagle
4	April 2015			Update for Type A Water Licence	John Witteman, Env. Consultant, Agnico Eagle

ACRONYMS

AANDC	Aboriginal Affairs and Northern Development Canada (formerly INAC)
Agnico Eagle	Agnico Eagle Mines Limited
ANFO	Ammonium Nitrate – Fuel Oil, a type of explosive
AWAR	All-Weather Access Road
DFO	Department of Fisheries and Oceans Canada
ERT	Emergency Response Team
INAC	Indian and Northern Affairs Canada
KIA	Kivalliq Inuit Association
MSDS	Material Safety Data Sheet
NT	Northwest Territories
NU	Nunavut
NWB	Nunavut Water Board
PPE	Personal Protective Equipment
Project	Meliadine Gold Project
RMMS	Responsible Mining Management System
SCP	Spill Contingency Plan
WHMIS	Workplace Hazardous Materials Information Sheet

SECTION 1 • INTRODUCTION

1.1 Overview

Agnico Eagle Mines Limited (Agnico Eagle) is proposing to develop the Meliadine Gold Project (Project), located approximately 25 kilometres north from Rankin Inlet, and 80 kilometres southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson's Bay, the proposed Project site is located on a peninsula (the Peninsula) between the east, south, and west basins of Meliadine Lake (63°01'23.8"N, 92°13'6.42"W), on Inuit Owned Land.

Agnico Eagle is committed to preventing spills and to being prepared to take appropriate action in case of an accidental spill. This Spill Contingency Plan (SCP) is to be used during pre-development, construction, operations, and closure of the Project, including any periods of time when the mine is in care and maintenance. The Plan will be updated periodically to reflect any changes to Project specific protocols, teams, and management contact information. The Plan was prepared in accordance with the requirements of Type A Water Licence Application and the Supplementary Information Guidelines for Mining and Water Works, issued by Nunavut Water Board (NWB 2010).

The mine plan proposes open pit and underground mining methods for the development of the Tiriganiaq gold deposit, with two open pits (Tiriganiaq Pit 1 and Tiriganiaq Pit 2) and one underground mine. The proposed mine will produce approximately 12.1 million tonnes (Mt) of ore, 31.8 Mt of waste rock, 7.4 Mt of overburden waste, and 12.1 Mt of tailings. There are four phases to the development of Tiriganiaq: just over 4 years construction (Q4 Year -5 to Year -1), 8 years mine operation (Year 1 to Year 8), 3 years closure (Year 9 to Year 11), and post-closure (Year 11 forwards).

Mining facilities include a plant site and accommodation buildings, three ore stockpiles, a temporary overburden stockpile, a tailings storage facility (TSF), three waste rock storage facilities (WRSFs), a water management system that includes collection ponds, water diversion channels, and retention dikes/berms, and a Water Treatment Plant (WTP).

The contingency plans for the Oil Handling Facility (tank farm) at Itivia in Rankin Inlet can be found in the Oil Pollution Emergency Plan (Agnico Eagle 2014).

1.2 Purpose and Scope

The goal of the SCP is to minimize the impacts of spills by the establishment of predetermined lines of response and plans of action, and to protect the safety of workers and contractors in the event of a spill. These are core values of the company as supported by Agnico Eagle's Sustainable Development Policy (see Section 1.5 Agnico Eagle's Sustainable Development Policy).

This goal will be achieved by applying best management practices, by promoting environmental awareness and safety, by encouraging prevention and maintenance, and by facilitating efficient cleanup of spills, releases, or discharges to land, water, ice, and snow related to the Project.

This Plan has been designed to facilitate effective communication and efficient cleanup of spills of potentially hazardous materials. These hazardous materials include:

- hydrocarbon products such as diesel fuel, gasoline, hydraulic oil;
- soluble solids, such as ammonium nitrate prill;
- liquids, such as glycols and paints;
- corrosive liquids, such as sulphuric acid and sodium cyanide;
- compressed (inert and flammable) gas; and
- other hazardous substances.

Furthermore, the objectives of this SCP are to:

- comply with federal and territorial laws, regulations, and guidelines;
- identify roles, responsibilities, and reporting procedures;
- detail plans of action to be followed in the event of a spill at the Project;
- provide readily accessible emergency information to the cleanup crews, management, and government agencies;
- promote the safe and effective recovery of spilled materials; and
- minimize the environmental impacts of spills to land, water and/or ice and snow.

This Plan applies to all Agnico Eagle employees and any contractors associated with:

- the proposed Project site;
- the Rankin Inlet Itivia land-based facilities; and
- the All-weather Access Road (AWAR) and associated roads on-site and in between, including the Rankin Inlet bypass road.

1.3 Related Documents

Documents containing information related to this Plan, submitted as part of the Water Licence Application include the following:

- Environmental Management and Protection Plan;
- Risk Management and Emergency Response Plan;
- Explosives Management Plan;
- Borrow Pits and Quarries Management Plan;
- Roads Management Plan;
- Landfill and Waste Management Plan;
- Hazardous Materials Management Plan; and
- Water Management Plan.

1.4 Applicable Legislation

This SCP has been developed to conform to the "Supplementary Information Guideline for Mine Development" developed by the Nunavut Water Board (NWB). An Oil Pollution Emergency Plan was developed specifically for spills at Agnico Eagle's proposed at Itivia Oil Handling Facility. The SCP and Oil Pollution Emergency Plan combined ensure that Agnico Eagle respects all applicable federal and territorial laws, regulations, and guidelines. A complete list of applicable legislation is provided in Appendix H • Federal and Territorial Laws, Regulations and Guidelines for spills to land, water, and/or ice.

Spills of potentially harmful substances to the environment are covered by existing federal and territorial regulations. The proposed Project will put into place operational policies and procedures which meet or exceed required regulations, guidelines and policies. The main applicable regulations include, but are not limited to, the following:

Federal legislation:

- *Canadian Environmental Protection Act;*
- *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations;*
- *Environmental Emergency Regulations;*
- *Transportation of Dangerous Goods Act* and *Regulations; and*
- *Canadian Shipping Act and Regulations.*

Territorial legislation:

- *Environmental Protection Act (Nunavut);*
- *Used Oil and Waste Fuel Management Regulations;*
- *Work Site Hazardous Materials Information System Regulations; and*
- *Transportation of Dangerous Goods Act* and *Regulations.*

Guidelines and policies:

- *Guidelines for the Preparation of Hazardous Material Spill Contingency Plans* (Environment Canada)*;*
- *Spill Contingency Planning and Spill Reporting in Nunavut. A Guide to the New Regulations* (Government of Nunavut);
- *Environmental Guideline for Contaminated Site Remediation* (Government of Nunavut)*; and*
- *Guidelines for Spill Contingency Planning* (Indian and Northern Affairs Canada).

1.5 Agnico Eagle's Sustainable Development Policy

Agnico Eagle's Sustainable Development Policy is built on three fundamental values: operate safely, protect the environment, and treat our employees and communities with respect. This means Agnico Eagle commits to:

- promote leadership, personal commitment and accountability to these principles from all employees and contractors, both on and off the job;
- assess potential impacts and risks associated with our activities throughout the life cycle of our projects or operations, including impacts of purchasing or acquisition decisions on the basis of our sustainability values;
- ensure sufficient resources are allocated to implement and manage these commitments;
- design and operate our facilities to ensure that effective controls and technologies are in place to minimize and mitigate the identified risks;
- evaluate, control, eliminate, or minimize risks through the implementation of a Responsible Mining Management System;
- verify regularly our performance;
- strive for continuous improvement by setting targets, measuring results against those targets and recognizing and rewarding performance;
- comply in full with our internal policies and Code of Business Conduct and with the laws and regulations in each country in which we operate;
- implement emergency response plans to eliminate or minimize and mitigate the impacts of unforeseen events;
- engage in open and transparent communication and reporting of our policies, programs, payments to government and performance to our stakeholders; and
- provide appropriate planning and supervision to ensure that our policies, procedures and Responsible Mining Management System are implemented by all.

1.6 Use of Inuit Qaujimajatuqangit in Spill Management

Inuit Qaujimajatuqangit (IQ) is the most successful and oldest monitoring practice in Nunavut, where the resource users do the observing or monitoring. Information collected through IQ can contribute to mine design and planning, as well as monitoring activities. Agnico Eagle is committed to including IQ and public concerns stemming from IQ, where practical, in the design of management and monitoring plans for the Project. Agnico Eagle will continue active engagement with communities and Inuit organizations as the Project proceeds through permitting, and if approved, construction, operations, and closure. This consultation and engagement should lead to further inclusion of IQ, as it becomes available, in updates to the design and implementation of environmental programs. Section 1.5 of the Main Application Document summarizes IQ and public concerns. A list of public concerns can be found in the Public Engagement and Consultation Baseline Report, submitted in support of this Type A Water Licence Application.

This Plan considered IQ, including traditional ecological knowledge, traditional land use, and concerns regarding Project effects on traditional resources and traditional land use sites. The IQ indicated that the Project area is important for the traditional harvesting of caribou, other land mammals, waterfowl and geese, fish and vegetation, and maintaining the health of these resources

so that traditional land use activities can continue. Community concerns were raised regarding potential Project effects to the land and water and subsequently impacting the diet of land animals, and adverse effects on water quality and fish populations due to contamination in the event of a disaster, poor practices or spills along the AWAR. This Plan is designed to minimize the potential impacts of spills to land, water, and/or ice and snow and focuses on promoting environmental awareness, encouraging prevention and maintenance, and facilitating efficient cleanup of spills, releases, or discharges to land, water, ice, and snow as follows:

- Predetermined lines of response and plans of action will be established.
- Spill prevention will occur though daily inspections of storage areas for leaks and hazardous materials, and the training of workers in the use of safe work and spill clean-up procedures.
- Spill response kits will be strategically located where required on-site, and all mobile equipment on-site (heavy equipment) will also be equipped with an emergency spill kit. A mobile environmental emergency trailer and a designated and trained emergency response team will also be located on-site, and sea cans with spill response equipment and supplies will also be located near the Meliadine River.
- Spill and emergency response equipment will be installed at hazardous material storage areas.
- To minimize potential impacts to surface water, groundwater, and soil from potential vehicle accidents when transporting hazardous materials, a maximum speed of 50 km/hr on the AWAR and 30 km/hr on the Hamlet Bypass Road for loaded and empty vehicles will be maintained. All employees and contractors using the roads will carry spill response equipment.

SECTION 2 • DEFINITIONS

2.1 What is a Spill?

For the purposes of this Plan, a major spill is defined as an accidental release of product into the environment that has the potential for adverse impact, and cannot be handled safely without the assistance of the Emergency Response Team (ERT), including all events where a person is injured or contaminated. Also, a major spill is any spill that occurs on any portion of the Rankin Inlet bypass road. The ERT must be notified immediately of a major spill or emergency and will respond accordingly. As an example, for the purpose of this Plan, a tanker truck overturn on the AWAR or bypass road is considered a major spill (Section 9 • Potential Spill Analysis provides response procedures for an incident of this type and a scenario of a major spill on the bypass road near Nipisar Lake).

A minor spill is defined as any hazardous chemical spill that does not involve highly toxic, highly reactive, or explosive chemicals, in a situation that is not life threatening to humans, fish or wildlife. Furthermore, this type of spill presents a manageable physical or health hazard to personnel who, when wearing proper personal protective equipment (PPE), will not be exposed to any chemical at a level that exceeds any recognized action levels or permissible exposure limits. Minor spills will be reported to the Environment Department but are not expected to involve emergency responders.

2.2 Materials and Reportable Spills on-site

To ensure compliance with Section 36 (3) of the *Fisheries Act*, all spills of fuel or hazardous materials, regardless of quantity, into a waterbody or onto ice will be reported immediately to the NT-NU 24-Hour Spill Report Line[1] (phone 867 920 8130, fax 867 873 6924, spills@gov.nt.ca); herein referred to as the Spill Report Line

As a precaution, if there is any doubt as to whether the quantity spilled meets the minimum reportable thresholds listed in Table 2-1 (AANDC 2010), the spill incident will be reported to the Spill Report Line. Furthermore, Agnico Eagle will maintain a detailed log of all spills of hazardous materials, including non-reportable spills. As part of Agnico Eagle's overall Responsible Mining Management System (RMMS), and in the spirit of a continuous improvement of environmental performance, procedures will be implemented to ensure that employees communicate non-reportable spill incidents and clean them up as required.

[1] Nunavut Environmental Protection Act. *Consolidation of Spill Contingency Planning and Reporting Regulations* R-068-93.

Table 2-1 Spill Quantities to be Reported to the Spill Report Line[(a)]

Transportation Class	Type of Substance	Compulsory Reporting Amount
1	Explosives	Any amount
2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity exceeding 100 L
2.2	Compressed gas (non-corrosive, non-flammable)	Any amount from containers with a capacity exceeding 100 L
2.3	Compressed gas	Any amount
2.4	Compressed gas (corrosive)	Any amount
3.1, 3.2, 3.3	Flammable liquid	100 L
4.1	Flammable solid	25 kg
4.2	Spontaneously combustible solid	25 kg
4.3	Water reactant solids	25 kg
5.1	Oxidizing substances	50 L or 50 kg
5.2	Organic peroxides	1 L or 1 kg
6.1	Poisonous substances	5 L or 5 kg
7	Radioactive substances	Any amount
8	Corrosive substances	5 L or 5 kg
9.1 (in part)	Miscellaneous substances	50 L or 50 kg
9.2	Environmentally hazardous	1 L or 1 kg
9.3	Dangerous wastes	5 L or 5 kg
9.1 (in part)	PCB mixtures of 5 ppm or more	0.5 L or 0.5 kg
None	Other contaminants	100 L or 100 kg

[(a)] *Nunavut Environmental Protection Act*. *Consolidation of Spill Contingency Planning and Reporting Regulations* R-068-93.
Note: PCB = polychlorinated biphenyls; ppm = parts per million.

SECTION 3 • HAZARDOUS MATERIALS ON-SITE

A variety of petroleum products and other hazardous materials will be used as part of the mining operations. Large quantities of petroleum products will be stored in Rankin Inlet and at site. Explosives will also be stored on-site; details are available in the Explosives Management Plan. Other hazardous materials will be used but in smaller quantities (Table 3-1). Nonetheless, all these products are considered as potential environmental and safety hazards.

Material Safety Data Sheets (MSDS) of all materials transported, stored and used on-site will be made available at strategic locations near to where hazardous materials or toxic substances are stored or utilized. Appendices B to G also provide general response procedures for specific spilled chemical substances.

Table 3-1 Main Hazardous Materials Transported, Stored and Used On-Site

Product	Use/Location	Maximum Amount Anticipated On-Site	Maximum Amount by Unit
Process Plant Reagents			
Activated Carbon	Carbon-In-Leach	76 t	500 kg/bag (10 t/sea can)
Antiscalant	Mill	5.5 t	
Borax	Refinery	17 t	3,375 kg/sea can
Hydrochloric acid	Elution-Regeneration	652 t	
Copper Sulfate	Cyanide Destruction	345 t	2,500 kg/bag (20 t/sea can)
Sodium cyanide	Carbon-In-Leach	1,414 t	1,000 kg/bag (19 t/sea can)
Flocculant	Grinding	46 t	750 kg/bag (15 t/sea can)
Lead Nitrate	Carbon-In-Leach	-	
Lime	Carbon-In-Leach	1734 t	1,743 kg/bag
Silica	Refinery	17 t	
Sodium Hydroxide	Elution-Regeneration	133 t	1,000 kg/bag
Sodium Metabisulfite	Cyanide Destruction	1,758 t	1,000 kg/bag
Sodium Nitrate	Refinery	17 t	5.1 t/sea can
Sulfur Prills	Cyanide Destruction	0 t	1,000 kg/bag (20 t/sea can)
Water Treatment Reagents			
Ferric Sulfate	Water Treatment Plant	260 t	1t/bag
Lime	Water Treatment Plant	320 t	1,743 kg/bag
Flocculant	Water Treatment Plant	5 bags	750 kg/bag (15 t/sea can)

Table 3-1 Main Hazardous Materials Transported, Stored and Used On-Site (continued)

Product	Use/Location	Maximum Amount Anticipated On-Site	Maximum Amount by Unit
Acetylene	Welding	830 bottles	11 m^3 / bottle
Paints	Maintenance	180 gal.	1 gal./pail
Solvents	Maintenance	56 gal.	1 gal./pail
Lead acid batteries (12V)	Maintenance	386	
Fuel Products			
Diesel	**Itivia**		
	1- Itivia Oil Handling Facility	20 ML	20 ML tank
	2- Itivia Oil Handling Facility	13.5 ML	13.5 ML tank
	3- Itivia Oil Handling Facility (Sustaining)	4 ML	4 ML tank
	Industrial site Tank Farm		
	4- Site Main Fuel Tank	6 ML	6 ML tank
	5- Site Fuel Tank summer	250,000 L	250 000 L
	6- Powerhouse	50,000 L	25,000 L/tank
	7- Process Plant	10,000 L	10,000 L/tank
	8- Mechanical shop (Oil)	10,000 L	1,000 L/tank
	Portal #1 Mine Site Tank Farm		
	9- Site Main Fuel Tank	3 ML	3 ML
	10- Site Fuel Tank summer	250,000 L	250,000 L/tank
	11- Site Fuel Tank Measure for UG	2,000 L	2,000 L/tank
	12- Site Fuel Tank UG heating Intake West	25,000 L	25,000 L/tank
			25,000 L/tank
	13- Site Fuel Tank UG heating Intake East	25,000 L	10,000 L/tank
	Underground		
	14- UG Fuel Tank UG level 325	50,000 L	10,000 L/tank
	15- UG Fuel Tank (Sustaining)	10,000 L	10,000 L/tank
Motor Oil	Mechanical shop	800,000 L	20,800 L/sea can
	Powerhouse		
Hydraulic Fluid	Mechanical shop		Cubes or Barrels
	Powerhouse		Cubes or Barrels
	Process Plant		Cubes or Barrels
Ethylene glycol	Mechanical shop	60,000 L	10,000 L/sea can

SECTION 4 • PREVENTION AND INSPECTIONS

Spill response is reactive while spill prevention is proactive. Prior to the commencement of construction, the SCP will be presented to all staff, employees, and contractors, during their on-site orientation sessions. All staff will be aware of the locations of the SCP. Moreover, all staff will be shown where spill kits are stored, will be aware of their contents, and will be familiar in using spill equipment and responding to spills prior to a spill occurring. As well, all staff will be trained to call the ERT in the event of a major spill.

Prudent exercise of due diligence standards will be performed in the transport, transfer and storage of materials, by trained personnel, using secondary containment, with well-maintained equipment. Proposed tank farms at Itivia and the mine site will be bermed and lined with an impermeable liner, and will have the capacity to contain 110% of the volume of the largest tank. Proposed refuelling stations in Rankin Inlet and at the mine site will be equipped with a lined area to contain any minor leaks or spills while refuelling. Transfer of fuel from tanks to tanker trucks will be performed with the aid of fuel pumps. Good housekeeping practices will be adopted, especially in areas, such as storage facilities, loading, and unloading zones.

Regular worksite inspections will be conducted to identify measures to minimize or prevent the risk of spills. As part of on-site orientation sessions, all staff is to understand the steps to be undertaken in the event of a spill. This includes that all spills are to be reported, and that containment and clean-up is necessary, be they minor or major spills. Following the clean-up of a spill, the Environmental Department will inspect the spill site and, if necessary, collect samples to verify that the clean-up is complete.

All personnel will be trained to be aware of the potential hazards associated with the fuel/chemicals with which they will be assigned to work. In addition to work site inspections conducted by area specific employees, the Environmental Department will conduct weekly inspections to audit facilities where hazardous materials are handled and stored.

Agnico Eagle will implement the following general principles for spill prevention:

- provide up-to-date and accessible MSDS for all hazardous materials to designated emergency response personnel and mine health staff, and to the Rankin Inlet health centre staff;
- daily inspection of fuel/chemical storage areas for leaks (including flex connectors and plumbing) and platform shifting;
- daily inspection of hazardous materials storage areas;
- train workers in the use of safe work procedures for hazardous materials, and procedures to clean up spills;
- encourage workers to take reasonable measures to prevent spills;

- keep drums/containers sealed or closed;
- place drums/containers within a suitable form of secondary or spill containment;
- keep “overpack” or “salvage” drums nearby to contain leaking drums;
- keep storage areas secure from unauthorized access;
- segregate incompatible materials;
- ensure chemical storage areas are adequately protected from weather and physical damage; and
- provide adequate spill response materials at storage areas (details of spill prevention and response equipment are outlined in Section 7 • Response Equipment).

SECTION 5 • RESPONSE ORGANIZATION

This section addresses the response organization and the responsibilities of each individual during response to an incident. All employees and contractors shall be aware of the locations of the SCP. During site orientation, inductions will be scheduled to ensure employees have an understanding of the steps to be undertaken in the event of a spill. All employees and contractors will be shown where spill kits are stored, will be aware of their contents, and will be familiar in using spill equipment and responding to spills. All workers operating Project vehicles will be required to be trained to respond to spills at a first response level. They will also have radios to call for assistance from the Environment Department or ERT, if required.

Figure 5-1 illustrates Agnico Eagle's spill/incident reporting procedure and the following sub-sections list the major responsibilities of site staff that will be participating in the emergency response.

Spill Emergency Response Procedure – An example

In the case of a major spill, such as a tanker truck overturn on the Rankin Inlet bypass road or AWAR, the first person (first responder) to notice, or come in contact with any spill situation will initiate a Code 1. The Incident Commander will respond to a Code 1 in conjunction with the Emergency Response Team (ERT). Major responsibilities such as initial coordination, spill cleanup and mobilizing the ERT are part of the Incident Commander's duties.

The Incident Commander will contact the Environment Superintendent and/or General Mine Manager or designate, who in turn will inform the Senior Vice President - Environment and Sustainable Development. After all information has been collected, the Environment Superintendent or designate will submit a spill report and follow-up spill report to the Spill Report Line, Nunavut Water Board, Kivalliq Inuit Association, and Aboriginal Affairs and Northern Development Canada. Communications with the media will be the responsibility of the General Mine Manager or designate.

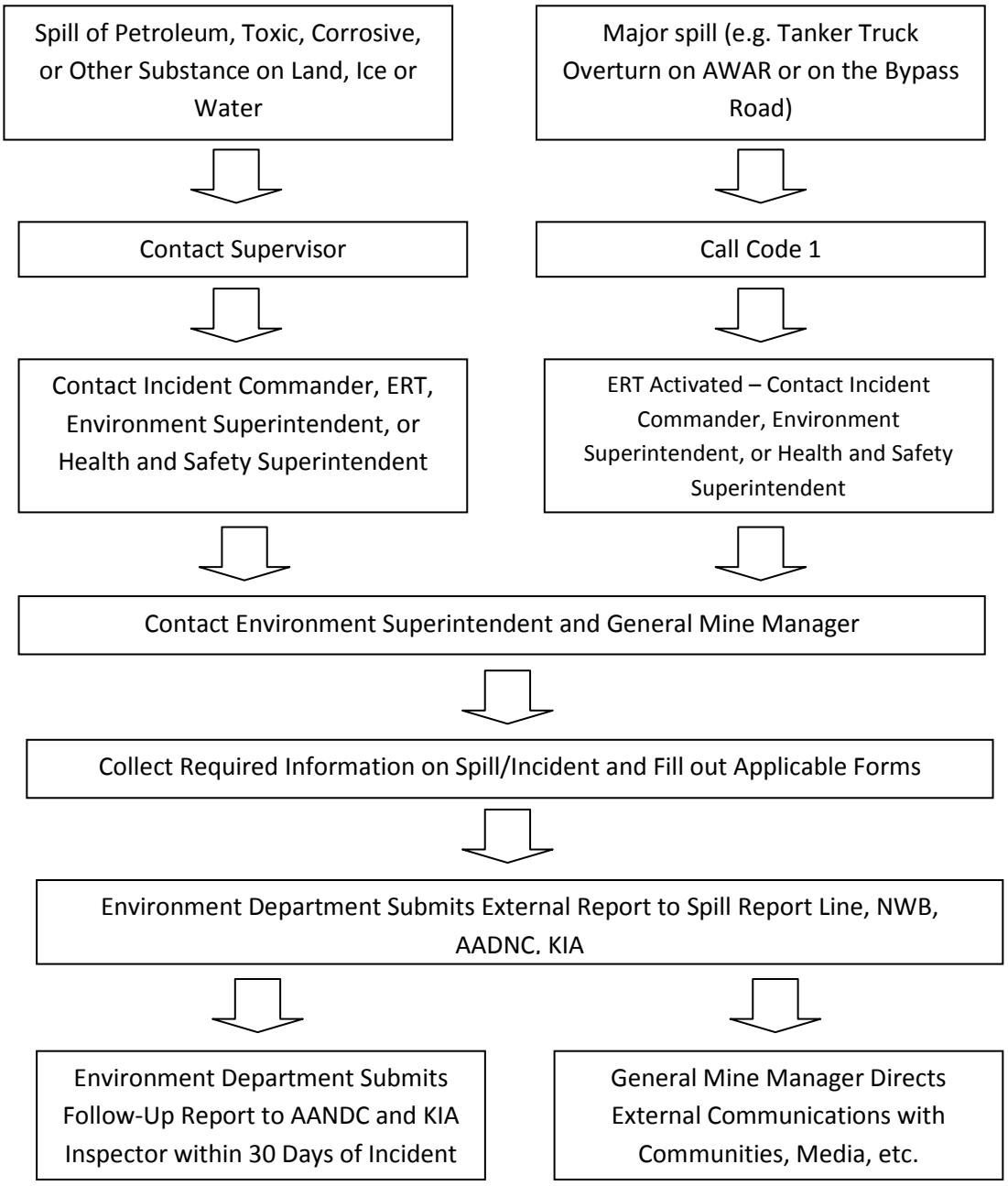

Figure 5-1 Spill/Incident Reporting Procedure

5.1 First Responder

The person who causes a spill, or the first to observe a spill, is the first responder. The responsibilities of the First Responder are as follows:

- in case of a tanker truck overturn, initiate Code 1. Remain on radio to provide guidance to the ERT;
- in case of spill to land, ice or water, contact the Supervisor to report the incident;
- identify spilled product and contain the spill, IF SAFE TO DO SO; and
- participate in spill response as a member of the cleanup crew.

5.2 Supervisor

The responsibilities of the Supervisor are as follows:

- initially assess the severity of the incident;
- contact the Incident Commander;
- gather facts about the spill; and
- participate in spill response as a member of the cleanup crew.

5.3 Incident Commander

Responsibilities of the Incident Commander are as follows:

- assume complete authority over cleanup personnel and the spill scene;
- assume responsibility for all mitigation efforts;
- evaluate the initial situation and assess the magnitude of the problem;
- activate the initial response plan;
- alert and assemble key personnel in the ERT, as deemed appropriate, to handle the situation;
- in consultation with the Environment Superintendent or designate, develop the overall plan of action for containment and cleanup, and direct and implement the plan;
- ensure assigned responsibilities are carried out and the activities of team members are coordinated;
- assess the requirements for people, equipment, materials, and tools to contain the spill in light of what resources are immediately available - urgency will depend on the nature of the spill; and
- in consultation with the Environment Superintendent or designate, mobilize any additional resources that may be required and arrange for the transportation of necessary personnel and/or materials to the spill site.

5.4 Emergency Response Team

Prior to the commencement of construction, Agnico Eagle will have an ERT that is trained and responsible for controlling major spills. For example, they will be called upon to respond to spills from potential tanker truck rollovers along the proposed Rankin Inlet bypass road and AWAR, the Itivia laydown yard and tank farm. These team members will attend regular training sessions in spill response.

5.5 Emergency Response Team Coordinator

The responsibilities of the Emergency Response Team Coordinator are as follows:

- mobilize all ERT personnel, equipment, PPE, and supplies as required to the site of the spill;
- assist the Incident Commander in obtaining any additional resources not available on-site;
- ensure that appropriate PPE is worn and used properly;
- assist in developing and implementing emergency response training programs and exercises; and
- ensure that all spill response personnel receive adequate training to fulfil their responsibilities as part of the ERT.

5.6 Environment Superintendent

The Environment Superintendent or designate will be responsible for implementing and maintaining the SCP. In addition, the responsibilities of the Environment Superintendent or designate are as follows:

- liaise with the Incident Commander;
- provide technical advice on the anticipated environmental impacts of the spill;
- advise on the effectiveness of various containment, recoveries, and disposal options, and suggest the most appropriate approach;
- prepare and submit any formal report (see Appendix A for the Spill Report Form) to regulators and Agnico Eagle management detailing the occurrence of a spill;
- contact the Senior Vice President - Environment and Sustainable Development immediately in case of a major spill;
- act as the spokesperson with regulatory and government agencies;
- if authorized by the General Mine Manager or delegate, act as a spokesperson with the public and media, as required;
- implement a sampling protocol for the collection and analysis of samples to identify and monitor possible contaminant levels resulting from the spill;
- ensure on-site resources for spill response and cleanup are available;
- monitor the effectiveness of the cleanup operation and recommend further work, if necessary;
- review incident occurrences and recommend preventative measures; and

- assist in implementing training and simulation requirements for spill response personnel.

5.7 General Mine Manager

The General Mine Manager or designate will be required to inform ERT members of the detailed nature of the operations to be performed in the event of a facility malfunction causing a spill during the operations phase. The responsibilities of the General Mine Manager or designate are as follows:

- liaise with Agnico Eagle personnel resources and keep them informed of cleanup activities; and
- assist the Incident Commander and ERT as needed, particularly in obtaining any additional personnel and resources not available on-site for spill response and cleanup.

5.8 Health and Safety Superintendent

The following will be the responsibilities of the Health and Safety Superintendent or designate in conjunction with the Training Department:

- maintain emergency and health and safety records;
- assist in conducting emergency spill response exercises;
- track all emergency and health and safety training that on-site staff, including contractors, have received, and when retraining is required;
- notify the Incident Commander (related to ERT) when retraining is required;
- ensure that employees are retrained in appropriate emergency response skills prior to expiry of existing training certification (e.g., Workplace Hazardous Materials Information System (WHMIS), Hazard Communication, Occupational Health and Safety Administration, first aid, respirator fit-testing; and
- consult with appropriate organizations regarding retraining requirements and schedule.

5.9 On-Site Health Care Providers

On-site medics' responsibilities are to:

- provide on-site first aid and other medical support; and
- provide additional training for ERT members.

In addition to the health care providers on-site, the Rankin Inlet health professionals will be called for assistance, if required. For example, they may be the first to respond to incidences that could occur at Itivia.

5.10 Emergency Response Team Contact Information

Internal contact information is presented in Table 5-1 for all Agnico Eagle personnel involved in spill recovery and subsequent reporting. Table 5-2 provides contact information for select Agnico Eagle contractors present at the proposed mine site. Important external contacts relating to spill

response, such as regulatory agencies and health organizations, are listed in Table 5-3. Table 5-4 provides contact information for external spill response contractors should incident warrant assistance from outside sources. These tables will be updated on a minimum annual basis and updated, as required.

Table 5-1 Internal Contacts

Title	Name	Telephone No.
Senior Vice President, Environment and Sustainable Development	Louise Grondin	416 847-8656 Cell: 819 724-2020
Vice President, Environment	Michel Julien	416 947-1212 (ext.3738) Cell: 514-244-5876
Corporate Director, Environment	TBD	
General Mine Manager	TBD	
Health and Safety Superintendent or Assistant Superintendent	TBD	
Emergency Response Team	TBD	
Environment Superintendent	TBD	
Environment Coordinator or Environment Department	TBD	
Incident Commander	TBD	
On-Site Medics	TBD	
Site Security	TBD	

TBD = To Be Determined

Table 5-2 Contractor Contacts

Title	Telephone No.
Nolinor Aviation Services	Protocol Agent 867 793-4610 ext. 6808
First Air	867 446-1744
Calm Air	867 793-2873
Shipping Company	TBD
Explosives Manufacturer	TBD

TBD = To Be Determined

Table 5-3 External Contacts

Organization/Authority	Telephone No.	Fax No.
NT-NU 24-Hour Spill Report Line	867 920-8130 spills@gov.nt.ca	867 873-6924
Workers Safety and Compensation Commission	867 979-8637	867 873-6924
Kivalliq Inuit Association (KIA)	867 920-8130	867 873-6924
Nunavut Water Board (NWB)	867 360-6338	867 360-6369
AANDC Inspector	867 975-4548	867 979-6445
Environment Canada, Enforcement Branch	867 975-4644	867 975-4594
Department of Fisheries and Ocean (DFO) – Nunavut Regional Office	867 979-8000	867 979-8039
Manager, Environmental Protection, Government of Nunavut	867 975-7748	867 975-5981
Kivalliq Health Services – Rankin Inlet (Health Centre after hours)	867 645-8300 867 645-6700	
Rankin Inlet Hamlet Office (Senior Adm. Officer)	867 645-2895	
Rankin Inlet Fire Emergency	867 645-2525	N/A
RCMP 24-Hour Emergency Number	867 645-1111	
Canadian Coast Guard (in the event of a spill to the marine environment)	800 265-0237	519 337-2498

N/A = not available

Table 5-4 External Spill Response Contractor Contacts

Contractor	Telephone No.	Area of Expertise
M&T Enterprises, Rankin Inlet	867 645-2778	Fuel Transportation

SECTION 6 • ACTION PLAN

Spills may be the result of any of the following occurrences:

- tanks, drums or containers may develop leaks or rupture;
- failure of equipment such as valves, piping or containment structures;
- overfilling;
- improper storage;
- spills during transfer of fuel, chemicals or waste products; and
- spills resulting from accidents during transportation.

The primary form of ensuring safety is by using preventative measures. All personnel who will have to deal with chemicals will have training in first aid and safe materials handling, including WHMIS. In addition, regular training updates and site-specific exercises/drills will be integral to preventing incidents.

Procedures will vary depending on the season and hazardous materials spilled, as well as on location of the spill (on land, water, ice, or snow). The MSDS will be consulted to ensure that safety procedures are followed. Response procedures specific to spills on land, water, snow, and ice are presented in the following sub-sections as general guidelines.

6.1 Initial Action

For all spill emergencies, it is required that the following priority actions be undertaken:

- respond quickly;
- ensure safety; and
- report the spill.

6.1.1 Respond Quickly

Responding quickly involves the following:

- identify the spilled material;
- be alert – ensure safety of yourself and others by notifying them of the incident;
- shut off ignition sources such as vehicles and unplug electrical equipment – NO SMOKING nearby;
- attend to the injured;
- assess the severity of the spill; and
- contact the Incident Commander, identify the location, and request assistance as required. The Incident Commander will mobilize the ERT if necessary.

6.1.2 Respond Safely

Responding safely involves the following:

- consult the MSDS and Product Guides for further information on the substance;
- keep people away from the spill site;
- assess whether the spill, leak, or system failure can be readily stopped or brought under control;
- stop product flow or leak if possible and IF IT IS SAFE TO DO SO;
- approach spill from upwind IF IT IS SAFE TO DO SO;
- do not contain compounds (e.g., gasoline, aviation fuel) if vapours might ignite – allow them to evaporate;
- depending on the type of compound spilled and IF IT IS SAFE TO DO SO, contain product using booms, berms, absorbent pads, earthen dike, trenches or improvise with materials at hand; and
- wear appropriate PPE, such as impervious clothing, goggles, and gloves when containing the spill.

6.1.3 Report Spill

Reporting the spill includes the following:

- obtain all necessary information to complete the external spill report (see Appendix A). External reportable spills must be reported by Agnico Eagle Environment Staff to the NT-NU 24-Hour Spill Report Line, Aboriginal Affairs and Northern Development Canada (AANDC), Kivalliq Inuit Association (KIA), and NWB.
- Submit a detailed spill report to the AANDC Water License Inspector and the KIA Land's Inspector no later than 30 days after the spill. This is to be done by Agnico Eagle Environment Staff. The report shall contain the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain, cleanup, and restore the spill site.

6.2 Spills on Land

Response to spills on land will include the general procedures detailed in the following section. The main spill control techniques involve the use of two types of barriers: dikes and trenches. Barriers should be placed down-gradient (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 spilled material and will also serve as containment to allow recovery of the spilled material.

Depending on the volume spilled, the site of the spill and available material, a dike may be built with soil, booms, lumber, snow, etc. A plastic liner should be placed at the foot of and over the dikes to protect the underlying soil or other material, and to facilitate recovery of the spilled material.

Construct dikes in such a way as to accumulate a thick layer of free product in a single area (V-shaped or U-shaped).

Trenches are useful in the presence of permeable soil and when the spilled material is migrating below the ground surface. A plastic liner should be placed on the down-gradient edge of the trench to protect the underlying soil. Liners should not be placed on the bottom of the trench to allow water to continue flowing underneath the layer floating material (such as fuel).

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

6.3 Spills on Water

Response to spills on water will include the general procedures provided in the following section. Various containment, diversion and recovery techniques are discussed. The following elements must be taken into consideration when conducting response operations:

- type of waterbody or watercourse (lake, stream, river);
- the spilled material;
- water depth and surface area;
- wind speed and direction;
- water flow and direction;
- type of shoreline; and
- seasonal considerations (open-water, freeze-up, break-up, frozen).

Containment of an oil slick in water will require the deployment of mobile floating booms to intercept, control, contain and concentrate (i.e., increase thickness) the floating oil. One end of the boom will be anchored to shore while the other will be towed by a boat and used to encircle the oil slick and return it close to shore for recovery using a skimmer. For additional details on the Itivia Oil Handling Facility see the Oil Pollution Emergency Plan (Agnico Eagle 2014). Reducing the surface area of the slick will increase its thickness and thereby improve recovery. Mechanical recovery equipment (e.g., skimmers and oil/water separators) will be mobilized to site if required.

Measures will be taken to protect sensitive and accessible shoreline. The spill will be monitored to determine the direction of migration. In the absence of strong winds, the material will likely follow water flow direction. Measures will be taken to block and concentrate the spilled material at the discharge of a waterbody using booms where it will subsequently be recovered using a portable skimmer, a vacuum, or sorbent materials.

In small slow flowing rivers, streams, channels, inlets, or ditches, inverted weirs (i.e., siphon dams) will be used to stop and concentrate moving material for collection while allowing water to continue to flow unimpeded. In the case of a spill in a stream heading for a culvert (i.e., at a road crossing), a culvert block will be used to stop and concentrate moving material for collection while allowing water to continue to flow unimpeded. In both cases, spilled material will then be recovered using a portable skimmer or sorbent materials.

In the case of spills in larger rivers, with fast moving currents, diversion booming will be used to direct the spilled material ashore for recovery. Single or multiple booms (i.e., cascading) may be used for diversion. Typically, the booms are anchored across the river at an angle. The angle depends on the current velocity. Choosing a section of a river that is both wider (i.e., less current) and shallower makes boom deployment easier. Diversion booming may also be used to direct the spilled material away from a sensitive area to be protected.

6.4 Spills on Snow and Ice

In general, snow and ice will slow the movement of hydrocarbons or other spilled material. Snow is generally a good natural sorbent. Hydrocarbons have a tendency to be soaked up by snow through capillary action. However, the use of snow as a sorbent material will be limited as much as possible. Snow and frozen ground will also prevent spilled material from migrating down into soil or at least slow the migration process. Ice will prevent seepage of spilled material into the water. On the other hand, the presence of snow may hide the spilled material (especially oil slicks) and make it more difficult to follow its progression.

Most response procedures for spills on land can be used for spills on snow and ice. The use of dikes (i.e., compacted snow berms lined with plastic sheeting) or trenches (dug in ice) will slow the progression of the spilled material and will also serve as containment to allow recovery of the material. Free-product will be recovered by 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 or within plastic lined berms on land.

6.5 Disposal of Spilled Material

Contaminated materials will be salvaged, put into appropriate containers (e.g., Quatrex bags), and labelled for temporary storage. Water contaminated with oil or fuel will be sent to the oil separator. Water contaminated with other products will be placed in drums for shipment. Depending on the nature of the contamination, solid materials will be either treated on-site (landfarm), disposed on-site if possible, or eventually shipped off-site to an approved disposal facility.

Soils contaminated with light hydrocarbons (such as gasoline or aviation fuel) will be treated on-site in a landfarm. Details on the design and operation of the landfarm are provided in the Landfarm Management Plan.

Soils contaminated with other spilled products will be segregated, packaged and shipped to an external approved facility for proper treatment and disposal. In this, Agnico Eagle will adhere to the requirements under the *Transportation of Dangerous Goods Regulations*, particularly Part 5. All contaminated materials (dangerous goods) will be shipped in a means of containment required or permitted by Part 5 of the Regulations.

SECTION 7 • RESPONSE EQUIPMENT

This section addresses the emergency response machinery, equipment, tools and other resources that will be made available on-site for spill recovery measures (see Tables 7-1, 7-2, and 7-3).

Table 7-1 Equipment for Spill Emergency Response

Mobile Equipment	
Grader	Winch trucks
Excavators	Pickup trucks
Snowmobiles	Generator sets
Vacuum truck	Fire truck
Loaders	Aluminium boats
Backhoe	Fuel trucks
Bulldozer	Bobcat
Forklift	Haul truck
Water trucks	Snow cat
	Oil-water separator
Temporary Containment Systems	
Booms	Spill absorbent material packages/pads
Drums	
Tanks	Silt fencing
	Maritime barrier
Emergency Transportation	
Aircraft (helicopter)	Snowmobiles
4-Wheel drive vehicles (Pickup trucks, for example)	All-terrain vehicle
	Boats
Communication Equipment	
Radios	Fax
Telephone	Wireless communication systems

If required, additional on-site equipment will be made available to assist with spill recovery. Temporary containment systems will be also available on-site and at Itivia. If required, external resources available in Rankin Inlet are listed in Table 5-2 and Table 5-4.

Communication equipment on-site will include radios, telephones, faxes, and other wireless communication systems that will be available in the event of an emergency situation.

Spill response kits will be strategically located where required on-site and at Itivia. Each department and work area will be responsible for providing sufficient spill response kits in their respective work areas. The kits will be kept in marked and accessible locations. The locations will notably include all fuel storage areas and chemical storage areas.

All mobile equipment on-site (heavy equipment) will also be equipped with an emergency spill kit.

A mobile environmental emergency trailer, which will be easily accessible and transportable, will be located on-site and will contain the items listed in Table 7-2.

Table 7-2 Contents of Mobile Environmental Emergency Trailer

Emergency Response Equipment	
Pump Elastec	White oil spill pads
Pump accessories	Universal booms
Vacuum ends	Cell-U-Sorb
Tubing or pipes for vacuum or pumping	Sphagsorb
45 gallons top	Wedge wood
Diesel fuel jerry can (placed on a miniberm)	Plug pattie
Spill kit accessory (red box)	Quattrex bags
Drums opener	Hand shovel
Wescot (to open empty drum screw)	Ice breaker chisel
Empty drums	Sledge hammer
Drums berms	Rod bars
Tarps	

Environmental emergency sea cans will be located near the Meliadine River and at the proposed Itivia laydown yard and tank farm for spills within this area, and for tanker spills close to the hamlet along the bypass road or the AWAR. Each environmental emergency sea can will contain material listed in Table 7-3.

Table 7-3 Oil Response Containment Equipment to be Located at Itivia

Quantity	Equipment/tool name
3	Empty drum (sealed)
2	Mini berm 36”x 36”
2	4 drums berm 4’x 8’
4	Tarp 20’x 30’
4	Tarp 30’x 50’
10	Oil spill absorbent pad
5	Universal absorbent boom 5”x 10’ (for hydro-soluble chemical)
5	Universal absorbent boom 8”x 10’ (for hydro-soluble chemical)
5	Petroleum base absorbent boom 5”x 10’ (for petroleum product)
3	Maritime barrier (baffle)
5	ABS pipe: 10’ long x 4” diameter
2	Cell-U-Sorb (absorbent)
2	Amerisorb peat moss (absorbent)
2	Oil gator absorbent
1	Plug pattie
4	Quatrex bag
2	Fork lift crate
4	Hand shovel
1	Crowbar chisel
1	Ice breaker chisel
1	Sledge hammer
15	Rod bar 4’
1	½ drum containment
1	Boat with motor and gasoline jerry can

SECTION 8 • TRAINING AND EMERGENCY SPILL EXERCISE

8.1 Training

8.1.1 On-Site Personnel

A designated ERT consisting of on-site personnel will be established. Agnico Eagle will ensure that the ERT is trained and present at all times. All members of the team will be trained and familiar with emergency and spill response resources, including their location and access, the Spill Contingency Plan, and appropriate emergency spill response methodologies. The ERT will have up to 40 members, each of whom will receive 8 hours of training per month.

The training will include the following:

- a review of the spill response plan and responsibilities of the ERT members;
- the nature, status, and location of fuel and chemical storage facilities;
- the on-site and off-site spill response equipment and how to use it;
- distribution of MSDS sheets;
- emergency contact lists;
- worker health and safety during emergency interventions;
- communication methods and signals;
- desktop exercises of “worst case” scenarios;
- emergency evacuation;
- fires or explosions;
- emergency equipment and use;
- personal protective equipment and clothing;
- marine shoreline recovery operations; and
- the likely causes and possible effects of spills.

Every employee and contractor at the proposed Meliadine site will receive spill and waste management training during their initial site orientation so that they are able to respond to small spills and raise the alarm if a larger response is required. The ERT members will receive more extensive Hazardous Materials training and learn how to respond while wearing PPE.

The Environment Department will regularly attend tool-box sessions to provide information on spill response and reporting procedures. The Health and Safety Department, including the Health Center staff, will be familiar with and have up-to-date MSDS sheets.

SECTION 9 • POTENTIAL SPILL ANALYSIS – AWAR AND BYPASS ROAD

To prepare for emergency spill response, potential spill analysis will be conducted for a variety of potential worst case scenarios. The exercise will serve in identifying potential risk areas, as well as in determining the fate of spilled products and their environmental effects. The following example is used to demonstrate the application of the spill response as part of the spill analysis. The example is of tanker truck spill along the AWAR or bypass road.

Description of incident: Roll-over of fuel tanker due to poor road conditions. The roll-over has resulted in approximately 1,000 L of fuel to the ground along the road side.

Potential causes: Vehicle accident, human error.

Hazardous product(s) spilled: Diesel fuel.

Maximum potential volume spilled: 45,000 litres.

Immediate receiving medium: Land.

Distance and direction to nearest receiving body of water: 500 metres.

Resources to protect: land and any nearby stream, river or waterbody such as Nipisar Lake.

Estimated emergency response time: Maximum time is 90 minutes depending on location of spill (assuming truck driver is injured and cannot commence spill response procedures). Minimum time to respond to a spill on the AWAR is 15 minutes, depending on the distance from the proposed Meliadine site. Minimum time to respond on the bypass road is 30 minutes, depending on the distance from the proposed Meliadine site and assuming there is no response from Itivia or Rankin Inlet.

Spill response procedures: Under this scenario, the truck driver is not injured, and therefore he acted as the first responder and immediately activated the SCP as defined in Section 6. The driver attempted to seal the leak. He tried to use the spill kit carried in the fuel truck and made all attempts to contain and recover the fuel on the ground using dikes, sumps or trenches as described in Section 6.2. A sorbent boom[2] will be used to block the flow of the fuel towards Nipisar Lake. The first responder notified the Incident Commander and ERT and Environment Department by calling a Code 1 on radio. The mobile emergency response trailer was brought to the spill site by the ERT, who assisted in digging trenches to contain and collect free-product for temporary storage. Spilled material was recovered using pumps. The Environment Superintendent immediately transmitted the information to the General Mine Manager. The fuel remaining in the tanker was pumped into a

[2] Tanker trucks will be required to carry sorbent booms as part their spill kit.

temporary storage tank using appropriate equipment. The leak stopped as the tank volume was reduced below the leaking safety valve. Pumping continued until all of the fuel was removed. The empty tanker was righted and brought back to the site. All soil was cleaned up thereafter and disposed of in the landfarm. The spill was reported to the NT/NU spill report line, KIA, and AANDC. After the cleanup had been completed, the Environment Department collected soil samples to verify that no residual fuel remained at the spill site.

9.1 The Risk of Spills on the Bypass Road

Any spill along any portion of the bypass road will be classified as a major spill requiring the ERT to respond, no matter the quantity of material spilled (the ERT will be trained in spill response procedures as outlined in Section 8). In addition to the ERT showing up on the site, they will also bring a mobile trailer holding spill response materials.

It is during the transport of diesel fuel and other mine materials from Itivia to the proposed mine site that spills can occur on the bypass road. Thirty million litres of diesel and between 20,000 to 40,000 tonnes of mine materials will be transported each year. Of all the goods being transported, diesel poses the greatest risk to the environment and Nipisar Lake based on the number of tanker truck trips each year.

Agnico Eagle will take all reasonable steps to reduce the risk of spills occurring on the bypass road. However, in the event that a spill were to occur, Agnico Eagle will immediately activate the spill contingency plan to minimize the impact of the spill on the environment and to avoid compromising Nipisar Lake, the potable water source for Rankin Inlet. As well, due to the possible unacceptable consequences resulting from a spill within the drainage of Nipisar Lake, Agnico Eagle will take the following mitigation measures to reduce the possibility of a spill:

- Part of the bypass road will be built within the drainage basin of Nipisar Lake to avoid routing mine traffic through the hamlet, something the community did not want. Nonetheless, the route will be built as far from Nipisar Lake as possible.
- Maximum speed on the bypass road within the drainage of Nipisar Lake will be 30 kph. This will assist in reducing the quantity of dust being generated, and act as a safeguard in reducing the risk of spills.
- Water[3] will be used for dust suppression along the bypass road. Excessive dust can reduce the visibility on the bypass road and pose a safety hazard. This could lead to an accident/spill.
- The bypass road will be closed to the public. Automatic gates will be installed at each end of the bypass road, which can only be activated by Agnico Eagle and its contractors. This will

[3] The Government of Nunavut has approved the use of calcium chloride, DL 10, EK-35 and DUST-STOP as dust suppressants in Nunavut. Agnico Eagle will use calcium chloride only as a last resort because of the concern that the salt may impact Nipisar Lake.

reduce dust generation resulting from public use of the bypass road, and lessen the possibility of accidents on the bypass road, which can lead to spills.

- Fuel deliveries from Itivia to the proposed mine site will be suspended during poor weather or poor road conditions.
- Agnico Eagle will sand the roads, including the bypass road, when road ice poses a safety risk to travel.
- All Agnico Eagle and its contractor's vehicles will carry basic spill response equipment and the drivers will be trained in its use. This will allow the truck driver to act as the first responder if it is safe to do so, and attempt to contain the spill and recover any spilled product.
- Sea cans with spill supplies will be located at Itivia and near the Meliadine River. Both being readily accessed to obtain vital spill response materials for a quick spill response on the bypass road.
- The bypass road will be regularly inspected and maintained to keep the running surface in good condition, thereby increasing road safety and reducing dust from the road.

These mitigation measures, combined with the procedures outlined in this Plan above, will provide protection to Nipisar Lake.

SECTION • 10 • REFERENCES

AANDC (Aboriginal Affairs and Northern Development Canada). 2010. Guidelines for Spill Contingency Planning. Last modified- 2010/09/15 http://www.aadnc-aandc.gc.ca/eng/1100100024236/1100100024253#sub1A_6

Agnico Eagle (Agnico Eagle Mines Limited). 2014. Oil Pollution Emergency Plan (OPEP), Final Environmental Impact Statement, Meliadine Gold Project, Nunavut, Volume 8, Support Document 8-2.

NWB (Nunavut Water Board). 2010. Guide 4 – Completing and Submitting a Water Licence Application for a New Licence and the Supplemental Information Guide for Mining and Milling (SIG-MM3 Guide).

APPENDIX A • NT/NU 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	REPORT NUMBER ____-____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	
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			

PAGE 1 OF _____

APPENDIX B • GENERAL RESPONSE PROCEDURES FOR SPILLED EXPLOSIVES

B.1 Ammonium Nitrate

The first step to prevent potential spills and associated hazards is the application of proper storage procedures for bulk ammonium nitrate, including the following:

- ensure good housekeeping of the storage facility to prevent spilling and/or cross-contamination of materials;
- store ammonium nitrate away from combustible materials, fuels, and other blasting accessories (i.e., boosters, delays, detonating cords, and detonators);
- post proper signage restricting the use/exposure of ammonium nitrate to ignition sources (e.g., no hot work, smoking or vehicle maintenance);
- ensure the storage facility is well ventilated; and
- ensure the storage facility is locked at all times with only authorized personnel allowed access.

The following is a general spill response procedure for ammonium nitrate. Consult the MSDS to determine whether deviations from the general guidance are required.

For an **ammonium nitrate spill** (solid):

1) Isolate and evacuate the spill area.

2) Contact your Supervisor who will then contact the Incident Commander and coordinate appropriate spill response (assemble ERT members and the appropriate spill response materials). **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

3) Put on appropriate personal protective equipment. For an ammonium nitrate spill, this includes:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Protective eyeglasses or chemical safety goggles or face shield as recommended by the MSDS;

    c. Lab coat, coveralls or TyvekTM coveralls as recommended by the MSDS; and

    d. Half mask air-purifying respirator with cartridges and/filters as recommended by the MSDS or respirator manufacturer.

4) Ventilate (open windows/doors to outdoor) closed spaces before entering.

5) Remove all sources of heat and ignition (no smoking, flares, sparks, or flames in immediate area) and remove uncontaminated combustible materials and organic compounds (wood, paper, oil, etc.) from spill area.

6) For spills on land, protect the spill area from water runoff by constructing a ditch or dike using suitable absorbent materials, soil or other appropriate barrier.

7) Vacuum or sweep the spill residue using non-metal, non-sparking tools and place the residue in a labelled plastic container (plastic pail with lid or double heavy duty plastic bags) for re-use or off-site disposal at a licensed disposal facility.

   Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid and clearly label the container per WHMIS Guidelines.

   Note: Minimize dust generation during the operation.

8) Remove and bag PPE for cleaning or disposal at a licensed facility. Thoroughly wash potential skin contact locations after handling.

B.2 Ammonium Nitrate Fuel Oil

Proper storage, handling and disposal of ammonium nitrate fuel oil (ANFO) is an important first step in preventing spills and associated hazards.

The proper storage procedures are as follows:

- use ANFO under the supervision of authorized trained personnel;
- keep ANFO away from heat, sparks, and flames, as well as initiating explosives, oxidizing agents, combustibles, and other sources of heat; and
- protect containers from physical damage and store them in dry, well ventilated conditions.

Explosives that have been identified as deteriorated or damaged will need to be disposed of or destroyed. The appropriate method of disposal or destruction and subsequent course of action will be determined by authorized personnel or the explosive supplier.

Transportation of explosives-related compounds and materials will be in accordance with Section 14 of the *Mine Health and Safety Act* and associated regulations, and the *Transportation of Dangerous Goods Act*. Transport vehicles will be in sound mechanical condition and equipped with proper safety equipment. Loaded vehicles will not be left unattended, and only authorized personnel will be responsible for the security of the explosives under their control.

The following is a general spill response procedure for ammonium nitrate fuel oil – ANFO. The following procedure does not apply to emulsions or other explosives. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For an **ANFO spill** (solid):

1) Isolate and evacuate the spill area.

2) **IF SAFE TO DO SO,** immediately extinguishes any open flames and remove ignition sources (no smoking, flares, sparks in immediate area). **Fires involving large quantities of ANFO should not be fought.**

3) Contact the Incident Commander who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

4) Put on appropriate personal protective equipment. For an ANFO spill this includes:

    a. Gloves as recommended by the MSDS or glove manufacturer;

b. Protective eyeglasses or chemical safety goggles or face shield as recommended by the MSDS;

c. Lab coat, coveralls or TyvekTM coveralls as recommended by the MSDS;

d. Shoe covers or rubber boots; and

e. Half mask air-purifying respirator with cartridges and/filters as recommended by the MSDS or respirator manufacturer.

5) If the spill has occurred outdoors, stay upwind and avoid low lying areas. Ventilate (open windows/doors to outdoors) closed spaces before entering. Ensure adequate explosion proof ventilation for cleanup.

6) Remove all sources of heat and ignition (no smoking, flares, sparks or flames in immediate area) and remove uncontaminated combustible materials and organic compounds (wood, paper, oil, etc.) from spill area.

7) Do not operate radio transmitters within 100 m of electric detonators.

8) For spill on land, protect the spill area from water runoff by constructing a ditch or dike using suitable absorbent materials, soil or other appropriate barrier. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination.

9) Collect, sweep or shovel spilled material and the other contaminated material/soil using non-metallic, spark-proof tools and place residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility.

   Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and clearly label the container per WHMIS Guidelines.

   Note: The drums/containers/residues are to be stored in ventilated areas away from incompatible materials for eventual off-site disposal at a licensed disposal facility.

10) Remove and bag PPE for cleaning or disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated.

APPENDIX C • GENERAL RESPONSE PROCEDURES FOR COMPRESSED GAS LEAK

The following is a general spill response procedure for compressed gases. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **compressed (inert and flammable) gas** leak:

1) **IF SAFE TO DO SO** and if it will stop the gas leak, turn off cylinder valve.

2) If the leak cannot be stopped by closing the cylinder valve, and it is **an inert atmospheric gas** (e.g., nitrogen, carbon dioxide, etc.) isolate and evacuate the affected area. If the leak is a **flammable gas** and the leak is outside of a ventilated building enclosure that will contain the gas, immediately activate the fire alarm system and evacuate the area/building.

3) Contact the Incident Commander who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

4) If possible and if safety permits, adjust leaking cylinder so that gas escapes rather than liquid.

5) If possible and if safety permits, eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area) and turn off electrical equipment.

6) If the spilled has occurred outdoors, stay upwind and avoid low lying areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, it may also be necessary to have it shut-down. Allow vapours to ventilate outdoors by opening windows and doors to the exterior.

7) Isolate area until gas has dispersed. Incident Commander to verify safe conditions.

APPENDIX D • GENERAL RESPONSE PROCEDURES FOR SPILLED FLAMMABLE OR COMBUSTABLE LIQUIDS

The following is a general spill response procedure for flammable or combustible liquids, particularly petroleum hydrocarbon products. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a spill of **flammable or combustible petroleum hydrocarbon product (liquid):**

1) Isolate and evacuate the spill area.

2) **IF SAFE TO DO SO**, immediately extinguishes any open flames and remove ignition sources (no smoking, flares, sparks in immediate area).

3) **IF SAFE TO DO SO**, stop leak and contain spill (**see Step 9**).

4) Contact the Incident Commander who will assemble ERT members if required and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

5) Put on appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Splash goggles or face shield;

    c. Shoe covers or rubber boots;

    d. Lab coat or TyvekTM coveralls; and

    e. Half mask air-purifying respirator with **organic vapour or combination cartridges**, or as otherwise recommended by the MSDS or respirator manufacturer.

6) If the spilled has occurred outdoors, stay upwind and avoid low lying areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, it may also be necessary to have it shut-down.

7) Ventilate (open windows/doors to outdoors) closed spaces before entering. Ensure adequate explosion-proof ventilation for cleanup. A vapour suppressing foam or water spray may be used to reduce vapours.

8) Remove all sources of ignition (no smoking, flares, sparks or flames in immediate area) and combustible materials (wood, paper, oil, etc.) from within the spilled area.

9) Contain spill by using spill absorbent, spill pads or pillows, soil or snow by constructing a dike that will limit flow and prevent entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate. If possible, compact soil or snow dikes, and place plastic tarps over the dike and at its foot to allow the product to pool on the plastic for easy recovery.

   Note: Do not use paper towels to absorb spill as this increases the rate of evaporation and vapour concentration in the air.

   Note: Do not flush with water into drainage areas or ditches as this will spread spill.

   Note: Snow works well as a natural absorbent to collect and contain spilled petroleum hydrocarbons. However, its use in containing a spill will result in a water-contaminant mixture that may be more difficult to manage. It is important to scrape up the contaminated snow and ice as soon as possible.

10) Carefully cover the spill area with spill absorbent, spill pads, soil or snow, starting at the outside and working inward. Do not touch or walk through spilled material.

11) Sweep up or shovel the residue using non-metallic, spark-proof tools and place the residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags). For larger spills to land, excavate impacted absorbent material and soil, place in lined and bermed temporary storage area or directly into sealed drums/containers.

   Note: The drums/containers/residues are to be stored in ventilated areas away from incompatible materials for eventual treatment at on-site landfarm facility or off-site disposal at a licensed disposal facility. Electrically ground all containers and transporting equipment.

   Note: Larger pools of product may be pumped into empty storage tanks or drums.

12) If spill is indoors, mop the affected area using detergent and water. Dispose of this water to drums for eventual off-site disposal at a licensed disposal facility. Spills to land may require further excavation or remediation of contaminated soil until acceptable soil quality is achieved. The Incident Commander and/or Environment Superintendent will assess this requirement.

13) For spills to water, immediately limit the area of the spill on water using absorbent pads and booms and similar materials to capture small spills on water. Deploy and slowly draw in absorbent booms to encircle and absorb the spilled product. Recover larger spills on water with floating skimmers and pumps, as required, and discharge recovered product to drums or tanks.

   Note: Petroleum hydrocarbons are generally hydrophobic, and as such, do not readily dissolves in water. They typically tend to float on the water's surface. Absorbent booms are often relied on to recover hydrocarbons that escape land containment and enter water.

   Note: Antifreeze sinks and mixes with water. If released to water, attempt to isolate/confine the spill by damming or diverting the spill. Pump contaminated water to tanks or drums.

14) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated leather articles (including boots and shoes) that cannot be decontaminated.

APPENDIX E • GENERAL RESPONSE PROCEDURES FOR SPILLED OXIDIZING SUBSTANCES

E.1 Liquids

The following is a general spill response procedure for liquid oxidizer compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **liquid oxidizer** spill:

1) Isolate and evacuate the spill area.

2) **IF SAFE TO DO SO**, stop leak and contain spill (**see Step 8**).

3) Contact the Incident Commander who will assemble, if required, ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

4) Put on the appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Splash goggles or face shield;

    c. Shoe covers or rubber boots;

    d. Lab coat, coveralls or TyvekTM coveralls as recommended by the MSDS; and

    e. Half mask air-purifying respirator with cartridges and/or filters as recommended by the MSDS or respirator manufacturer.

5) Ventilate closed spaces before entering. Ensure adequate explosion-proof ventilation for cleanup.

6) Remove and/or moisten with water any combustible material (wood, paper, oil, etc.) affected by the spill.

7) Use water spray to reduce vapours or divert vapour cloud drift, if required.

8) Contain spill by using non-combustible spill absorbent, soil or snow to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate.

    Note: Flushing area with flooding quantities of water may also be appropriate assuming this does not make cleanup and waste management more difficult – refer to the MSDS.

9) Carefully cover the spill area with spill absorbent, soil or snow, starting at the outside and working inward. Use non-combustible absorbent. Do not touch or walk though spilled material.

10) Sweep up or shovel the spill residue using non-metal, non-sparking tools and place the residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility.

11) For indoor spills, mop the affected area using detergent and water. Flushing area with flooding quantities of water may also be appropriate – refer to the MSDS. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate. Spills to land may require further excavation or remediation of contaminated soil until acceptable soil quality is achieved. The Incident Commander and/or Environment Superintendent will assess this requirement.

12) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

E.2 Solids

The following is a general spill response procedure for solid oxidizer compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **solid oxidizer** spill:

1) Isolate and evacuate the spill area.

2) Contact the Incident Commander who will assemble, if required, ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

3) Put on the appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Safety glasses or goggles;

    c. Lab coat; and

    d. Half mask air-purifying respirator with **N95 or greater protection** particulate filter or as recommended by the MSDS or respirator manufacturer.

4) Remove all sources of heat and ignition (no smoking, flares, sparks or flames in immediate area) and remove uncontaminated combustible materials and organic compounds (wood, paper, oil, etc.) from spill area.

5) For spills to land, protect the spill area from water runoff by constructing a ditch or dike using suitable non-combustible absorbent materials, soil or other appropriate barrier. For spill to water, utilize damming and/or water diversion to minimize the spread of contamination.

6) Vacuum, sweep, or shovel the spill residue using non-metal, non-sparking tools, and place the residue into a labelled plastic container (plastic pail with lid or double heavy duty plastic bags) for re-use or off-site disposal at a licensed disposal facility.

    Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid, and clearly label the container per WHMIS Guidelines.

    Note: Minimize dust generation.

7) If there is still oxidizer residue left in the spill area, neutralize with appropriate agent as recommended by the MSDS, or for spills to land, continue to excavate until no visible spilled solid remains. Use non-combustible spill absorbent or soil to absorb the neutralized residue. Place in suitable drums/containers for disposal at a licensed facility.

8) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate.

9) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

APPENDIX F • GENERAL RESPONSE PROCEDURES FOR SPILLED POISONOUS AND TOXIC SUBSTANCES

F.1 Sodium Cyanide

The following is a general spill response procedure for solid Sodium Cyanide.

For a **Sodium Cyanide (solid)** spill:

1) Isolate and evacuate the spill area.

2) Contact the Incident Commander who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

3) Put on the appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Safety glasses or goggles;

    c. Lab coat; and

    d. Half mask air-purifying respirator as recommended by the MSDS or respirator manufacturer.

    Note: For worker safety, maintain readily accessible supply of cyanide antidote kits on-site.

4) Ventilate area of spill or leak.

5) Avoid exposure to acids, water or weak alkalies, which can react to form toxic Hydrogen Cyanide gas.

6) Contain spill to prevent release to sewer, waterway or onto ice. For spills to land, protect the spill area from water runoff by constructing a ditch or dike using absorbent materials, soil or other appropriate barrier. If raining, cover spill area with tarp or plastic to minimize contact with water and prevent subsequent runoff. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination.

7) Shovel the spilled material into labelled drums, containers or plastic bags for re-use or off-site disposal at a licensed disposal facility.

    Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid and clearly label the container per WHMIS Guidelines.

    Note: Minimize dust generation.

8) If there is still spilled Sodium Cyanide residue left in the spill area, neutralize with appropriate agent **as recommended by the MSDS** (Sodium or Calcium Hypochlorite solution), or for spills to land, continue to excavate until no visible spilled solid remains. Use suitable spill absorbent or soil to absorb the neutralized residue. Place in suitable drums/containers for disposal to a licensed facility. Collect material and place in a closed container for recovery or disposal.

9) For indoor spills, mop the affected area using detergent and water. Dispose of this water to waste drums/containers for disposal to a licensed facility.

10) Remove and bag PPE for disposal at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

APPENDIX G • GENERAL RESPONSE PROCEDURES FOR SPILLED CORROSIVE SUBSTANCES

G.1 Acids, Liquids

The following is a general spill response procedure for liquid acid compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **liquid acid** spill:

1) Isolate and evacuate the spill area.

2) **IF SAFE TO DO SO**, stop leak and contain spill (**see Step 8**).

3) Contact the Incident Commander who will assemble, if required, ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

4) Put on appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Splash goggles or face shield;

    c. Shoe covers or rubber boots;

    d. Lab coat or TyvekTM coveralls; and

    e. Half mask air-purifying respirator with **acid gas or combination** cartridges, or as otherwise recommended by the MSDS or respirator manufacturer.

5) If the spill has occurred outdoors, stay upwind and stay out of low areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, it may also be necessary to have it shut-down.

6) Ventilate (open windows/doors to outdoors) closed spaces before entering.

7) Remove all sources of ignition (no smoking, flares, sparks or flames in immediate area).

8) Contain spill by using spill absorbent, spill pads or pillows, or dry soil to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate. Ideally, use spill absorbent that contains a mild neutralizing agent as recommended by the MSDS.

Note: Many acids, particularly concentrated acids, react violently in the presence of water. Do not flush spill area with water unless the MSDS indicates acceptable.

Note: Nitric Acid reacts violently and explosively with organic chemicals and organic material such as wood, cotton and paper; therefore, do not use organic absorbent material on Nitric Acid.

Note: Hydrofluoric Acid will fume during neutralization. Provide adequate ventilation and approach from upwind. Neutralize carefully with Sodium Bicarbonate, soda ash or lime. Use water spray to disperse the gas/vapour if required. Remove all sources of ignition.

9) Carefully cover the spill area with spill absorbent, spill pads or dry soil, starting at the outside and working inward. If practical, neutralize spill using MSDS-recommended or commercially available neutralizers. Use pH indicator paper to determine if spill is neutralized (pH 7).

   Note: Use caution as neutralization reactions generate heat.

10) Sweep or shovel the neutralized spill residue using non-metal, non-sparking tools and place the residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility.

11) Check the pH of the spill area. If it is less than pH 6, then further neutralize with a dilute solution of a suitable reagent as identified on the MSDS or for spill to land continue to excavate contaminated soil.

12) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate.

13) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

14) After the spill has been cleaned up, the area should be free of vapours. However, if personnel note odours or irritation, isolate the spill area, re-clean the area as per Steps 11 and 12 or wait at least 1 hour before re-entering or until considered safe by the Incident Commander or Environment Superintendent.

G.2 Acids, Solids

The following is a general spill response procedure for solid acid compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **solid acid** spill:

1) Isolate and evacuate the spill area.

2) Contact the Incident Commander who will assemble, if required, ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

3) Put on the appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Safety glasses or goggles;

    c. Lab coat; and

    d. Half mask air-purifying respirator with **N95 or greater protection** particulate filter, or as otherwise recommended by the MSDS or respirator manufacturer.

4) Contain spill to prevent release to sewer, waterway or onto ice. For spills to land, protect the spill area from water runoff by constructing a ditch or dike using absorbent materials, dry soil or other appropriate barrier. If raining, cover spill area with tarp or plastic to minimize contact with water and prevent reaction and/or subsequent runoff. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination.

5) If necessary to minimize dust production, slightly moisten the solid. Use water, or if the material is water reactive, another inert liquid as recommended by the MSDS.

6) Sweep up or shovel the residue using non-metallic, spark-proof tools and place the residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags) for reuse or off-site disposal at a licensed disposal facility.

    Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid and clearly label the container per WHMIS Guidelines.

7) Remaining solid acid residue may be neutralized using a dilute solution of appropriate agent as recommended by the MSDS (e.g., Sodium Bicarbonate - baking soda) or, for spills to land,

continue to excavate until no visible spilled solid remains. Check the pH of the spill area; the final pH should be between pH 6 and 10. Use spill absorbent, spill pads or dry soil to absorb the neutralized residue.

Note: Use caution as neutralization reactions generate heat.

8) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate.

9) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

G.3 Bases/Alkali, Liquids

The following is a general spill response procedure for liquid alkali or base compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **liquid alkali or base** spill:

1) Isolate and evacuate the spill area.

2) **IF SAFE TO DO SO**, stop leak and contain spill (**see Step 8**).

3) Contact the Incident Commander who will assemble ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

4) Put on the appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Splash goggles or face shield;

    c. Shoe covers or rubber boots;

    d. Lab coat or TyvekTM coveralls; and

    e. Half mask air-purifying respirator with cartridges/filters as recommended by the MSDS or respirator manufacturer.

5) If the spill has occurred outdoors, stay upwind and stay out of low areas. If the spill has occurred inside a building, prevent spread of vapour throughout the building by closing doors to other rooms and hallways. If the room's air exchange system distributes air throughout the building, it may also be necessary to have it shut-down.

6) Ventilate (open doors/windows to outdoors) closed spaces before entering.

7) Remove all sources of ignition (no smoking, flares, sparks or flames in immediate area) and combustible materials (wood, paper, oil, etc.).

8) Contain spill by using spill absorbent, spill pads or pillows, or dry soil to construct a dike that limits flow and prevents entry to sewer, waterways or onto ice. For spills to land, excavation of trenches/pits to capture spill flow may also be appropriate. Ideally, use spill absorbent that contains a mild neutralizing agent as recommended by MSDS.

Note: Use caution as neutralization reactions generate heat.

9) Carefully cover the spill area with spill absorbent, spill pads or dry soil, starting at the outside and working inward. If practical, neutralize spill using MSDS-recommended or commercially available neutralizers. Use pH indicator paper to determine if spill is neutralized (pH 7).

   Note: Use caution as neutralization reactions generate heat.

10) Sweep or shovel the neutralized spill residue using non-metal, non-sparking tools and place the residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility.

11) Check the pH of the spill area. If it is greater than pH 10, then further neutralize with a dilute solution of a suitable reagent as identified on the MSDS, or for spill to land, continue to excavate contaminated soil.

12) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate.

13) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

14) After the spill has been cleaned up, the area should be free of vapours. However, if personnel note odours or irritation, isolate the spill area, re-clean as per Steps 11 and 12 or wait at least 1 hour before re-entering or until it is considered to be safe by the Incident Commander or Environment Superintendent.

G.4 Bases/Alkali, Solids

The following is a general spill response procedure for solid alkali or base compounds. Consult the MSDS for the specific spilled compound to determine whether deviations from the general guidance are required.

For a **solid alkali or base** spill:

1) Isolate and evacuate the spill area.

2) Contact the Incident Commander who will assemble, if required, ERT members and the appropriate spill response materials outside the spill area. **Obtain and read the MSDS** for the substance to determine the chemical-specific hazards and to identify any special precautions that must be taken.

3) Put on the appropriate PPE. Depending on the scale of the spill and properties of the spilled substance, this can include:

    a. Gloves as recommended by the MSDS or glove manufacturer;

    b. Safety glasses or goggles;

    c. Lab coat; and

    d. Half mask air-purifying respirator with **N95 or greater protection** particulate filter or as recommended by the MSDS or respirator manufacturer.

4) Contain spill to prevent release to sewer, waterway or onto ice. For spills to land, protect the spill area from water runoff by constructing a ditch or dike using absorbent materials, dry soil or other appropriate barrier. If raining, cover spill area with tarp or plastic to minimize contact with water and prevent reaction and/or subsequent runoff. For spill to water, utilize damming, and/or water diversion to minimize the spread of contamination.

5) If necessary to minimize dust production, slightly moisten the solid. Use water or, if the material is water reactive, another inert liquid as recommended by the MSDS.

    Note: Do not use water to flush bases in powdered form, such as Calcium Oxide (lime), as this material is not very soluble.

6) Sweep or shovel the residue using non-metallic, spark-proof tools and place the residue into a labelled plastic waste container (plastic pail with lid or double heavy duty plastic bags) for off-site disposal at a licensed disposal facility.

    Note: Recovered solid, if generally free from impurities, may be suitable for its intended use. In this case, place solid in suitable container with lid and clearly label the container per WHMIS Guidelines.

7) Remaining solid alkali or base residue may be neutralized using a dilute solution of appropriate acid. Check the pH of the spill area; the final pH should be between pH 6 and 10. Use spill absorbent, spill pads or dry soil to absorb the neutralized residue.

8) For indoor spills, mop the affected area using detergent and water. Dispose of this water to the sanitary sewer, process stream or waste drums as appropriate.

9) Remove and bag PPE for cleaning, inform laundry personnel of contaminant hazards, or dispose at a licensed disposal facility. Thoroughly wash with soap potential skin contact locations after handling. Properly dispose of contaminated clothing that cannot be decontaminated.

APPENDIX H • FEDERAL AND TERRITORIAL LAWS, REGULATIONS AND GUIDELINES

Act	Regulation	Guideline
Federal		
Canadian Environmental Protection Act (1999 c.33)	*Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* (SOR/2008-197) *Environmental Emergency Regulations* (SOR/2003-307) *Interprovincial Movement of Hazardous Waste and Hazardous Recyclable Material Regulations* (SOR/2002-301)	CCME - Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products Notice with respect to substances in the National Pollutant Release Inventory Canada-Wide Standards for Particulate Matter (PM) and Ozone Canada-wide Standards for Petroleum Hydrocarbons (PHC) in Soil
Canada Wildlife Act (1985 w9)		
Species at Risk Act (2002 c.29)		
Migratory Birds Convention Act (1994 c.22)	*Migratory Birds Regulations* (C.R.C., c. 1035)	
Canada Water Act (1985 c.11)		
Arctic Waters Pollution Prevention Act (R.S.C., 1985, c. A-12)		
Canada Shipping Act, 2001 (S.C. 2001, c. 26)	*Response Organizations and Oil Handling Facilities Regulations* (SOR/95-405)	
Navigable Waters Protection Act (R.S. 1985 c. N-22)	*Navigable Waters Works Regulations* (C.R.C., c. 1232) *Navigable Waters Bridges Regulations* (C.R.C., c. 1231)	
Marine Liability Act (A.C. 2001, c.6)	*Marine Liability Regulations* (SOR/2002-307)	
Fisheries Act (1985, c. F-14)	*Metal Mining Effluent Regulations* SOR/2002-2222)	The Policy for the Management of Fish Habitat Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters Freshwater Intake End-of-Pipe Fish Screen Guideline Standard Operating Procedure – Clear Span Bridges
Transport of Dangerous Goods Act (1992, c. 34)	*Transportation of Dangerous Goods Regulations* (SOR/2001-286)	

Act	Regulation	Guideline
Explosives Act (1985 c.E-17)	*Ammonium Nitrate and Fuel Oil Order* (C.R.C., c. 598) *Explosives Regulations* (C.R.C., c. 599)	
National Fire Code of Canada (2010)		
Nuclear Safety and Control Act (s.c. 1997, c.9)	*General Nuclear Safety and Control Regulations* (SOR/2000-202)	
Canadian Human Rights Act (R.S.C., 1985, c. H-6)		
Canada Labour Code (R.S.C., 1985, c. L-2)	*Canada Labour Standards Regulations* (C.R.C., c. 986) *Canada Occupational Health and Safety Regulations* (SOR/86 304)	
Territorial Lands Act (R.S. 1985, c. T-7)	*Northwest Territories and Nunavut Mining Regulations* (C.R.C., c. 1516) *Territorial Land Use Regulations* (C.R.C., c. 1524) *Territorial Quarrying Regulations* (C.R.C. c. 1527)	
Nunavut Waters and Nunavut Surface Rights Tribunal Act (2002, c. 10)	*Northwest Territories Waters Regulations* (SOR/93/303)	
Nunavut Act (1993 c.28)	*Nunavut Archaeological and Paleontological Sites Regulations* (SOR/2001-220)	
Nu*navut Land Claims Agreement Act* (1993, c. 29)		
Territorial		
Environmental Protection Act (RSNWT (Nu) 1988, c E-7)	*Spill Contingency Planning and Reporting Regulations (NWT Reg (Nu) 068-93)* *Used Oil and Waste Fuel Management Regulations (NWT Reg 064-2003)* [The removal of hazardous materials will require the registration with the Government of Nunavut, Department of Environment as a waste generator as well as carrier (if applicable) prior to transport.]	Guideline on Dust Suppression Guideline for the General Management of Hazardous Waste in Nunavut Guideline for Industrial Waste Discharges in Nunavut Guideline for Air Quality – Sulphur Dioxide and Suspended Particulates Guideline for the Management of Waste Antifreeze Guideline for the Management of Waste Batteries Guideline for the Management of Waste

Act	Regulation	Guideline
		Paint Guideline for the Management of Waste Solvents Guideline for Industrial Projects on Commissioner's Land
Scientists Act (RSNWT (Nu) 1988, c S-4)	*Scientists Act Administration Regulations* (NWT Reg (Nu) 174-96)	
Historical Resources Act (RSNWT (Nu) 1988, c H-3)		
Territorial Parks Act (RSNTW (Nu) 1988, c T-4)	*Territorial Parks Regulations* (RRNWT (Nu) 1990 c T-13)	
Wildlife Act (RSNWT (Nu) 1988, c W-4)	*Wildlife General Regulations* (NWT Reg (Nu) 026-92) *Wildlife Licences and Permits Regulations* (NWT Reg (Nu) 027-92) *Wildlife Management Barren-Ground Caribou Areas Regulations* (NWT Reg (Nu) 099-98) *Wildlife Management Grizzly Bear Areas Regulations* (NWT Reg (Nu) 155-96) *Wildlife Management Zones Regulations* (RRNWT (Nu) 1990 c W-17) *Wildlife Regions Regulations* (NWT Reg (Nu) 108-98)	
Commissioner's Land Act (RSNWT 1988, c C-11)	*Commissioner's Airport Lands Regulations* (NWT Reg (Nu) 067-97) *Commissioner's Land Regulations* (RRNWT 1990, c C-13)	
Safety Act (RSNWT 1988, c.S-1)	*General Safety Regulations* (RRNWT (Nu) 1990 c S-1) *Work Site Hazardous Materials Information System Regulations* (RSNWT 1988, C 81 (Supp))	
Mine Health And Safety Act (SNWT (Nu) 1994, c 25)	*Mine Health And Safety Regulations* (NWT Reg (Nu) 125-95)	
Workers' Compensation Act (RSNWT, 1988, c. W-6)	*Workers' Compensation General Regulations* (Nu Reg 017-2010)	

Act	Regulation	Guideline
Apprenticeship, Trade and Occupations Certification Act (RSNWT (Nu) 1988, c A-4)	*Apprenticeship, Trade and Occupations Certification Regulations* (RRNWT (Nu) 1990 c A-8)	
Labour Standards Act (RSNWT (Nu) 1988, c L-1)	*Annual Vacations Regulations* (RRNWT 1990, c.L-1) *Educational Work Experience Regulations* (RRNWT 1990, c.L-2) *Employment of Young Persons Regulations* (RRNWT 1990, c.L-3) *Labour Standards Meal Regulations* (RRNWT 1990, c.L-4) *Notice of Termination Exemption Regulations* (RRNWT 1990 c.L-5) *Pregnancy and Parental Leave Regulations* (RRNWT 1990, c.8(Supp.)) *Reciprocating Jurisdiction Order* (RRNWT 1990, c.L-6) *Wages Regulations* (RRNWT 1990, c.L-7)	
Electrical Protection Act (RSNWT (Nu) 1988, c E-3)	*Electrical Protection Regulations* (RRNWT 1990 c. E-21)	
Explosives Use Act (RSNWT (Nu) 1988, c E-10)	*Explosives Regulations* (RRNWT (Nu) 1990 c E-27)	
Petroleum Products Tax Act (RSNWT (Nu) 1988, c P-5)	*Petroleum Products Tax Regulations* (RRNWT (Nu) 1990 c P-3)	
Fire Prevention Act (RSNWT (Nu) 1988, c F-6)	*Fire Prevention Regulations* (RRNWT (Nu) 1990 c F-12)	
Hospital Insurance and Health and Social Services Administration Act (RSNWT 1988, c T-3)	*Territorial Hospital Insurance Services Regulations* (RRNWT (Nu) 1990 c T-12)	
Public Health Act (RSNWT (Nu) 1988, c P-12)	*Camp Sanitation Regulations* (RRNWT (Nu) 1990 c P-12) *General Sanitation Regulations* (RRNWT (Nu) 1990 c P-16)	
All-terrain Vehicles Act (RSNWT (Nu) 1988, c A-3)	*All-terrain Vehicles Regulations* (RRNWT (Nu) 1990 c A-1)	
Motor Vehicles Act (RSNWT (Nu) 1988 c M-16)	*Large Vehicle Control Regulations* (RRNWT (Nu) 1990 c M-30)	

Act	Regulation	Guideline
Public Highways Act (RSNWT (Nu) 1988, c P-13)	*Highway Designation and Classification Regulations* (NWT Reg (Nu) 047-92)	
Transportation Of Dangerous Goods Act (1990, RSNWT (Nu) 1988, c 81 (Supp))	*Transportation Of Dangerous Goods Regulations* (1991, NWT Reg (Nu) 095-91)	