AGNICO EAGLE

OIL POLLUTION EMERGENCY PLAN
POLLUTION AND PREVENTION PLAN

MELIADINE GOLD MINE

ITIVIA OIL HANDLING FACILITY
EC-00044507 P-50 Diesel fuel

July 2023
Version 9

EXECUTIVE SUMMARY

This document presents the Oil Pollution Emergency Plan (OPEP) and Oil Pollution Prevention Plan (OPPP) for Agnico Eagle Mines Limited (Agnico Eagle) Meliadine Gold Mine. This plan is pursuant to the Canada *Shipping Act 2001*; and all the subtending regulations. This emergency plan is also required under the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* (STS Regs), s. 30 to 32. pursuant to the *Canadian Environmental Protection Act,* 1999 and the *Environmental Emergency Regulations* 2019 SOR/2019-51.

The OPEP designates lines of authority, responsibility, establishes proper reporting and details plans of action in the event of a spill. The OPPP is designated to ensure the necessary planning to prevent a spill was undertaken. Both plans are complementary and combined into one plan.

This combined plan applies to the operational phase of the fuel transfer which takes place at Agnico Eagle Mines Limited's Itivia Site Fuel Storage and Containment Facilities and Oil Handling Facility located at latitude 62°48'16.66" N and longitude 92°05'5.32" W.

A hard copy of the OPEP and OPPP is available at the Rankin Inlet Marshalling facility during the transfer operations.

ACRONYMS

Agnico Eagle	Agnico Eagle Mines Limited
AWOT	Arctic Waters Oil Transfer
CCG	Canadian Coast Guard
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
DFO	Department of Fisheries and Oceans Canada
ECC	Emergency Control Center
ECCC	Environment and Climate Change Canada
EMC	Emergency Measure Counsellor
ERT	Emergency Response Team
ERP	Emergency Response Plan
Fuel	P50 Arctic Grade diesel fuel
IMO	International Maritime Organization
	Kivalliq Inuit Association
MARPOL	*The International Convention for the Prevention of Pollution from Ships, 1973,* and the *Protocols* of 1978 and 1997, as amended from time to time
NIRB	Nunavut Impact Review Board
NWB	Nunavut Water Board
OHF	Oil Handling Facility
OPEP	Oil Pollution Emergency Plan
OPPP	Oil Pollution Prevention Plan
PPE	Personal Protective Equipment
SCP	Spill Contingency Plan
SDS	Safety Data Sheet
SOPEP	Ship Oil Pollution Emergency Plan
SMP	Spill Management Plan
TC	Transport Canada
TCMSS	Transport Canada Marine Safety & Security
TEU	Twenty-foot equivalent unit
WHIMIS	Workplace Hazardous Material Information System

DISTRIBUTION LIST

Agnico Eagle - Environmental Superintendent

Agnico Eagle – Environment General

Supervisor

Agnico Eagle – Environment Department

Agnico Eagle – General Mine Manager

Agnico Eagle – Health and Safety Superintendent

Agnico Eagle – Energy and Infrastructures

Superintendent

Agnico Eagle – Maintenance Superintendent

Agnico Eagle – ERT Emergency Measures

Councilor

Rankin Inlet – Rankin Inlet Hamlet Office

Rankin Inlet – Fire Department

Woodward – General Manager Transport Canada –

Marine Pollution Officer

Woodward – Marine Superintendent

Canadian Coast Guard Environmental Response

DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
0	17/07/17	All	All	Comprehensive plan for Agnico's Rankin Inlet Fuel Farm Facilities
1.1	18/09/17	5.3, 10.2, Appendix H	11, 33, 217	Additions and revisions in response to the comments by Transport Canada officer
1.2	18/02/07	All Document control 3.2.1 4.2.1 5.4 Figure 3 Table 5	All 5 4 8 12 13 24	-Version and date updated, general review and revision -Environment general supervisor updated -Added reference to spill response seacans located along the AWAR -Removed "A fuel dispensing pad area completed with a dispensing unit will be located in a lined facility with a provision to capture any and all spills at the fueling area and direct them to a containment area provided at the tank farm." – to be implemented through future planning -Added "or equivalent, ie. Plastic tote" to options for spill containment at OHF manifold -Added environment department to list of security contacts -Updated Agnico Eagle contact list
1.3	18/07/20	All	All	Fuel Handler
2	19/01/03	All Appendix I	All	-Version and date updated, general review and revision -added mock spill training in the summer of 2018

3	19/10/10	Executive summary 2.5 5.1 11.1 Appendix J Appendix K Appendix L	i 7 11 35	Add references to the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations and the Environmental Emergency Regulations in the executive summary Health and environmental risk resulting from an emergency release of diesel spill Main activities involving diesel fuel Maximum expected quantity of diesel fuel at the Itivia facility PTA assessment STR's cross reference table EER 2019 cross reference table
3.1	10/04/20	Section 8.3 Appendix A Appendix B Appendix C Appendix G Appendix I Appendix L		Contact information updated Updated with latest version Updated with latest version Updated with latest version Updated with latest version Updated with latest version Removed

4	09/07/2020	Section 1 Section 2.1 Section 2.2 Section 3.1 Section 3.2 Section 6 Section 8 Scenario 3	1 2 2 5 5-6 13 22 39	OHF declaration updated Requirements for plan update added Legislative requirements updated Maximum spill volume updated Information on fuel recovery added Maximum spill volume updated Code One procedure added Maximum spill volume updated
5	30/06/2021	All Section 1 Appendix A	 1	Fuel shipping company information updated OHF declaration updated SOPEP updated
6	11/04/2022	Section 8.3, Tables 4 and 6	24 and 26	Minor update of the Contacts Tables 4 and 6
7	20/07/2022	Section 1, Section 8.3 Table 4	1 and 24	Updated Oil Handling Facility Declaration and minor update of the Contacts in Table 4
8	03/31/2023	Section 2 Section 7.2.2. Section 8 Section 10	2 18-20 25-27 36-37	Updated to reflect to include Level 2 facility information Minor updates to spill response kit content Minor updates to contact information Updated to align with CSA 182(1)(a) spill reporting requirement
9	07/04/2023	Section 1 Section 7.3 Section 8.3 Section 9.1 Section 11	1 21 24-26 27 35	Updated Schedule 2 OHF Declaration Table 2 update Minor updates to contact information Minor updates to responsibilities of the first responder Added reference to Section 11(3) of the Environmental Response Regulations

Prepared By: Agnico Eagle Mines Limited - Meliadine Division

Approved By:

Sara Savoie
Environment General Supervisor

Table of Contents

APPENDICIES

FIGURES

TABLES

SECTION 1 - OIL HANDLING FACILITY DECLARATION

Pursuant to paragraph 168(1) (b) (i) of the Canada Shipping Act 2001, Agnico Eagle Mines Ltd. (Agnico Eagle) has signed an Oil Handling Facility Declaration. This Declaration can be found posted at the Oil Handling Facility (OHF).

Transport Canada Transports Canada

PROTECTED A (WHEN COMPLETED)

SCHEDULE 2
OIL HANDLING FACILITY DECLARATION
NORTH OF 60 DEGREES NORTH LATITUDE

Pursuant to subsection 168(1) of the ***Canada Shipping Act, 2001 (CSA 2001)***, Bruno Laverdure (Name of the operator of the oil handling facility) declare to comply:

i) with the ***Environmental Response Regulations***, on the detection of an oil pollution incident that arises out of the loading or unloading of oil to or from a vessel;

ii) with the ***Vessel Pollution and Dangerous Chemicals Regulations***, respecting the circumstances in which operators of oil handling facilities shall report discharges or anticipated discharges of oil, the manner of making the reports and the persons to whom the reports shall be made.

All the information contained in the submission is true and complete to the best of my ability and accurately reflect our interpretation of the regulations.

The persons listed below are authorized to implement the oil pollution emergency plan (if required, attach additional pages)

Name: Bruno Laverdure, Energy and Infrastructure Superintendent
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Name: Jean-Claude Blais, General Manager
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Address: Agnico Eagle Mines Limited, Nunavut, Canada, X0C 0G0
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Signed by the operator of the oil handling facility or its representative

04/07/2023
Date (dd-mm-yyyy)

81-0031E (2004-03)

Canada

SECTION 2 - GENERAL INTRODUCTION

The Oil Pollution Emergency Plan (OPEP) outlines the necessary actions to stop or minimize the potential loss of fuel at Agnico Eagle Mines Limited's Itivia Site Fuel Storage and Containment Facility located in Rankin Inlet, Nunavut during the ship-to-shore fuel transfer. The Oil Pollution Prevention Plan (OPPP) is designated to ensure the necessary planning to prevent a spill was undertaken. Both plans are complementary and combined into one plan.

Additionally, it provides direction to Agnico Eagle personnel and/or contractors at the laydown and tank farm areas, and to Agnico Eagle's Emergency Response Team (ERT) for emergency spill response situations, describes oil pollution scenarios, defines the roles and responsibilities of management and responders; and outlines the measures taken to prevent spills. The purpose of the OPEP and OPPP is to minimize potential health and safety hazards, environmental damage and cleanup costs.

Agnico Eagle's Itivia OHF is a Level 2 facility. The product transfer rate is of approximately 275-300 m^3/hour, not expected to exceed 400 m^3/hour. Transfer rates will not exceed the 750 m^3/hour maximum that is authorized for a Level 2 facility.

2.1 Fundamental Principles

The following OPEP is submitted to comply with the Canada Shipping Act 2001 and all the subtending regulations and to outline the appropriate spill response protocol during fuel transfer operations at the Rankin Inlet OHF. A hard copy of the OPEP/OPPP is located on site for reference and review during transfer operations. This OPEP/OPPP is reviewed annually, and updates are provided to Transport Canada Marine Safety & Security (TCMSS) for compliance prior to every shipping season.

This plan can also be reviewed and updated within 90 days if:

1. Any change in the law or in environmental factors that could affect the loading or unloading of oil to or from a vessel;
2. Any change in personnel involved in the loading or unloading of oil to or from a vessel;
3. Identification of a gap in either of the plans after an oil pollution incident or exercise;
4. Any change in the business practices, policies or operational procedures of the facility that could affect the loading or unloading of oil to or from a vessel.

The following priorities shall be taken into account when responding to an oil pollution incident and in the following order:

1. Safety of the workers;
2. Safety of the OHF;
3. Safety of the community of Rankin Inlet;
4. Prevention of fire and explosion;
5. Minimize the oil spill;
6. Notify and report the oil pollution incident to associated Governing bodies;
7. Minimize the environmental impact of the spill;
8. Complete clean-up from the oil pollution incident.

2.2 Legislative Requirements

This plan was prepared in accordance with federal legislation listed below, which lists legislative instruments applicable to Agnico Eagle's Itivia Site Fuel Storage and Containment Facility. All

requirements found in the Canada *Shipping Act*, *2001*, (ss. 168 and 182) and the *Environmental Response Regulations, SOR/2019-252* (ss.10, 11, 12 and 13) are laid out in the Meliadine Mine site OHF Concordance Table which is available in Appendix G.

The OPEP/OPPP complies with the requirements for procedures, equipment and resources as set out in the *Canada Shipping Act* (ss. 660.2(4)) specific to a fuel handling facility - the bulk incoming transfer of fuel from ship-to-shore and spill scenarios directly relating to this operation.

The following standards and regulatory requirements have been reviewed in preparation of this document:

- Canada Shipping Act, 2001;
- Environmental Emergency Regulations 2019;
- Environmental Response Regulations (SOR/2019-252);
- Environmental Response Standards (TP 14909);
- Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69);
- Arctic Waters Oil Transfer Guidelines (TP 10783);
- Storage tank System Regulations;
- OHFs Standards (TP 12402E)
- Environmental Prevention and Response National Preparedness Plan (TP 13585); and
- Requirements of the Central & Arctic Regional Response Plan.

2.3 Related Documents

Management and monitoring plans for the Meliadine Project and that provided input to the OPEP/OPPP include the following:

1. Spill Contingency Plan;
2. Emergency Response Plan (ERP);
3. Shipboard Oil Pollution Emergency Plan[1]; and
4. Shipping Management Plan.

The cornerstones of contingency planning for Agnico Eagle are the Spill Contingency Plan and the OPEP/OPPP. These plans, coupled with the ERP and the Shipping Management Plan, describe the processes to be followed in responding to a spill. The OPEP on its own provides the necessary information in the event of a mishap where fuel is lost during the transfer of fuel from a tanker vessel to the Fuel Tank Facility.

The OPEP/OPPP complements the Spill Contingency Plan and it should not be construed as superseding it. The Spill Contingency Plan addresses a wider scope of operations stretching 35 kilometers from the Meliadine mine site in the north to the infrastructure at the Itivia Site Fuel Storage and Containment Facilities. The OPEP strictly covers the transfers of fuel from ship to OHF.

2.4 Meliadine Mine OPEP and OPPP

This Plan is a working document that will be reviewed annually, and updates will be provided to TCMSS for compliance prior to every shipping season.

This plan specifically centers on the activities in ship-to-shore transfer of fuel from a small tanker delivering fuel to Agnico Eagle's Itivia Site Fuel Storage and Containment Facility constructed in Rankin Inlet. On site personnel at the Facility are expected to respond to spill incidents (generally smaller than 1

[1] *The Shipboard Oil Pollution Emergency Plan (SOPEP) contains all information and operational instructions as required by the "Guidelines for the development of the Shipboard Marine Pollution Emergency Plan" as developed by the International Marine Organization. Woodward, the shipping company, is responsible for this Plan.*

m^3) that can be contained and cleaned up without assistance, while the Emergency Response Team will respond to larger spills.

Fuel is being delivered to Agnico Eagle's Itivia Site Fuel Storage and Containment Facility by the Woodward Group of Companies, hereinafter referred to as Woodward. Fuel is stored within the existing tank farm owned and operated by Agnico Eagle. The Shipboard Oil Pollution Emergency Plan (SOPEP) is the responsibility of the shipping company. The outline of the SOPEP prepared by Woodward can be found in Appendix A.

2.5 Health and Environmental Risk Resulting from an Emergency Release of Diesel Fuel

Short-term exposure to diesel fuel can cause irritation of the eye, skin or respiratory tract. Dizziness, headache or nausea can also be experienced. Long-term exposure to diesel fuel fumes can cause lung cancer, kidney damage and increased risk of heart attack.

Another risk related to an emergency release of diesel fuel would be the contamination of drinking water. Diesel fuel is highly flammable and pose a serious fire hazard if not contained.

Diesel fuel is considered a non-persistent oil (as compared to a heavier Bunker or crude oil product) in even the calmest sea conditions, as it will lose 40% of its volume due to evaporation within 48 hours in cold weather. Adverse weather will disperse the sheen into smaller slicks creating a greater surface area for evaporation. In open rough seas, most of the volume released will be dispersed and evaporated within 5 days. Nevertheless, it still poses a threat to marine organisms and particularly birds if they happen to come in contact with the slick.

More details on the diesel fuel can be found in the Safety Data Sheet (SDS) in Appendix B.

The possibility that an environmental emergency occurs, the potential effects of the environmental emergency on the environment and on human life or health and the measures that will be taken to protect the environment and human life or health will be communicated to the members of the community every year prior to the fuel transfer.

SECTION 3 - PLANNING STANDARDS

3.1 Facility Category

With the new regulation, oil handling facilities located north of latitude 60°N need to describe procedures to be followed to respond to a discharge of the total quantity of oil product that could be loaded or unloaded to or from a vessel, up to a maximum of 10,000 tonnes. The carrying capacity of the delivery ship that will be used for the ship to shore transfer at the OHF will be 10,000 m^3 each. This plan describes the procedures in place to respond to a spill up to 10,000 m^3. To do this, the OHF will have the equipment and resources to respond to a be 10,000 m^3 spill within the required timelines specified in the Environmental Response Regulations.

1. Containing and controlling the oil within one hour after the discovery of the discharge; and
2. Recovering the oil and cleaning-up, within six hours after the discovery of the discharge.

3.2 General Planning Guidelines

3.2.1 Response Time Standards

Agnico Eagle and contractor personnel at Itivia Site Fuel Storage and Containment Facility have appropriate training to respond to spills, if it is safe to do so (see Table 7). The material onsite can be deployed within one hour to contain a spill, unless deployment within one hour will be unsafe.

Generally, for a spill greater than 1 m^3, the OPEP and the Emergency Response Plan (ERP) will be activated and the Emergency Response Team (ERT) located at Meliadine Mine site will come into Rankin Inlet to help. Realistically, the ERT can be on site within 60 minutes (or less) ready to help for the clean-up activity.

If the spill is greater than 5 m^3, material from the spill response seacans along the AWAR (km 7 and 18) and the Meliadine Mine site will be required and will be brought to the Itivia OHF within 60 minutes to finalize the containment (if not complete) and recovery of the oil pollution incident.

3.2.2 On-Water Recovery

Agnico Eagle has a boat in a sea can at the Itivia Site Fuel Storage and Containment Facility that is ready to be deployed in case of an emergency. All personnel involved in a response situation need to have the pleasure craft operator's certification.

If additional watercrafts are required to help with the containment of a spill from the OHF local resources such as Sarliaq Holdings Ltd and Inuksuk Contracting. Contact info for these companies can be found in Table 5.

Containment of a fuel slick in water will require the deployment of mobile floating booms to intercept, control, contain and concentrate (i.e., increase thickness) the floating fuel. One end of the boom will be anchored to shore while the other will be towed by a boat and used to circle the oil slick and return it close to shore for recovery using a skimmer. Reducing the surface area of the slick will increase its thickness and thereby improve recovery. Mechanical recovery equipment (i.e., skimmers and oil/water separators) will be mobilized to site if required.

Measures will be taken to protect sensitive and accessible shoreline. The fuel slick will be monitored to determine the direction of migration.

3.2.3 Dedicated Facility Spill Response Equipment

Agnico Eagle has a sea can with spill response equipment at the Rankin Inlet shore within Agnico Eagle's Marshalling area and includes booms that can rapidly be deployed to limit the spread of any spill on water. The list of equipment can be found in Table 1. The spill supplies and resources are in place to respond to a spill within the required timelines as specified in the Environmental Response Regulations.

These sea cans are inspected before each transfer season to ensure that all the spill response material and PPE are there and stored in a manner that is organized and accessible in order to comply with regulatory requirements and allow an efficient spill response.

3.2.4 Transfer Conduit

The transfer conduit or hose that is used to transfer fuel from Woodward to the Agnico Eagle Rankin Inlet Fuel Farm OHF are pressure tested annually according to the regulation prior to it being placed into service. The transfer conduit will always have a bursting pressure of at least 4 times its maximum design (working) pressure (of 150 psi) and the design pressure will be clearly marked on the conduit. Shipping company will need to provide confirmation before transfer that conduits that is used in a transfer operation will be used, maintained, tested and replaced in accordance with the manufacturer's specifications.

3.2.5 MEL-ENV-PRO Ship to Shore Fuel Discharge

Agnico Eagle has created an internal procedure to ensure all planning and precautions are in place prior to the transfer of any fuel from the vessels to the OHF. This procedure can be found in Appendix C.

SECTION 4 - RANKIN INLET MARSHALLING AREA AND FUEL STORAGE FACILITY

4.1 General Overview and Site Description

Agnico Eagle's tank farm and laydown area is located at Itivia in Rankin Inlet on Melvin Bay at latitude 62°48'16.66" N and longitude 92°05'5.32" W, map sheet 055/K16. Its location is shown on Figure 1. Two (2) fuel storage tanks are installed at the Rankin Inlet Itivia fuel farm. The site location of the 20 million and 13.5 million liter tanks (tank #1 and #2 respectively) as shown on Figure 2. Tank #1 was completed in 2018; Tank #2 was erected in 2017.

Figure 1 - Location of the Community of Rankin Inlet

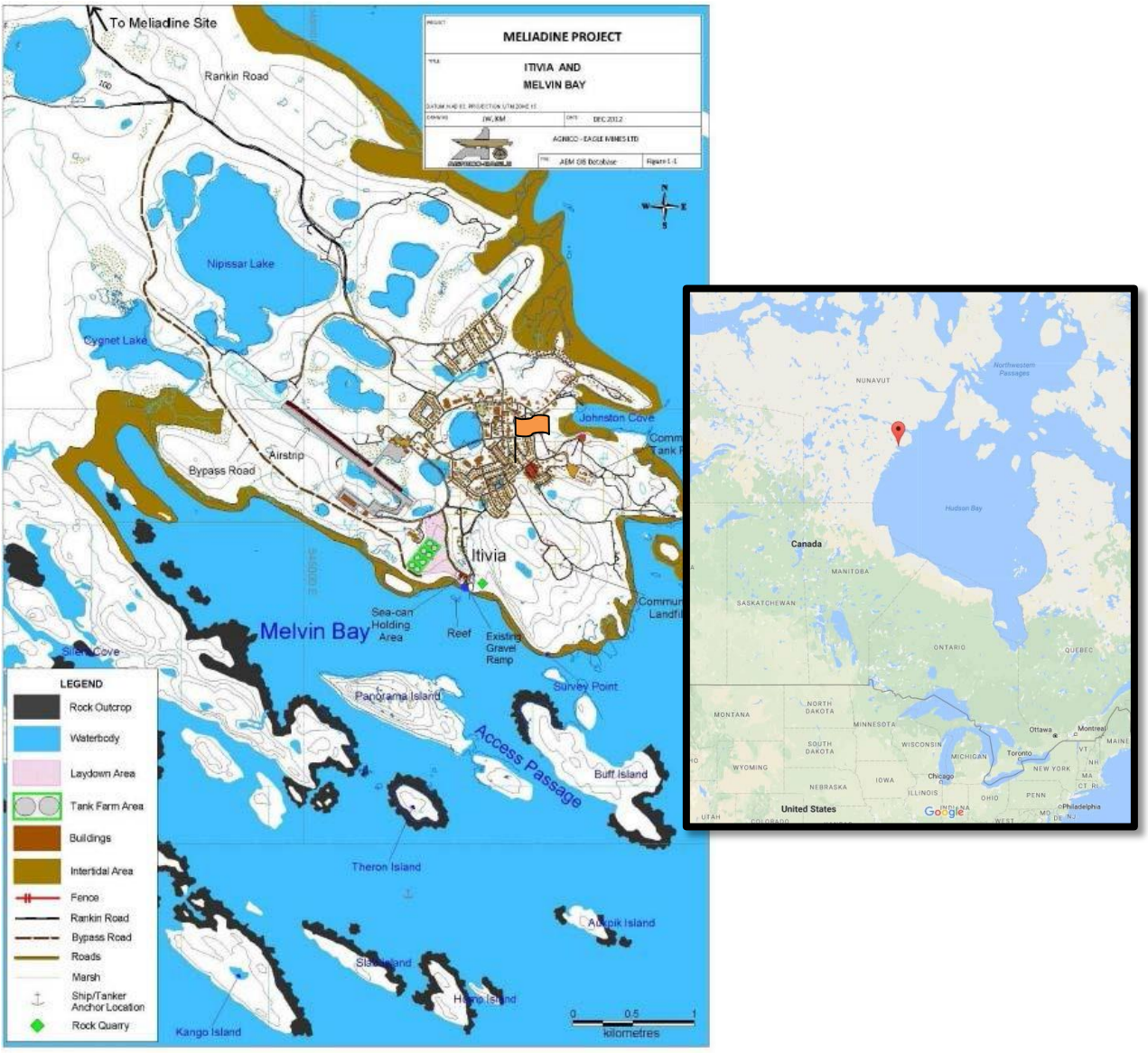

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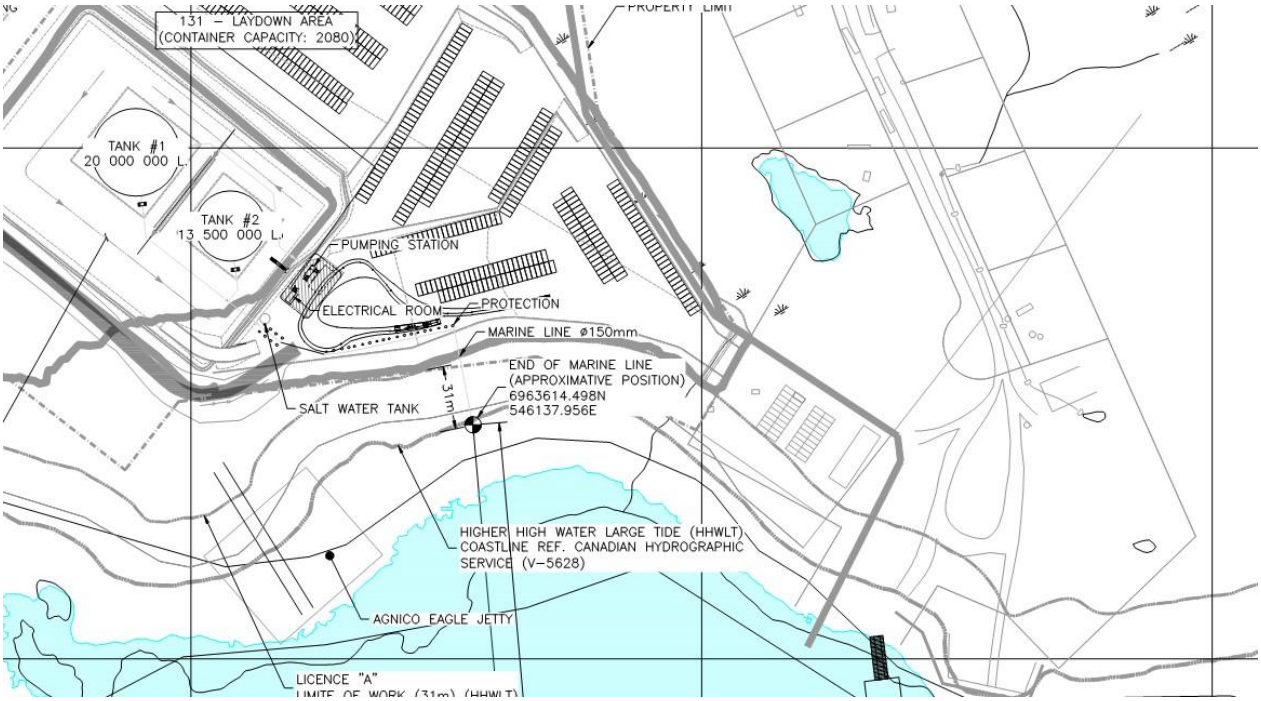
Figure 2 - Itivia Site Fuel Storage and Containment Facility



4.2 Fuel Storage Facilities Infrastructure

4.2.1 P-50 Fuel Tanks

The diesel fuel tanks are contained within an impermeable lined and bermed area. The steel fuel tanks were field-erected and built to API-650 standards. The bermed area is capable of containing 110% of the volume of the largest storage tank. The impermeable lined and bermed cell has the following:

- A granular base for the tank completed with an impermeable LLDPE liner system and granular dikes;
- A tank complete with the required appurtenances such as stairs, base manholes, water draw offs, re-supply nozzle, suction nozzle, tank lighting, tank level monitoring, roof manhole, manual gauge hatch, tank temperature and P/V vent;
- Piping for unloading and loading; and
- Site lighting via fixtures mounted from the dispensing building.

The Tank Farm Facility is designed to meet the following standards:

- National Fire Code 2010;
- *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* – 2008; and
- Canadian Council of Ministers of the Environment, "*Environmental Code of Practice of Aboveground and Underground Storage Tank Systems Containing Petroleum Products and Allied Petroleum Products – 2003* (Updated in 2013) (PN1326)".

The OHF is constructed and operated in accordance with TC Arctic Waters Oil Transfer Guidelines (TP 10783E) and OHF Guidelines (TP 12402E).

4.3 Rankin Inlet Shoreline and Marine Characteristics

The following Rankin Inlet Shoreline and Marine Characteristics were gathered during the Environmental Impact Assessment that was performed prior to construction of the Rankin Inlet Marshalling facility and Tank Farm.

4.3.1 Topography

The bulk fuel storage area is located south of the residential area of Rankin Inlet, and within the industrial area of the community of Rankin Inlet, south of the Rankin Inlet Regional Airport. The OHF sits on a terrace parallel with the shoreline of the coast of Hudson's Bay, the bay in which Rankin Inlet is located is known as Melvin Bay. There is a gradual slope (5 to 10% grade) toward Melvin Bay with an approximate elevation change of 3-5 m from the OHF to the coastal shoreline. The Melvin Bay shoreline is gently sloping, well-drained, very rocky, comprised of boulders and rock.

4.3.2 Flora and Fauna

There are no trees and few shrubs in the area surrounding the bulk fuel storage facility. The site is covered by low-lying vegetation; predominated by grassy hummocks, dwarf willow, sedge, green moss and lichen.

Arctic ground squirrels, ptarmigans and songbirds inhabit the area surrounding the bulk fuel storage facility. Lake cisco, lake trout, arctic char, lake whitefish, round whitefish, slimy sculpin and stickleback are predominant species found in Hudson Bay in the vicinity of Rankin Inlet.

4.3.3 Tides and Currents that Prevail at the Facility

There is a general cyclonic (counter clockwise) current in Hudson Bay with mean monthly residual currents of approximately 4 to 6 cm/sec. In Hudson Bay, stronger currents occur in summer than in winter and more variability occurs at the surface than at depth. Based on the navigation charts prepared by Canadian Hydrographic Service, flow through the Access Passage into Melvin Bay can reach approximately 26 cm/s (0.5 knot; CHS 1997). Tidal range is about 4.6 metres at Panorama Island in Melvin Bay.

4.3.4 Meteorological Conditions Prevailing at the Facility

Monthly meteorological data has been collected from 1981 to 2009 at the Rankin Inlet A climate station, which is a Meteorological Service of Canada climate station. Snow and rain are combined to give monthly average precipitation. The prevailing winds for the area are generally from the north to north-west and average 23 km/h.

4.3.5 Surrounding Area Environmental Sensitivities

The hamlet of Rankin Inlet is situated on the Kudlulik Peninsula which protrudes into Rankin Inlet of Hudson Bay. Rankin Inlet itself has three (3) main rivers entering it: the Diane River in its northwest, and the Meliadine River and Char River in the northeast. Melvin Bay is fringed with drying flats on the north side and encumbered by islands, islets, reefs and shoal water. The access passage is mostly bedrock.

Itivia is situated on the northeast shore of Melvin Bay as shown in Figure 1. Itivia has an intertidal zone of up to 56 metres with the substrate predominately comprised of 70% gravel/cobble, 20% fines and 10%

boulders. The substrate at this location was strongly influenced by the addition of gravel to develop the harbour's boat launch. In the open water season, Itivia provides a place for residents to moor and launch their boats. A few cabins are situated across Melvin Bay from Itivia but otherwise there are no buildings on the shore. Itivia is used for the loading and unloading of community supply vessels. In the winter, it is used by residents for snowmobile access to the sea ice in Melvin Bay and beyond.

Melvin Bay has a typical biological assemblage of macrophytes, plankton, zooplankton, benthic invertebrate and fish found elsewhere in this area of Hudson Bay. Near shore macrophyte coverage around Melvin Bay is sparse and is predominately rockweed (Fucus spp.) and kelp (Laminaria spp.). Phytoplankton are predominately dinoflagellates while the zooplankton community is more variable. Incidental invertebrate species are observed and include amphipods, barnacles, unidentified bivalves (e.g., mussels, clams), winkles (Littorina sitkana), ascidians (sea squirts), and unidentified crab species. Arctic char were not captured in Melvin Bay during the baseline survey. The predominate fish was Greenland cod followed by slender eelblenny and fourhorn sculpin.

SECTION 5 - SITE ACTIVITIES

5.1 Nature of the Oil Product

The main fuel stored at the Agnico Eagle's Rankin Inlet Fuel Farm is P50 diesel. Appendix B includes the SDS for Diesel. All other fuels such as gasoline, Jet-A and possibly other grades of diesel are purchased in drums or 1 m^3 totes and brought to the mine site for storage, or purchased and brought to site from a supplier or contractor in Rankin Inlet. The main activities involving the P50 diesel at the facility are creating electricity, heating activity and different process (incinerator, treatment and process plant). The product is also used for mobile equipment.

5.2 Bulk Transfer

The tankers delivering diesel fuel are anchored within Melvin Bay. From there, transfer hoses (Conduit) are connected to a shore-based pipeline for transfer of P-50 diesel fuel to the diesel tank farm.

Ballast are not required for the inward voyage as the tanker arrives at Rankin Inlet loaded with diesel fuel. After transferring the fuel to the tank farm, the tanker takes on ballast in its segregated ballast compartments before sailing out.

Due consideration is given to prevailing and expected wind, weather and tide conditions when undertaking ship-to-shore fuel transfers.

The tanker is discharging at a rate of approximately 275-300 m^3/hour, not expected to exceed 400 m^3/hour. Communications between the shore and the tanker is maintained throughout to ensure the safe transfer of the fuel and to avoid the overfilling of the tanks. The ship-to-shore transfer procedure being used is similar to the one used at communities throughout Nunavut.

5.3 Measures to Minimize a Diesel Pollution Incident

The small tanker is anchored offshore in water of sufficient depth to allow for draught and tidal changes during transfer.

The transfer of the fuels uses sound, well-rehearsed practices, including an adequate number of trained and alert personnel, have sufficient materials, and use well maintained, thoroughly tested equipment. A team of trained personnel on the tanker is in charge of the tanker fuel transfer equipment, while an onshore team is in charge of the land-based transfer equipment. Agnico Eagle has at least 2 trained personnel on the land to observe for any leak detection: a third-party contractor (Intertek) and the Warehouse Itivia Clerk. The role of the third-party contractor is to apply procedure and oversee operation during the fuel transfer. To do this, the third-party contractor needs to come on site at least one (1) day before the first day of transfer to receive the appropriate training given by the Environment Department. Fire-fighting, spill response equipment, and supplies are located on the tanker and onshore near the transfer point as required by TC. This includes readily available absorbent material (including absorbent pads) at the flexible hose connections on deck and onshore to quickly address minor spills at predictable minor spill locations. Additionally, Agnico Eagle placed a sea can with spill response supplies (including boat) and equipment at the Itivia Site Fuel Storage and Containment Facility area where it can quickly be accessed in the event of a spill.

Four-inch (10 cm) steel piping able to accommodate a flow rate of approximately 400 m^3/hr leads down to the shore from the diesel tank farm. Conduit from ship-to-shore are connected to the fuel-receiving manifold located onshore using dry-break coupling(s).

- Complete checklist before / during transfer for the on-land responsible (See Appendix C);
- Complete checklist, provided by Woodward, with vessel captain before transfer begin (Appendix D);
- Complete inspection / inventory of spill response sea can before transfer;
- During the transfer, regular monitoring are undertaken for detection of incipient spills and leaks between the tanker and the tank farm;
- Radio test before transfer and at hour intervals during transfer between the personnel on land and the captain of the vessel;
- Transfer operations will be suspended should any leak be detected or filling alarm are activated;
- The onshore area and ship deck are well-lit as fuel transfers could continue around the clock;
- Have a good knowledge of the OPEP/OPPP requirement and protocol to follow in case of a spill by receiving a training / review each year before the transfer season; and
- The regular update of the OPEP/OPPP (minimally on an annual basis).

During the ship-to-shore transfer, Agnico Eagle has competent personnel on location at all times to monitor the fuel transfer and maintain contact with the tanker's crew. Should problems arise, the ship can be called to shut down the transfer and onshore piping will be closed down. In the event of a spill that escapes the containment boom, diversion booming will be deployed to minimize migration of a spill throughout Melvin Bay. Adequate lighting is in place during all transfers, to allow for proper inspections of transfer locations around the clock. The lighting system intensity is not less than 54 lx at each transfer connection point of the vessel and OHF and a lighting intensity not less than 11 lx at each transfer operation work area around each transfer connection point of the vessel and OHF.

5.4 Permanent Containment Structure

At the connection of the ship's conduit to the OHF manifold, a permanent containment structure was erected for the transfer of product. This structure is capable of holding ~400 L of liquid in the case that there is a leak at the flange or residual drips out of the conduit or hard wall pipe.

Spill "pop-up" pools/secondary containment berms will be in place under each joint for the conduit used to fill the Fuel tanks during fuel transfer. These pop-up pools/berms are only capable of holding 20-50 L of fuel and are in place to catch residual and be a first line of defense in the case of a leak.

SECTION 6 - MELIADINE RESPONSE TO EMERGENCIES

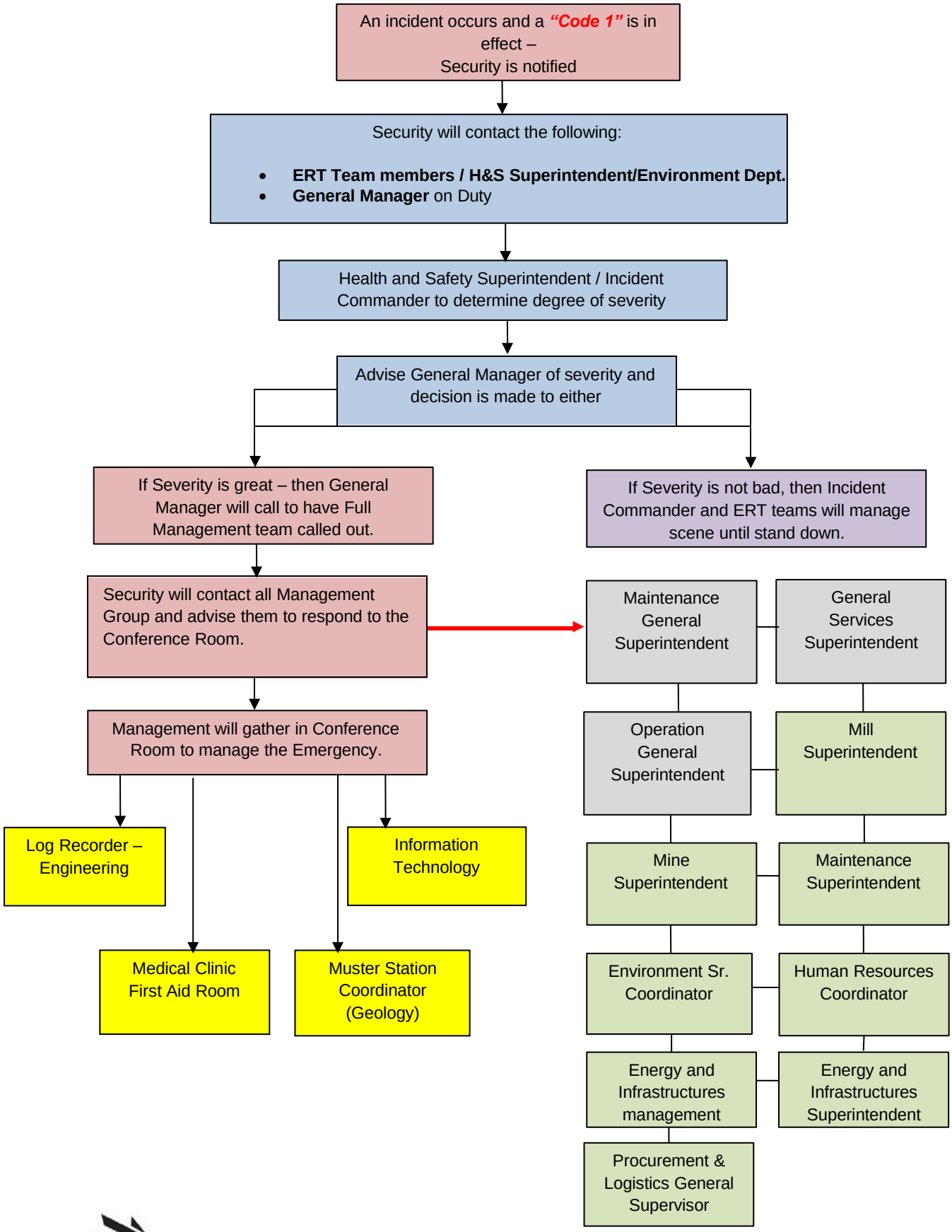
Oil handling facilities located north of latitude 60°N need to describe procedures to be followed to respond to a discharge of the total quantity of oil product that could be loaded or unloaded to or from a vessel, up to a maximum of 10,000 tonnes. This plan describes the procedures in place to respond to a spill up to 10,000 m^3.

6.1 Response Management Structure

Agnico Eagle has an Emergency Response Team (ERT) at the Meliadine site trained and responsible for controlling spills at the Itivia Site Fuel Storage and Containment Facility, and for assisting with medical and other emergencies that may occur at the mine site or the OHF.

Figure 3 depicts the Response Management System.

Figure 3 - Response Management System



AGNICO EAGLE

6.1 Logistics and Planning

The Emergency Measures Counsellor (EMC) ensures that site drawings and equipment lists are posted in key locations throughout the site so that important information is always readily available. This includes the following:

- Location and isolation points of energy sources;
- Location of emergency equipment (e.g., fire water pumps, fire extinguishers, monitors, self-contained breathing apparatus);
- Emergency procedures outlines, such as specialist firefighting, chemical neutralization;
- Location of equipment for combating pollution (e.g., booms, pumps, absorbents, dispersants);
- Availability of internal and external emergency medical support (e.g., hospitals, clinics, ambulances, medical supplies, personnel with medical or first aid training);
- Location of toxicity testing facilities (e.g., gas and water);
- Location of wind direction / speed indicators;
- Directions on how to contact the local or regional weather forecasting service;
- Location of personal protective equipment (PPE) and directions on its proper use; and
- Location of first aid stations and muster areas.

The Incident Commander, EMC, and Health and Safety Superintendent know where, throughout the project site, all of this information is posted and where emergency equipment is stored. These individuals are also trained in the proper use of emergency equipment.

SECTION 7 - EQUIPMENT AND PPE

The following sections describe the items that are available in the case of a spill at the Agnico Eagle Mines Limited's Rankin Inlet Fuel Farm OHF. All means will always be used to respond to a spill in a timely manner and ensure a prompt clean-up of any spill.

7.1 OHF Response Equipment for spills up to ~5 m^3

The following equipment (Table 1) is available right at the OHF during open water season in a sea can designated for Environmental Emergency and can be deployed on scene within one hour, if it is safe to do, to contain and control the spill.

Table 1 - Material available in the Spill Response Sea Can at Agnico Eagle's OHF

Agnico Eagle Boom Sea Container		
Line #	**Description**	**QTY**
1	Anchor Set; 25kg anchor, 50' x 1/2" chain ballast, 50' rode line and 21" marker buoy	6
2	Tow bridles with bullet float	4
3	8" float x 12" skirt OptiMax II Boom - 25' sections	32
4	Mini Max Hydraulic Skimmer with pump, Power pack	1
5	14' aluminum boat with 15 hp outboard prop motor	1
6	1/2" Polyester Yacht Braid rope (600' rolls)	10
7	Drive pin anchors	5
8	Slater anchors	5
9	Wing anchors	5
10	Sorbent Boom, 5" X 4 per bag	30
11	Mustang Floater Suit	4
12	Personal Floatation Devices (PFD)	8
13	Oil resistant gloves	12
14	Leather gloves	12
15	Sledge Hammer with Fibreglass Handle	2
16	Spade - Long Handle	2
17	Fire Extinguisher - 20lb ABC with brackets	2
18	Tyvex Suit XL	20
19	Alberta Standard #3 First Aid Kit	1
20	Storage Totes for Small Items	4
21	Quick Tank (500 gallon / 1893 ltrs.)	1

7.2 Additional Response Equipment or for Spills >5 m^3

All equipment previously mentioned is available for use during any emergency situation for a spill greater than 5 m^3. The following equipment would take time to get to the spill site, time would vary depending on distance from the spill. All these equipment and resources can be deployed on scene in <6 hours for the recovery and clean-up of the spill.

7.2.1 *General Equipment*

This section addresses the emergency response machinery, equipment, tools and other resources that can be made available on-site for spill counter measures.

7.2.1.1 Mobile Equipment

Mobile equipment available to Agnico Eagle, that will be used for spill contingency by trained ERT, E&I and Mine Department Operators include:

- Graders-1
- Cranes-3
- Snowmobiles-3
- Vacuum Truck-1
- Loaders-6
- Backhoe-3
- Bulldozer-1
- Forklift & Hysters-4
- Water Trucks-6
- Winch Trucks-2
- Pickup Trucks-40
- Generator Sets/Light tower-26
- Fire Truck-1
- Boats-4
- Fuel Trucks-1
- Bobcat-4
- Haul Trucks-13
- Snow Cat-1

All the previous listed equipment can be found on the Meliadine Project site. Wheeled equipment can be at the OHF in Rankin Inlet in 3-6 hours. Tracked equipment would have to be loaded and transported which would take 5-6 hours.

7.2.1.2 Emergency Transportation

Emergency transportation that will be used under an emergency situation are:

- Seasonal Aircraft (fixed wing or helicopter)
- 4-wheel drive vehicles >70
- Snowmobiles x 9
- Boats and motor x 4

7.2.2 Spill Response Kits and Containers

7.2.2.1 Kits

Spill response kits are strategically located where required. Each department and work area is responsible for providing sufficient spill response kits in their respective work areas. The kits are kept in marked and accessible locations. The locations include all fuel storage areas, chemical storage areas and so on.

All of the mobile equipment for the Meliadine project (including heavy equipment) contains an emergency spill kit. Regular audits are completed to ensure these are in place.

7.2.2.2 Emergency Trailer

Agnico Eagle also have an Environmental Emergency Trailer which is easily accessible and mobile. The trailer is located at the Meliadine Site. This trailer contains the following items:

Spill Trailer	Quantity
Square Shovel	1
Oil Only Absorbent	4 Boxes
Hazmat Sox	4 Boxes
Universal Absorbent Pads	3.5 Boxes
Oil Only Rolls	2.5 Rolls
Quick Sorb	4 Pails
Quatrex Bags	2
Absorbent Send (15kgs)	0.5 Bags
Secondary Yellow Containment	1
Empty Drums	3
White Tyvek Suits (Medium)	1 Box (25 pcs)
Chemical Tyvek Suits (XL)	2 Boxes
Rubber Gloves	1 Box
Mustand Suit (XL)	1
Life Jackets	4
Yellow Hazmat Bag	1 Roll
Universal Absorbent Booms	2
Oil Only Absorbent Booms	4
Trailer Winch (815 kgs)	1 Box
Twisted Ropes 5"X8"X150')	2
Blue Tarp	1
Red Ribbon Danger	2
Small Spillkit	1
Leak Control Kit	1 Box
Spill Response Procedure Binder	1
Mixed Rope	1
Manual Oil Pump	1
Wooden Sticks	9
Pump with Riggid and flexible hoses	1
Vermiculate	1 Bag
High Lift	1
4" PVC Pipe	1
Jery Can	1
Oil Crater Absorbent Material	1
Carabeaners	5

7.2.2.3 AWAR Sea cans

Along the AWAR there are 2 Environmental Emergency sea cans. These sea cans are strategically placed along the road at water crossings. Each Environmental Emergency sea can contain the following material:

AWAR SPILL SEACAN (KM 7)

Seacan	Items	Quantity
271029-0	Empty drums (Sealed) 45 gal.	10
	Quatrex Bags	10
	Yellow liner (Q-bag liner) Roll	1+1/4
	Mini Berm 3'x3'	2
	Mini berm 2'x3'	4
	Spill Kit (blue drum)	1
	Tarp 8'x10'	3
	Tarp 20'x30'	0
	Tarp 30'x50'	1
	Universal boom 5"x10'	20
	Universal boom 8"x10'	20
	Oil only booms 5"x10'	20
	Maritime barrier (Baffle)	3
	ABS pipe : 10' (4")	0
	Absorbent Sheet (bags)-Universal	10
	Absorbent Roll-Universal	10
	Absorbent pellet (bag)	7
	Oil gator absorbent (bag)	10
	Plug pattie	0
	Forklift crate (pallets)	6
	Long handle round and square point shovel	6
	Chisel point crowbar 16 lbs 57"	2
	Ice braker chisel	1
	Sledgehammer 12 lbs 36"	3
	Steel Rod bar (4')	16
	Steel Rod bar (6')	10
	stream skimmer	0
	temporary storing device (old bladders, pipes and fitting)	0
	CI agent granules (100lbs)	0
	Oil spill kit (pail)	1
	Yellow Nylon rope (bags)	2
	Mini-Sledge Hammer	1
	Ty-wrap (pack)	1
	26' Tape	1
	Multi-purpose shears	1
	Crescent wrench	1
	Hook knife	1

	Mechanics wire roll	1
	Side cutters	1

AWAR SPILL SEACAN (KM 18)

Seacan	Items	Quantity
278737-1 (KM 18)	Empty drums (Sealed) 45 gal.	10
	Universal boom 5"x10'	12
	Universal boom 8"x10'	12
	Oil only booms 5"x10'	12
	Maritime barrier (Baffle)	3
	Absorbent Sheet (bags)-Universal	10
	Absorbent Roll-Universal	10
	Absorbent pellet (pail)	10
	Forklift crate (pallets)	6
	Yellow Spill Kit	1
	Evac System	2
	Silt Bags	2
	Silt Fence	2
	Yellow Liner Roll	1
	Q-Bags	10
	Rebar 3"	4
	Rebar4"	10
	Sledgehammer	1
	Mini Sledgehammer	1
	Nylon rope roll	1/2
	'Pingouin"	1
	Tarp	4
	Bolt cutter	1
	Side cutters	1
	Knife	1
	Mechanic wire roll	1
	Yellow and red ruban	1 roll each
	Ty-wrap (pack)	1
	Pipe wrench	1
	Westcott	2
	Crowbar	1

7.3 PPE

7.3.1 PPE at OHF for Spills <5 m³

The following PPE (Table 2) can be found in the Emergency Trailer and also in sea can at the OHF:

Table 2 - PPE Available at OHF

Quantity	Equipment/tool name
3	Rain gear -- Pants and Top (L & 2-XL)
4	Rubber boots (size 8,10, 11, 12)
10	Rubber gloves
8	Goggles
24	Tyvex suits (L & 2 XL)
8	Safety glasses
14	Leather gloves
4	Mustang suits

This is adequate PPE intended for 4 persons. Additional PPE will be available from the Meliadine Project site.

7.3.2 PPE for Spills >5 m³

PPE is stored in bulk quantities at the Meliadine Warehouse. Quantities of each can be found on site using the JD Edwards system. In addition, the community of Rankin Inlet has certain PPE that can be purchased through Agnico Eagle after consulting the Agnico Eagle Procurement and Logistics department; however quantities of this PPE cannot be relied on within Rankin Inlet.

SECTION 8 - COMMUNICATION

The primary basis for communication is the phone system; back-up communication is also available via radios or satellite phone. For on-site communication, hand-held radios are mandatory for all employees working or travelling in remote areas from the OHF. Cell phones can be used as an additional means of communication however only CDMA service is available at the OHF. Back-up power sources and replacement batteries for communications equipment are available to provide continuous, uninterrupted operation either at fixed facilities or at emergency sites.

Key site personnel are accessible at all times by either portable radios, radios in vehicles, or office radios. The Health Care Professional carries a hand-held radio and is available at all times. Security personnel monitor the emergency channel twenty-four hours per day. Senior management personnel will rotate as "On-Call Managers" for after-hour emergencies. An accommodations list that highlights key personnel will be posted and updated as required.

In the event of a major emergency, all external communications for the project site and associated areas will be cut and all external contact will take place solely through the Emergency Control Center at the Meliadine Site.

During fuel transfer operation, the vessel master and the operator of the OHF always have a two-way communication on a continuing basis. This two-way communication is the direct communication by radio and the use of the cell phone.

At any time, if an emergency happens, the initial call will be a code one call on any operations channel to ensure a proper response. The procedure goes as such:

A *Code One* can be called by any person on site to report an accident, serious incident or fire which requires the response of the ERT (Emergency Response Team).

All *Code One* should be called on any operations channel or on any phone by calling 3911.

The procedure steps:

1. Call ***Code One*** over the two-way radio three (3) times on any operations channel or on any phone by calling 3911

   When a code 1 is called over the radio, please respect the "Radio Silence" and "Work Stand Down" and if you are driving on the mine site road, please pull over and safely park your vehicle until an All Clear is given.
2. Give your name, exact location and the nature of the Emergency and number of workers involved
3. Upon notification of the ***Code One***, the "dispatch" is the only person who will communicate with the person who initiated the Code One
4. The "dispatch" will contact the proper personal to notify them of the ***Code One*** Emergency.
5. If safe to do so the person who called the code one should stay at the location in case any additional information is required or to relay any development which may occur prior to ERT or proper personal arriving to take over the Emergency.

Once the ***Code One*** is called, the Incident commander, captain or dispatch determines whether all work in the affected ZONE will be stopped and equipment will be secured so as not to interfere with the response.

8.1 Communication with the Public

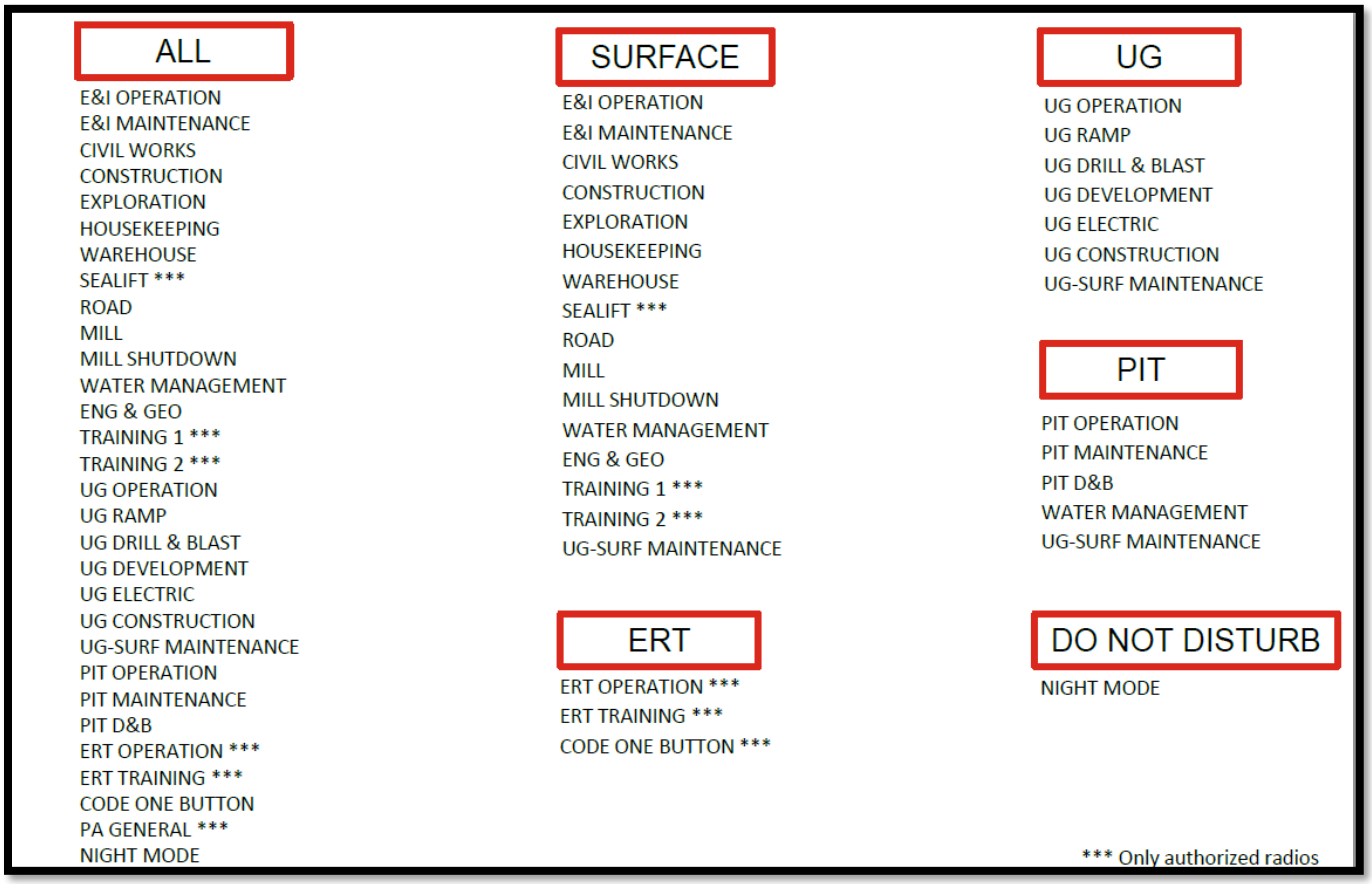
Communication with public bodies during the state of emergency is the responsibility of the General Mine Manager or the Communications & Public Affairs Corporate Director.

In the case that the community of Rankin Inlet should need to be evacuated on short notice, the Emergency Response Team will immediately assist in the evacuation of the community. The General Mine Manager will immediately contact the Mayor of the Hamlet to inform them of the situation. In addition, if safe to do so, a radio notification should be immediately broadcasted on the Rankin Inlet Radio station.

8.2 Hand Held Radio Communication

The relevant channels used for hand held radio communication on the Meliadine Mine, the AWAR, OHF, and associated facilities are as follows in Table 3:

Table 3 - Meliadine Radio Channels



8.3 Contacts

Internal contact information is contained in Table 4 for all Agnico Eagle personnel involved in spill recovery. Table 5 contains contact information for contractor contacts, which can be called for assistance with spill recovery. Table 6 is a list of government officials and external contacts to notify and provide subsequent reporting.

Table 4 - Agnico Eagle Contacts

Title	Name	Telephone No.
EVP, Operational Excellence, Environment, & Sustainable Development	Carol Plummer	416.644.2056 ext. 4012056 Cell: 819.354.9877
Vice President of Environment and Critical Infrastructures	Michel Julien	416-947-1212 ext. 4013738 Cell: 514.244.5876
Vice President, Health, Safety, Social Affairs & People	Jason Allaire	819.759.3555 ext. 4608004 Cell: 819.355.2608
Corporate Director of Business Strategy and Development	Pascal Lavoie	819.759.3700 ext. 4105822 Cell: 819.277.0045
Meliadine General Mine Manager	Jean-Claude Blais	819-759-3555 ext 4603170 Cell: 819.651.2970
H&S Superintendent	Charles-Andre Langevin	819.759.3555 ext.4603073 Cell: 819.239.8287
H&S General Supervisor	Geoff Neville Jamie Vinnicombe	819.759.3555 Ext 4603906 Cell: 709.682.6447
Emergency Measures Counselor	Darren Wilcox David Loder	819.759.3555 ext.4603113
Environment Superintendent	Matt Gillman	819.759.3555 ext.4603175 Cell: 519.373.6249
Environment General Supervisor	Sara Savoie/Kyle Conway	819.759.3555 ext. 4603212 Cell:819.856.9349/819.860.1033
Environment Coordinator	Randy Schwandt/Brett Fairbairn	819.759.3555 ext.4603996
Environment Department	Environment Technicians	819.759.3555 ext.4603903, 4603202 & 4603925
On-site Nurses		819.759.3555 ext.4603011

Table 5 - Contractors / Local Contacts

Contractor	Telephone No.	Contact in Emergency for:
Nolinor Aviation Services	Protocol Agent 867.759.3700 ext. 8008 Emergency (450) 476.0018 (888) 505.7025	Flight services for additional crew, or additional supplies
Calm Air	(867) 793-2873 Emergency (204) 677.5013 (204) 677.5019	Flight services for additional crew, or additional supplies
Dyno Nobel Explosives Ltd.	(819) 759-3555 ext. 4603926	Heavy Equipment, Man power, Emergency Blasting
Transport Desgagnés Inc. (Shipping)	(418) 692-1000	Dry Cargo
Woodwards Group	Dennis White (VP Operations) Cell: (709) 896-2421 Craig Farrell (Marine Superintendent/DPA) Cell: (709) 541-0789	Fuel Hauler
Sarliaq Holdings Ltd.	Richard- Office 867.645.2653 Cell 867.645.1281 Silu - Office 867.645.2651 Cell 867.645.7645 James - Office 867.645.2759 Cell 867.645.6718 Kilabak - Office 867.645.2759 Cell 867.645.7851 Marvin - Cell 867.645.6799	Equipment, man power, Ground transportation services
Inuksuk Construction	John Winter – 902.483.0398 Tony King – 902.478.4700 Inukshuk Construction – 867.645.4032	Man power, equipment, trades personnel i.e., pipefitter, plumber, electrical

Table 6 - External Contacts

Organization/Authority	Telephone Number	Fax Number
NT-NU 24-Hour Spill spills@gov.nt.ca	(867) 920-8130	(867) 873-6924
Workers' Safety & Compensation Commission	(867) 979-8500	(867) 979-8501
Kivalliq Inuit Association (KIA)	(867) 645-5725	(867) 645-2348
Nunavut Water Board (NWB)	(867) 360-6338	(867) 360-6369
CIRNACInspector (Kyle Amsel) Nunavut Regional Office (NRO) – Indigenous and Northern Affairs Canada (INAC) – Iqaluit	(867)645-2089 (867) 975-4500	(867)669-2871 (867) 975-4560
Department of Fisheries and Ocean (DFO) – Nunavut Regional Office - Iqaluit	(867) 979-8000	(867) 979-8039
Manager, Environmental Protection, Government of Nunavut – Kristi Lowe	(867) 975-7748	(867) 975-6099
Kivalliq Health Centre – Rankin Inlet	(867) 645-8300	(867) 645-8304
Emergency on call Nurse	(867) 645-6700	
Rankin Hamlet Office	(867) 645-2895	(867) 645-2146
Rankin Ambulance or Fire Emergency	(867) 645-2525	
RCMP 24 Hour Emergency Number	(867) 645-0123	
Canadian Coast Guard (in the event of a spill to the marine environment 24 hours) Superintendent, Environmental Response Coast guard e-mail for notification iqanordreg@innav.gc.ca	(800) 265-0237 (519) 383-1971 (867)-979-5724	(519) 337-2498
Transport Canada – Marine Safety Jaideep Johar	(204)-984-8618 or (204) 880-0754	(204) 984-2254
Ian Salisbury Mitchell Cooper- Marine Safety Inspector	(780) 495-8360, (250) 754-0290, (204).430.5750	

SECTION 9 - ROLES AND RESPONSIBILITIES

9.1 First Responder (Third Party Contractor (Intertek Personnel) and Warehouse Itivia Clerk)

The person who has caused a spill or is the first to observe the spill is the first responder.

The responsibilities of the First Responder are as follows:

- Oversee the fuel transfer operation;
- Follow procedure set-up in the OPEP/OPPP to prevent and minimize spill (See Section 5.3)
- In case of spill to ice or water or a major spill on land, initiate a Code 1 as per the MEL-HSH-PRO-3000 Code 1 Procedure to report the incident. In the case of a minor spill on land, contact the Environment department to report the incident;
- Identify and contain the spill, IF SAFE TO DO SO; commence preparing spill response equipment, and
- Participate in spill response as a member of the clean-up crew.

9.1.1 Supervisor Fuel Discharge (Logistics Supervisor)

The responsibilities of the Supervisor are as follows:
**Need to call a code one if this is a major spill or out of control

- Initiate a Code 1; contact the Environment Department;
- Gather facts about the spill; and
- Participate in spill response.

9.2 Roles & Responsibilities of the Emergency Control Group

Below are the roles and responsibilities of the Emergency control group.

9.2.1 Official In-Charge

The Official In-Charge (General Manager or designate) will take charge for overseeing and approving the overall emergency strategy.

Immediate duties of the Official In-Charge include:

- Consult with the Incident Commander the status of emergency;
- Appoint an Emergency Log Recorder to maintain a written record of the time and events, including all discussions, instructions and decisions made by the Emergency Control Team;
- Issues specific tasks to the members of the Management Team as they arrive at the Control Room, as per this guideline;

- Brief the Emergency Control Team;
- Ensure that the safety of personnel is maintained, throughout the operation;
- Ensure procedures are in place for prompt dispatch of requested personnel, materials and eequipment to the emergency area;
- Arrange for all reports to be presented at specific intervals to the Emergency Control Team;
- Finalize the recommendations of the Incident Commander for rescue and recovery operations;
- The Official In-Charge is the only person authorized to release information to Government Agencies, Corporate Office or the Local Communities. He may delegate this activity to other members of the Emergency Control Team;
    - Verify all information you release;
    - Keep a record of all inquiries (media and non-media);
    - Do not speculate on causes;
    - Do not speculate on resumption of normal operations or when the problem will be solved; and
    - Advise that further updates will be forth coming.
- Notify the corporate management, if the following appear probable:
    - Fatalities;
    - Injuries that could probably become items of local, regional or national media interest;
    - There is a public health or environmental risk;
    - An incident involving chemicals where there is a large volume or the potential for over reaction (e.g., cyanide);
    - A spill of effluent or contaminated water or chemical substance to an area that lies outside the area of drainage control of the mine site (i.e., an external spill);
    - Mine operations may be stopped for more than two (2) days; and
    - Government authorities will become involved.
- Ensure all response teams, regulatory agencies and any other agency on emergency alert notice are advised when the emergency has ended;
- Ensure all documentation (i.e., notes, log sheets, written instructions, etc.) is gathered for the creation of the final report; and
- Participate in debriefing.

9.2.2 *General Superintendents*

- Energy & Infrastructure, Operations and Maintenance will report to the Emergency Control Room and support the General manager/Designate in whatever capacity required;
- They will also ensure that the Superintendent/Designate in each of their respective Department's is aware of the emergency; and
- They will assist with the investigation and write up of the final report.

9.2.3 *Incident Commander: A Trained Staff Member (ERT Coordinators or Supt.)*

The responsibilities of the Incident Commander include:

- Ensure Security has been notified of emergency;
- Ensure the evacuation procedures have been activated, if required;
- Ensure that there are sufficient ERT members available to respond to the emergency;
- Ensure that the ERT has back-up support, a standby Team;
- Ensure that ERT Team has refreshments and nourishment (if the emergency requires several hours to resolve);
- Assess the size and severity of the emergency and the likely consequences. Establish response priorities; as well coordinate prevention of fire or explosion;
- Maintain communication with the ERT Captain;
- Advise the Official In-Charge of the ERT Team's activities, regarding the rescue and recovery operations;
- Appoint sufficient personnel, equipment and outside services are available. Utilize the members of the Emergency Control Team to organize these resources;
- Advise Official In-Charge when the emergency situation is under control and give the "All Clear";
- Participate in emergency investigation;
- Coordinate an orderly return to normal operating conditions;
- Arrange a debriefing session, and utilize the services of all involved in resolving the emergency; and
- Assist to write the final report.

9.2.4 Emergency Response Team (ERT Team) Duties:

- The ERT Team Members must report to the Fire Hall, when paged for a "Code One" emergency;
- ERT Team Members will be given instructions on the emergency by the Incident Commander;
- ERT Team Members will follow instructions from the Incident Commander and will not put the Team at risk; and
- The ERT Team Captain will maintain radio contact with the Incident Commander throughout the emergency.

9.2.5 Environmental Superintendent /Designate Duties:

The following are the responsibilities of the Environmental Superintendent/Designate;

- Provide technical advice on probable environmental effects resulting from a spill and how to minimize them;
- Provide advice to the Official-in-Charge for appropriate spill response procedures;
- Ensure that Environmental Staff are available to direct the spill response action plan; and
- Assist with restoring of the Operations back to normal operating standards.

9.2.6 Health and Safety Superintendent/Designate Duties:

The Health and Safety Superintendent/Designate will be responsible for:

- Ensure that an Incident Commander is in place to oversee the ERT Teams;
- Ensure that all Management respond to the emergency and meet in the emergency control room;
- Oversee all activities that require Security or Nursing and arrange for Medevac transport, if required;
- Assist with getting a “head count” for the Official in-charge; and
- Assist with obtaining outside help if required.

9.2.7 Energy & Infrastructure Superintendent/Designate Duties:

The following are the responsibilities of the Energy & Infrastructure Superintendent/Designate;

- Ensure that all employees are accounted for;
- Ensure that all ERT Crew Members respond to the “ Code One” emergency;
- If the “ Emergency” involves the site facilities, assist the Official-in-Charge with the action plan to deal with the emergency;
- Assist as required by supplying equipment and/or manpower; and
- Assist with restoring of the Operations back to normal operating standards.

9.2.8 Human Resources Coordinator/Designate Duties:

The following are the responsibilities of the Human Resources (HR) Superintendent/Designate:

- Ensure that all HR employees are accounted for; and

- Provide assistance to the Official-in-Charge if there are employee issues, such as injuries, transportation requirements, etc.

9.2.9 Health Care Professional (Nurse/Medic):

The on-site health professionals are responsible for the following:

- Providing on-site first aid and other medical support;
- Establish a triage location if there are multiple casualties;
- Arrange for medevac transportation, if required; and
- Ensuring that the first aid room is maintained at all times, by using First Responders as support.

9.2.10 Security (Security Officers):

The on-site Security Supervisor is responsible for the following:

- Ensuring that the Security officer has activated the appropriate level of emergency notification;
- Ensure that access points to the emergency are properly guarded;
- Notify the Rankin Inlet Gatehouse if the emergency involves the all-weather access road (AWAR); and
- Assist with other duties as requested by the Emergency Control Group.

9.3 Debriefing

After an incident has taken place and the location is brought back to normal operating standards a debriefing session will occur between ECG, Field Supervisors for the incident, ERT Captain(s), and the supervisor of the department involved with the spill.

The point of this debriefing session to determine the *who, what, where, when, why, and how* the incident occurred. It will also be the time to reflect on the steps that were taken to carry out the response and to determine what was done right and what corrective measures need to be put in place to better the response if needed in the future.

SECTION 10 - GENERAL SPILL PROCEDURES

SPILL RESPONSE PRIORITIES

1. **Safety of the personnel working at or around the OHF**
   a. Contact all personnel working around the spud barge area and make them aware
   b. Make contact with the vessels Captain to make aware the ship and stop the transfer of the product
   c. Wear appropriate PPE
   d. STOP the spill
2. **Make safe the facility**
   a. Create a no entry perimeter to ensure unaware persons do not enter the area in which the incident took place.
   b. Barricade entrances to the facility with red danger tape
   c. Have a person designated to watch entrances to ensure no community persons come on to site.
3. **Make the community of Rankin Inlet aware of the Spill to ensure measures can be taken to ensure safety of the community**
   a. Contact Mayor / Hamlet counsel
   b. Fire department
   c. RCMP
4. **Prevent fires or explosions / Stop all ignition sources**
   a. Disconnect power supplies
   b. Do not contain diesel fuel if vapors might ignite
   c. Allow fuel vapors to evaporate before intervention
5. **Minimize the Spill**
   a. When safe to proceed stop the spread of the product
   b. Use spill response equipment in emergency sea cans and ask for additional material if the spill is greater than 5 m^3
6. **Notice and Report the Spill**
   a. Spill needs to be reported to Transport Canada, Coast Guard, Environment and Climate Change Canada and Government of Nunavut immediately
   b. Other governing bodies will also be notified (see section 10.2)
7. **Environmental Impact**
   a. Deter wildlife from entering spill area. Keep track of any wildlife mortalities
   b. Determine what impacts the spill will have on the Environment
8. **Clean-up**
   Commence clean-up of the spill

10.1 Coordination with Government Agencies

10.1.1 *Coordination with TC Technical Service Environmental Response*

In the event of a marine spill TC Technical Service Environmental Response (TC) will be contacted immediately regarding the incident. Agnico Eagle will adhere to further recommendations from TC in response to the spill.

TC will also be contacted annually prior to the transfer of fuel at the OHF. As well, annual approval of this OPEP/OPPP will be required by TC Pollution Prevention Officer.

10.1.2 Coordination with Canadian Coast Guard

In the event of a marine spill or in anticipation of a marine spill, the coordination with Canadian Coast Guard (CCG)[2] is required and they will be contacted to report the incident. A description of the event will be provided to the CCG Environmental Response. Agnico Eagle will adhere to further recommendations from CCG in response to the spill.

On an annual basis prior to the shipment of fuels to the OHF commencing, Agnico Eagle will contact the CCG and make them aware that the shipping season will be starting so they are aware that fuels will be travelling to Agnico Eagle's Rankin Inlet Fuel Tank Facility in Rankin Inlet. Also Agnico Eagle will inquire if there are any updates to "*The Central and Arctic Regional Response Plan (2008).*"

Agnico Eagle's Environmental department will annually, prior to fuel transfer, review "*The Central and Arctic Regional Response Plan (2008).*" A copy of this plan can be found in Appendix E for reference. The plan will be reviewed to ensure that the OPEP/OPPP and the actions of Agnico Eagle's OHF meet all requirements listed for an OHF.

10.1.3 Other Government Agencies

Agnico Eagle will contact all government agencies associated with the Meliadine Gold Mine as is the norm for any reportable spill. These groups include: Government of Nunavut (GN) via 24 hour spill reporting line, Crown - Indigenous Relations and Northern Affairs Canada (CIRNAC), Department of Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), Nunavut Water Board (NWB), and Kivalliq Inuit Association (KIA).

10.2 Reporting Requirements

As per the Canada Shipping Act. spills to the marine environment or anticipated spills to the marine environment will be reported to the TC Technical Service Environmental Response and Canadian Coast Guard (contact numbers in Table 7). Marine spills will be reported in accordance with TC Guideline TP-9834E, *Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and /or Marine Pollutants* and section 182(1)(a) of the *Canadian Shipping Act, 2001*. Others to receive the spill report include the KIA, Hamlet of Rankin Inlet, DFO, ECCC, Canadian Coast Guard and CIRNAC. Incidents that require media communications will be the responsibility of Agnico Eagle General Mine Manager or Public Affairs Corporate Director. The copy of NT-NU spill report form is provided in Appendix F.

To ensure compliance with Section 36(3) of the *Fisheries Act*, all spills of fuel or hazardous materials, regardless of quantity, into a water body or onto ice will be reported immediately to the NT-NU 24-HOUR SPILL REPORT LINE (phone: (867) 920-8130, fax: (867) 873-6924, spills@gov.nt.ca).

[2] CCG: 1-800-265-0237, Superintendent Environmental Response Phone: 519-383-1954 Cellphone :519-381-6186

Agnico Eagle possess a thorough internal spill reporting system that documents all spills for internal tracking. Regardless of the volume, these spills are all reported to the Environment Department and if the NT-NU spill limits are exceeded or if the spill occurs in a water body, the Environmental Department reviews the incident, produces the NT-NU spill report and submits the NT- NU spill report to the regulator listed above. Investigation of all reportable spills is completed by the Meliadine Environment Department.

10.3 Treatment and Disposal

All diesel recovered through the spill response and any contaminated material will be taken to the Meliadine site for recovery and, if applicable, incineration. It could also be packaged for disposal/recycling by a certified hazardous waste management company in southern Canada.

10.4 Resuming Unloading

The unloading of fuel from the tanker to the OHF will not resume if it hinders the response to the spill in any way. Unloading will resume once all problems are corrected, thus ensuring that the spill will not continue.

SECTION 11 - SPILL SCENARIOS AND RESPONSE STRATEGIES

Agnico Eagle will strive to prevent any accidental spills and take all reasonable steps to minimize the risk of spill incidents and their impact on the environment. A mock spill exercise is conducted annually and the most recent summary is provided in the annual report.

As per Section 11(3) of the Environmental Response Regulations, a written description of the exercise will be provided to Transport Canada at least 30 days before the day on which the exercise is conducted.

11.1 Product Properties and Response Strategy

P50 Diesel is a bright oily substance that has a low viscosity. It spreads rapidly on the water, has a low solubility in salt water (60 mg/L), and a high evaporation rate as described in the text box below.

At Itivia, the wind is largely from the NW to N and the current in the access passage is 0.93 km/h to the south.

Predicted Evaporation Rate of Spilled Diesel

Weight percent Evaporation = (5.8 + 0.045T) in(t)
Where T = water temperature
t = time in minutes

After a time span of 60 minutes at a surface temperature of 5°C, up to 25% weight of the spilled diesel would have evaporated.

After 240 minutes, or 4 hours, the weight percent of the diesel that would have evaporated would be 33%.

Source: *Environment Canada, Emergencies Science and Technology Division*

As a result of the properties of diesel and the environmental conditions that predominate at Itivia, the spill response will aim to stop the spilled product from spreading across Melvin Bay to the south shore and into the access passage. This could include activating the Shipboard Oil Pollution Emergency Plan. The tanker has response equipment on board and a fully trained crew in spill response. This, coupled with a shore-based response under the OPEP/OPPP, ensures sufficient resources are available to control and recover as much diesel fuel as feasibly possible. The maximum expected quantity of P50 Diesel at the facility is 33.5M liters

11.2 Pipeline Safeguards

There are a number of safeguards in operating the ship-to-shore pipeline; these include:

- Save-all trays to capture any minor spills at the ends of the floating pipeline;
- Dry-break couplings at both ends of the floating pipeline;
- A pressure test is performed before the diesel transfer to confirm the system is free of leaks; and

- Both the crew on the tanker and Agnico Eagle's shore based personnel are fully trained in spill response and spill recovery.

11.3 Wildlife

During a spill event, Agnico Eagle will take care to deter any animal that will be near the spill area to minimize the risk to wildlife. In a case of mortalities, Agnico Eagle will track any mortality and report these numbers to the GN and ECCC.

11.4 Scenarios

Three scenarios are considered, these being:

1. A spill between the ship and the flange of the OHF, the floating pipeline, resulting in a spill smaller than 1000 L of diesel fuel;

2. A major failure between the ship and the flange of the OHF, the floating pipeline, resulting in a spill greater than 1000 L but smaller than 5000 L of diesel fuel; and

3. Spill greater than 5000 litres up to 10,000,000 L.

In most instances Agnico Eagle personnel and/or contractors will be able to respond to the spill but if necessary, backup can be requested by calling for the assistance of the Agnico Eagle Emergency Response Team that is stationed at the Meliadine site located 35 kilometers away. The ERT can be at Rankin Inlet within 60 minutes to take charge of the spill response. Agnico Eagle will make every effort to have its equipment and resources deployed within 6 hours of an incident. The assumption upon which these scenarios are based are presented in previous sections of the document, namely sections 3 (time necessary to carry out a response) 4 (tides, current, meteorological conditions, surrounding areas), and 5 (nature of the oil products, types of vessels from which the oil product is unloaded).

Scenario 1: **Loss between the ship and the flange of the OHF, the floating pipeline, resulting in spill smaller than 1000 L of diesel fuel.**

Appropriate Actions	Resources
1. Communicate with vessel and immediately stop the ship-to-shore transfer of fuel, if it's safe to do. The transfer should not restart in a manner that would interfere with the immediate, effective and sustained response to the oil pollution. 2. Make sure that the environment is safe for the facility and vessel personnel, the facility and Rankin Inlet community. 3. Make sure that risk of fire or explosion are minimize. 4. Contact person found on OHF Declaration to initiate the OPEP. 5. Minimize the oil pollution incident by containing the spilled fuel to spreading within the marine environment, if it's safe to do. 6. Notify CCG, local and regulatory authorities. 7. Containment boom is manned to prevent the escape of fuel outside the boom. 8. If necessary, place a diversion boom outside the containment boom to stop the diesel from getting onto the beach. 9. Spread absorbent material on the spill to capture it. 10. Monitor any fuel that could not be recovered and collect water samples near the spill site and in the access passage for analysis. Repeat as necessary. 11. If diesel reaches the beach, excavate the contaminated beach material and take it to the Landfarm area at the Meliadine site.	a. Crew on the tanker trained in spill response. b. Agnico Eagle's shore based personnel trained in spill response and recovery. c. Emergency Response Team to take control of the spill response and recovery. d. Spill response equipment and supplies maintained on board the tanker and also in the sea can located on shore of Itivia Site Fuel Storage and Containment Facility. e. Save-alls (Pop-up pools/plastic totes) placed under the pipeline manifolds to collect minor spills. f. Shore-based boat to position booms. g. Absorbent booms to recover spilled diesel on sea water. h. Heavy equipment such as excavators, back hoes, vacuum trucks, and dump trucks available if beach is contaminated.

Scenario 2: **Loss between the ship and the flange of the OHF, the floating pipeline, resulting in spill greater than 1000 L but smaller than 5000 L of diesel fuel.**

Appropriate Actions	Resources
1. Communicate with vessel and immediately stop the ship-to-shore transfer of fuel, if it's safe to do. The transfer should not restart in a manner that would interfere with the immediate, effective and sustained response to the oil pollution. 2. Make sure that the environment is safe for the facility personnel, the facility and Rankin Inlet community. 3. Make sure that risk of fire or explosion are minimized. 4. Contact person found on OHF Declaration to initiate the OPEP. 5. Minimize the oil pollution incident by containing the spilled fuel to spreading within the marine environment, if it's safe to do. 6. Notify CCG, local and regulatory authorities. 7. Containment boom is manned to prevent the escape of fuel outside the boom. 8. If necessary, place a diversion boom outside the containment boom to stop the diesel from getting onto the beach 9. Spread absorbent material on the spill to capture it 10. For larger amounts of spilled materials on water, use absorbent booms to collect the spilled diesel 11. Monitor any fuel that could not be recovered and collect water samples near the spill site and in the access passage for analysis. Repeat as necessary. 12. If diesel reaches the beach, excavate the contaminated beach material and take it to the Landfarm area at the Meliadine site.	a. Crew on the small tanker trained in marine spill response. b. Crew from the large tanker anchored outside the access passage. c. Agnico Eagle's shore based personnel trained in near shore spill response and recovery. d. Emergency Response Team trained for near shore spill response. e. Shore-based boat to position booms and spread absorbent material. f. Spill response equipment and supplies maintained on board the tanker, in Agnico Eagle sea can locate at Itivia Site Fuel Storage and Containment Facility. g. Additional booms to place outside the containment boom. h. Additional boats can be transported from the Meliadine site as well local boats can be rented from local contracting companies i Heavy equipment such as excavators, back hoes, vacuum trucks, and dump trucks for waste materials. j. in the case of larger spills an Incident Command System will be set up at the Meliadine site as laid out in the Meliadine Emergency Response Plan.

Scenario 3: **A spill >5,000 litres up to 10,000,000 litres**

In the case of an **extreme** spill, Agnico Eagle will follow the actions listed in Scenario 2 to complete the best clean up possible. Between the spill response equipment that the tanker delivering fuel has on board and the spill response supplies at the OHF, a spill up to the size of 5,000 - 10,000L will be able to be controlled and cleaned up. However if the spill is greater than 10,000L, at this point Agnico Eagle will require external assistance with the clean-up.

The Canadian Coast Guard (CCG) and Transport Canada are made aware each year prior the fuel transfer, there is a possibility that under direction of CCG that their spill depot supplies located in Rankin Inlet may be used.

SECTION 12 - PREVENTIVE MEASURES

Agnico Eagle recognizes that spill prevention is more desirable than any modern efficient cleanup measures after the fact. Preventive measures have been adopted in relation to any transport, transfer, use and storage of diesel fuel. The tankers carry a Ship Oil Pollution Emergency Plan (SOPEP) (Appendix A) as per the MARPOL 73/78 requirement under Annex I. All ships with 400 GT and above must carry an oil prevention plan as per the norms and guidelines laid down by the International Maritime Organization (IMO).

A SOPEP contains the following things:

- The action plan contains duty of each crew member at the time of spill, including emergency muster and actions;
- General information about the ship and the owner of the ship etc.;
- Steps and procedure to contain the discharge of oil into the sea using SOPEP equipment;
- On-board Reporting procedure and requirement in case of oil spill;
- List of authorities to contact and reporting requirements in case of oil spill. Authorities like port state control, oil clean up team etc. are to be notified;
- Drawing of various fuel lines, along with other oil lines on board vessel with positioning of vents, save-all trays, etc.;
- General arrangement of ship, which includes location of all the oil tanks with capacity, content, etc.; and
- The location of the SOPEP locker and contents of the locker with a list of inventory (Marine Insight 2012).

The Spill Contingency Plan, Emergency Response Plan and the OPEP/OPPP identify potential causes of emergencies and provides for the development and implementation of strategies to minimize the likelihood of the same.

As described in the Spill Contingency Plan, exercises are part of training for the Emergency Response Team. This includes comprehensive spill response exercise to practice the use of spill response equipment, including the use of booms and oil water separator.

The OPEP/OPPP is updated annually based on the results of spill exercises, changes to the infrastructure at Agnico Eagle's Fuel Handling Facilities, changes to procedures and other variables. The updated OPEP/OPPP is distributed to the Agnico Eagle Emergency Response Team, TC, the Kivalliq Inuit Association, the Municipality of Rankin Inlet and other agencies as appropriate.

12.1 Training

The environmental department and ERT team received training from a response organization and as a result will be able to respond to or assist with incidents that may occur at the OHF.

12.1.1 Meliadine site Personnel

A designated Emergency Response Team consisting of on-site personnel is established at Agnico Eagle's Meliadine Project site. Agnico Eagle ensures that the ERT is trained and staffed in sufficient number so that the ERT is present at all times. All members of the team are trained and familiar with emergency and spill response resources, including their location and access, the Spill Contingency Plan, the OPEP/OPPP and appropriate emergency spill response methodologies. The ERT have up to 20 members, each of whom will be trained.

The training includes the following:

- Worker health and safety during emergency interventions;
- 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;
- Emergency contact lists;
- Communication methods and signals;
- Desktop exercises of “worst case” scenarios;
- Emergency evacuation;
- Fires or explosions;
- Emergency equipment and use;
- PPE and clothing;
- Marine shoreline recovery operations; and
- The likely causes and possible effects of spills.

The Environmental Department regularly provides tool-box sessions to give information on spill response and reporting procedures.

Basic spill response training is completed by all Agnico Eagle employees and contractors working on the Meliadine project as part of the mandatory induction for all personnel arriving on site. ERT members receive more extensive spill response training and learn how to respond while wearing personal protective clothing, use of specific spill response gear, proper deployment of absorbents and maritime boom.

12.1.2 OHF Personnel Training

Prior to the first discharge of fuel from the vessel to the OHF, a mandatory training takes place. This is a review with all the personnel responsible for the shore based portion of the fuel transfer, including the third party contractor and the Rankin Inlet supervisor, the current OPEP/OPPP and make them aware of the procedures to follow in case of a spill before the first fuel barge arrives.

A mock spill training takes place on a yearly basis to practice the response of all involved personnel to a hypothetical spill situation.

12.1.3 Boat Operators

All people involved in the supervision during operation and / or on the spill response has completed the training course for the pleasure craft operator. Records of pleasure craft operator certification is retained by the Meliadine Training department.

SECTION 13 - WOODWARD

Please refer to Appendix A for the contact information for Woodward during the barge season.

REFERENCES

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Transport Canada Guideline TP-9834E, 2009. *Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and /or Marine Pollutant*

Appendix A - SOPEP

The WOODWARD GROUP OF COMPANIES

Coastal Shipping Limited
A Division of Woodward Group of Companies

Coastal Shipping Ltd.
The Woodward Group of Companies
114 Main Street, P.O. Box 910
Lewisporte, NL A0G 3A0 CANADA

Shipboard Marine Pollution Emergency Plan (SMPEP)

M/T "TUVAQ W."

APPROVED
MARPOL, Annex I, Reg.37, Annex II, Reg. 17
SEE LETTER Date: 2019-02-07

Prepared By: Poseidon Marine Consultants Ltd.
Document No.:18-006-002
Revision: 2
Revision Date: 6 February 2019

CONFIRMATION OF ACKNOWLEDGE

Shipboard Marine Pollution Emergency Plan

Date Entered	Rank	Name	Signature

Document History

Revision	Date	Description	By
0	23 April 2018	Issued for delivery voyage only	MDP
1	5 September 2018	Revised per DNVGL comments	MDP
2	6 February 2019	Revised per DNVGL comments	MDP

Record of Changes

Amendment Number	Section and Page Affected	Date Entered	Remarks	By
Revision 1, Amendment 1	Section 1.0, Page 1	5 September 2018	Updated Ship's Particulars: DNV GL Register Number, Call Sign, Port of Registry, Flag and Official number.	MDP
Revision 1, Amendment 2	Section 2.0, Point 3, Page 2	5 September 2018	Rephrased "The Plan contains all the information and operational instructions required by the 'Guidelines for the development of the Shipboard Marine Pollution Emergency Plans for Oil and/or Noxious Liquid Substances' published under Res,MEPC.54(32) an in compliance with IMO Res.MEPC.85(44) as amended by IMO Res.MEPC.137(53)"	MDP
Revision 1, Amendment 3	Section 2.0, Page 2 Section 3, Page 3 Section Section 4.0, Page 6	5 September 2018	Reference to Reg.26 of Annex I and Reg.16 of Annex II of MARPOL 73/78 updated to Reg. 37 of Annex I and Reg.17 of Annex II of MARPOL 73/78	MDP
Revision 1, Amendment 4	Section 5.2, Pages 15-22	5 September 2018	Section 5.2 Spills resulting from accidents amended to included 'Cargo Containment System Failure'.	MDP
Revision 2, Amendment 1	Section 2.0, Point 3. Page 2	6 February 2019	Rephrased "The Plan contains all the information and operational instructions required by the "Guidelines for the development of the Shipboard Marine Pollution Emergency Plans for Oil and/or Noxious Liquid Substances" published under Res,MEPC.54(32) an in compliance with IMO Res.MEPC.85(44) as amended by IMO Res.MEPC.137(53)"	MDP
Revision 2, Amendment 2	Section 3.1, Summary Flow Chart Page 5	6 February 2019	Initial report reference changed to "A.851(20) as amended by MEPC.138(53)"	MDP

Table of Contents

Appendices

A Contact Information
B Spill Equipment Inventory
C Vessel Drawings
- General Arrangement
- Tank Capacity Plan

1.0 Ship Particulars

SHIP'S IDENTIFICATION

DNV GL REGISTER NUMBER	33515
NAME OF SHIP	TUVAQ W.
CALL SIGN / SIGNAL LETTERS	CJD7842
IMO NUMBER	9610341
TYPE OF SHIP	CHEMICAL / OIL TANKER
PORT OF REGISTRY	ST. JOHN'S
GROSS TONNAGE	5422
FLAG	CANADA
OFFICIAL NUMBER	841683

SHIP'S DIMENSIONS

LOA	112.70 M
LBP	106.00 M
BREADTH MOULDED	17.60 M
DEPTH	9.40 M
DESIGN DRAFT	7.00 M

2.0 Introduction

1. This Shipboard Marine Pollution Emergency Plan (hereafter referred to as the "Plan") is written in accordance with the requirements of regulation 37 of Annex I and regulation 17 of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 there to and amended by Res. MEPC. 78 (43). As recommended by IMO this plan is a **combination of a Shipboard Oil Pollution Prevention Plan (SOPEP) and a Shipboard Marine Pollution Emergency Plan (SMPEP) for noxious liquid substances (NLS).**

2. The purpose of the Plan is to provide guidance to the Master, officers and operating personnel onboard the Ship, with respect to the steps to be taken when an oil or marine pollution incident has or is likely to occur. The appendices contain communication data of all contacts referenced in the Plan, as well as other reference material.

3. The Plan contains all information and operational instructions required by the "Guidelines for the development of the Shipboard Marine Pollution Emergency Plan for Oil and/or Noxious Liquid Substances" published under Res.MEPC.54(32) and in compliance with IMO Res.MEPC.85(44) as amended by IMO Res.MEPC.137(53).

4. This Plan has not been examined on behalf of Transport Canada - Marine Safety, (herein after referred to as "the Board") and, except as provided below, no alteration or revision shall be made to any part of it without prior approval of the Board.

5. Changes to the appendices will not be required to be approved by the Board. The appendices should be maintained up to date by the Owners, Operators, and Managers.

6. For the purposes of this Plan, the Master is taken to be that person who is a member of the vessel's operational personnel and to which is given senior responsibility for the vessel and any circumstances pertaining thereto.

7. Before entering a port of call, the Master should be aware of local emergency response procedures and organizations and have up to date contact information readily available.

3.0 Reason for Shipboard Marine Pollution Emergency Plan

1. This Plan is intended to assist the ship's personnel in dealing with an unexpected discharge of oil or noxious liquid substances. Its primary purpose is to set in motion the necessary actions to stop or minimize the discharge of those substances and to mitigate its effects. Effective planning ensures that the necessary actions are taken in a structured, logical and timely manner.

2. The primary objectives of this Plan are to:
    - prevent pollution
    - stop or minimize outflow when a damage to the ship or its requirement occurs
    - stop or minimize outflow when an operational spill occurs in excess of the quantity or instantaneous rate permitted under the present Convention.

3. Further, the purpose of the Plan is to provide the Master, officers and certain crew members with a practical guide to the prevention of marine spills and in carrying out the responsibilities associated with regulation 37 of Annex I and Reg. 17 of Annex II of MARPOL 73 / 78.
    - procedures to report an oil / marine incident.
    - Coastal States (Focal Points) and Port Contact Lists to be contacted in the event of any pollution incident.
    - co-ordination with national and local Authorities in combating a pollution.

4. In summary, the Plan will serve to promote a practiced response when the ship's personnel are faced with a spill.

5. Although the Plan is designed as a ship-specific tool it must be also be considered as an additional instrument and is a link to shore-based plans. With this, the Plans allow an efficient co-ordination between the ship and shore-based Authorities / Organizations in mitigating the effects of any pollution incident.

6. The Plan includes a summary flowchart (See page 4-5) to guide the Master through reporting and acting procedures required during an oil pollution incident response.

7. The Plan is likely to be a document used on board by the Master and the officers of the ship and must therefore be available in the working language used by them.

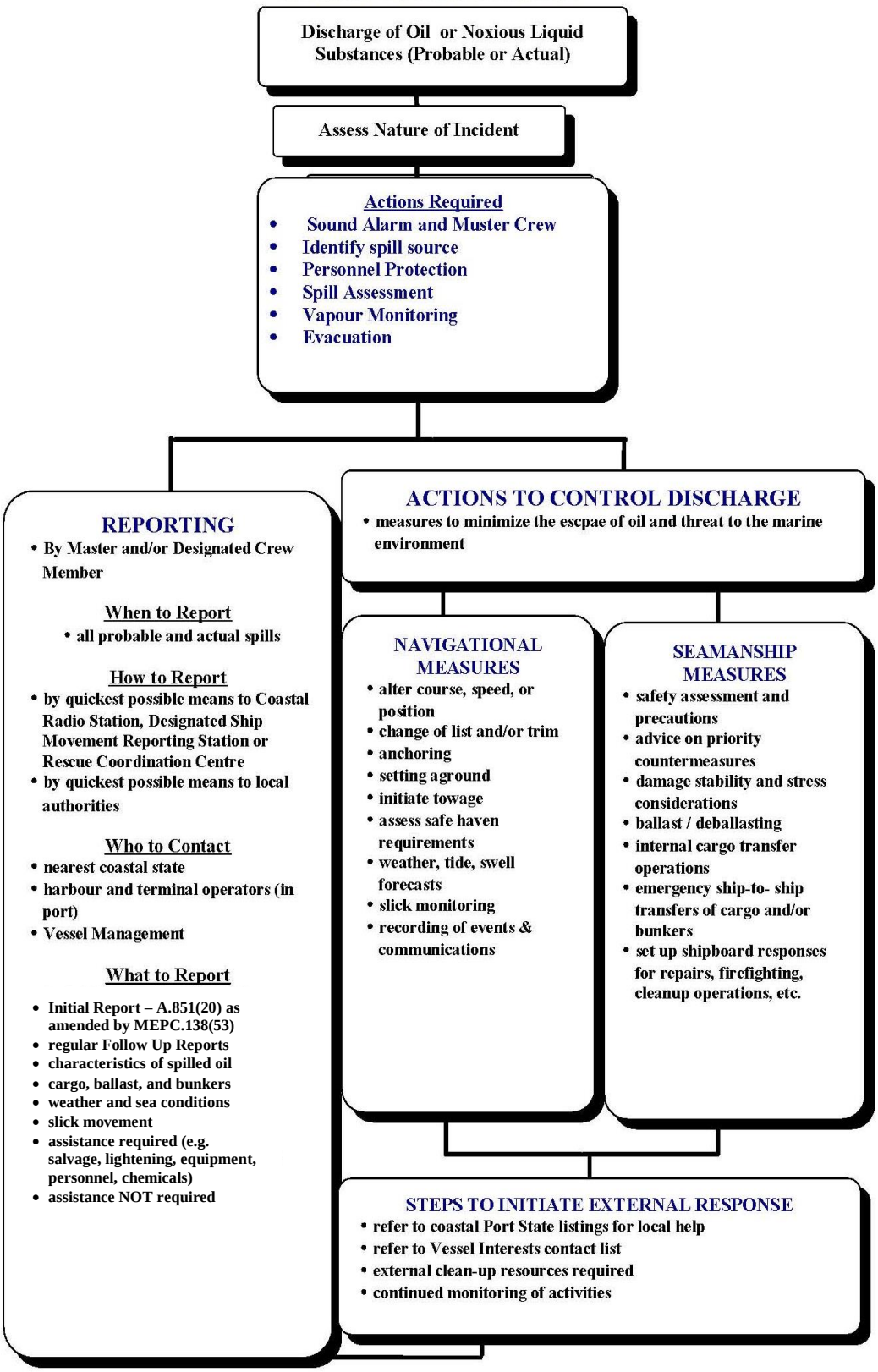
8. The Plan is not applicable if the vessel operates in U.S waters within the EEZ (exclusive economic zone). The Vessel Response Plan (VRP) has to be activated.

9. All Procedures in this Plan are in line with Coastal emergency procedures which can be found in the file Emergency Preparedness as part of the Safety Management System (SMS). They should be referred to in any case for obtaining additional information.

3.1 Shipboard Marine Pollution Emergency Plan – Summary Flow Chart

This flow diagram is an outline of the course of action that shipboard personnel should follow in responding to a pollution emergency based on the guidelines published by the Organization. This diagram is not exhaustive and should not be used as a sole reference in response. Consideration should be given inclusion of specific reference to the Plan. The steps are designed to assist ship personnel in action to stop or minimize the discharge of oil or NLS and mitigate its effects. These steps fall into two main categories - reporting and actions.

SUMMARY FLOWCHART



4.0 Reporting Requirements

4.1 General

The reporting requirements of this section comply with those of regulation 37 Annex I and 17 Annex II of MARPOL 73 / 78. When the ship is involved in an incident which results in the discharge of oil or NLS, the Master is obliged under the terms of MARPOL 73 / 78 to report details of the incident, without delay, to the nearest Coastal state by means of the fastest telecommunication channels available.

The intent of these requirements is to ensure that Coastal States are informed, without delay, of any incident giving rise to pollution, or threat of pollution of the marine environment, as well as of the assistance and salvage measures, so that appropriate action may be taken.

Without interfering with ship owner's liability, some coastal states consider that it is their responsibility to define techniques and means to be taken against a marine pollution incident and approve such operations which might cause further pollution i.e. lightening. States are in general entitled to do so under the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 and the Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil, 1973.

4.2 Reporting Procedures

For easy reference the reporting requirements in the context of this plan are divided in to the following information blocks:

4.2.1 When to Report

Taking the summary flowchart as shown on page 5 as a basic guide into consideration reports are necessary in the following cases:

1. Actual Discharge

   The Master is obliged to report to the nearest Coastal state whenever there is a discharge of oil:
   - resulting from damage to the ship
   - resulting from damage to the ship's equipment
   - for the purpose of securing the safety of a ship or saving life at sea
   - during the operation of the Ship in excess of the quantity or instantaneous rate permitted under the present Convention.

2. Probable Discharge

   The Master is obliged to report even when no actual discharge of oil or NLS has occurred but there is a probability that one could occur.

However, as it is not practicable to lay down precise definitions of all types of situations involving probable discharge of oil / NLS which would warrant an obligation to report, the Master is obliged to judge by himself whether there is such a probability and whether a report should be made.

Therefore, it is recommended that, at least, the following events are carefully considered by the Master; taking into account the nature of the damage failure or breakdown of the ship, machinery or equipment as well as the ship's location, proximity to land, weather, state of the sea and traffic density - as cases in which a probable discharge is more likely:

- damage, failure or breakdown which affects the safety of the ship (e.g. collision, fire, grounding, explosion, structural failure, flooding, cargo, cargo shifting, list, etc.); or

- failure or breakdown of machinery or equipment which results in impairment of the safety of navigation (e.g. failure or breakdown of steering gear, propulsion, electrical generating system, essential shipborne navigation aids etc.)

If in doubt, the Master should always make a report in cases aforementioned.

In all cases the Authorities should be kept informed by the Master as how the situation progress and be advised when all threats of pollution have passed.

4.2.2 Information Required

As required in article 8 and Protocol I of MARPOL 73 / 78 Convention the Master or other persons having charge of the ship should report the particulars of any pollution incident. In this context the International Marine Organization (IMO), in 1997, adopted Resolution A.851(20) "General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents involving Dangerous Goods, Harmful Substances and / or Marine Pollutants" as amended with MEPC.138(53).

The intent of the Resolutions aforementioned is to enable Coastal States and other interested parties to be informed, without delay, of any incident giving rise to pollution, or threat of pollution of the marine environment, as well as of assistance and salvageable measures, so that appropriate action may be taken.

Nothing in this chapter relieves the Master in using sound judgment to make sure that any incident or probable discharge is reported as quickly as possible in the prevailing situation. When Transmitting initial reports to the authorities of the nearest Coastal State, the Master or other persons dealing with such a transmission should take note of IMO Resolution A.851(20) as amended with MEPC.138(53).

Especially the format of the initial report as well as supplementary follow up reports should conform to the guidance contained in Resolution A.851(20) as amended with MEPC.138(53). All reporting whether initial or follow up, should follow IMO's reporting format as outlined below and should contain the following information:

4.2.3 Format and Information Required for Official Report

AA VESSEL NAME, CALL SIGN, FLAG

BB DATE AND TIME (GMT) OF INCIDENT: 11/1935 meaning 11th of month at 7:35 pm.

CC SHIPS POSITION: 2230N 0600E meaning 22 deg. 30 min. N, 6 deg. E

DD SHIPS POSITION: By true bearing (3 digits) and distance from clearly identified landmark.

EE TRUE COURSE (3 digits)

FF SPEED IN KNOTS AND TENTHS OF A KNOT (3 DIGITS)

LL ROUTE INFORMATION – Intended Track

MM RADIO STATIONS AND FREQUENCIES GUARDED

NN TIME OF NEXT REPORT (same as in BB)

OO DRAFT (4 DIGITS - meters and centimeters)

PP TYPES AND QUANTITIES OF CARGO AND BUNKERS ON BOARD

QQ BRIEF DETAILS OF DAMAGE, LIMITATIONS ETC. (must include condition of vessel and ability to transfer cargo, ballast, or fuel)

RR BRIEF DETAILS OF ACTUAL POLLUTION (oil type, estimate of quantity discharged, whether discharge continues, cause, estimate of slick movement)

SS WEATHER AND SEA CONDITIONS (wind force/direction, relevant tidal and/or current information)

TT NAME, ADDRESS, FAX, TELEPHONE NUMBERS OF VESSEL OWNER OR REPRESENTATIVE.

UU DETAILS OF LENGTH, BREADTH, TONNAGE, AND TYPE OF VESSEL

WW TOTAL NUMBER OF PERSONS ON BOARD

XX MISC. DETAILS (This includes brief details of incident, actions taken, injuries sustained and assistance required. If no outside assistance is required, then this should be clearly stated.)

All follow up reports by the Master should include information relevant to the Coastal State Authorities to keep them informed as the incident develops.

Follow up reports should include information on any significant changes in the ship's condition, the rate of release and spread of the substances, weather and sea conditions and clean-up activities underway.

In this context details of bunker and cargo disposition, condition of any empty tanks and nature of any ballast carried are information needed by those involved in order to assess the threat posed by an actual or probable discharge from the damaged ship.

4.2.4 Whom to Contact

The Master is responsible for reporting any incident involving an actual or probable discharge of oil or NLS. Prior to commencing a voyage, the Master or his onboard designate is responsible to ensure that the necessary declarations for the intended voyage are onboard and necessary contact information has been inserted in the manual in Appendix A: Contact Information.

Within Canada, administrative inquiries related to pollution prevention, compliance and enforcement, vessel regulations, design and construction should be directed to:

Director General, Marine Safety
Transport Canada
Mailstop: AMS
330 Sparks Street
Ottawa, Ontario
K1A 0N5
Tel: (613) 998-0610 Fax: (613) 954-1032

Inquiries relating to pollution response should be directed to:

Director General, Rescue and Environmental Response
Canadian Coast Guard
344 Slater Street
Ottawa, Ontario
K1A 0N7
Tel: (613) 990-3110 Fax: (613) 996-8902

ECRC East Coast Response Corporation
1201-275 Slater Street
Ottawa, Ontario
K1P 5H9
Tel: (613) 230-7369 Fax: (613)-230-7344

4.2.4.1 Coastal State Contacts

The vessel, in accordance with the regulations, has onboard a **declaration** that the vessel's management has, in accordance with 167 of the Canada Shipping Act 2001, entered into an arrangement with a response organization to which a certificate of designation has been issued pursuant to section 169 in respect of the quantity of oil that is carried both as fuel and cargo on board the vessel.

Three response organizations (RO) have been established in Eastern Canada. Although each of the ROs is independent Corporations they are linked together through various support and mutual aid agreements. Each of the ROs has a specific Geographic Area of Response (GAR) and a certified response capability of 10,000 tonnes. The following table provides a list of the ROs and a general description of their GARs.

Response Organization	Geographic Area of Response (GAR)
• Eastern Canada Response Corporation Ltd. (ECRC)	• In general the waters of the Canadian Great Lakes, Quebec and the Atlantic Coast excluding areas covered by Alert and PTMS
• Atlantic Emergency Response Team ("ALERT") Inc.	• In general the Port of Saint John, New Brunswick and surrounding waters.
• Point Tupper Marine Services Limited (PTMS)	• In general the Port of Port Hawkesbury, Nova Scotia and surrounding waters.

If conditions permit (i.e. time and prevailing conditions) the MASTER shall consult with vessel management contact prior to activation of any response organization. The person or persons identified in the **declaration** shall be responsible for contacting and mobilizing the response organization. Once a certificate is obtained for this vessel the relevant contact information is to be added in Appendix A – Contacts - Coastal State Contacts.

4.2.4.2 Port Contacts

For the ship in port, notification of local agencies, combating teams or clean-up companies will speed response. If an oil spill occurs during the ship's stay in a port, whether operational or as a result of an accident, the Master should inform the appropriate agencies (e.g. National Response Center, Terminal/Port Authorities etc.) without undue delay.

If the ship is engaged in a regular service between port/terminals the Master or any other person aboard delegated by the Master should provide a list with the relevant port contact addresses for each port served regularly of Authorities/persons/and terminals dealing with oil spill.

This list should be regularly updated.

5.0 Steps to Control Discharge

Ship personnel will most probably be in the best position to take quick action to mitigate or control the discharge of oil or noxious liquid substances from their ship. Therefore, this Plan provides the Master with clear guidance on how to accomplish this mitigation for a variety of situations.

It is the Master's responsibility to initiate a response in the event of a discharge of oil / NLS or substantial threat of discharge - actual or probable - into waters.

In no case action should be taken that in any way could jeopardize the safety of personnel either onboard or ashore.

In cases of a discharge of noxious liquids substances the Master has to refer to the "Material Safety Data Sheet" (MSDS) provide onboard for any NLS cargo. Consideration is to have to be made to any danger resulting from discharge of such substances, i.e. mixing with water, air, other materials / substances.

Special consideration is to be taken in case of the necessity to transfer cargo into another compartment onboard of the compatibility of the material to be transferred and the material of pipes and tanks to be used for such actions.

In cases of small spills on deck, the vessel's crew should take whatever actions are necessary to prevent oil from escaping over the side. Once the spill is contained on deck, the crew will need to take action to clean up the oil. **Spilled oil shall not be washed over the side**. Once oil is in the water, the crew's ability to respond in a practical manner is greatly reduced.

The following list specifies different kinds of possible operational spills with regard to reactions to be taken.

5.1 Operational Spills

5.1.1 Operational Spill Prevention

All crew members shall maintain a close watch for the escape of oil or NLS during bunker or cargo operations.

Prior to bunker or cargo transfer the competent crew members should mobilize the spill equipment, as far as available on board, and place it close to the planned operation, e.g. along the railing on the side at which bunker operation takes place. All deck scuppers and open drains must be effectively plugged. Accumulations of water should be drained periodically and scupper plugs replaced immediately after the water has run off. Any free floating substances should be removed prior to draining.

Bunker or Cargo tanks which have been topped up should be checked frequently during the remaining operations to avoid an overflow.

Unless there are permanent means for retention of any slight leakage at ship / shore connections for bunker or cargo transfer, it is essential that a drip tray is in place to catch any leaking substance. The removed bunker oil and the used clean-up material should be retained on board in proper containment units until it can be discharged to a reception facility.

All crew members of the ship's crew should be familiar with the fundamentals of the ship's vital systems including the ventilation and electrical systems. Crew members should be able to isolate the accommodation and/or machinery spaces using the louvers and fan shutoffs and, from the distribution panels, isolate electrical circuits in areas of risk.

In the event of an operational spill which occurs during bunkering or cargo operations, it is important that the bunkering party terminate any and all bunkering operations and close all manifold valves.

Before closing any manifold valves, the bunkering / cargo party must immediately inform the terminal / loading master so that they may take action to eliminate the possibility of over- pressurization of the shore side transfer components.

After dealing with the cause of the spill, it may be necessary to obtain permission from local authorities and/or the terminal before resuming bunkering or cargo operations.

If the possibility of fire or explosion exists, nonessential air intakes to accommodations and machinery spaces should be closed and all sources of ignition should be eliminated. See Section 5.2.1.1 of this Plan.

Care must be taken to consider stability and stress when taking action to mitigate the spillage of oil. Internal transfers should be undertaken only with a full appreciation of the likely impact on the vessel's overall stress and stability. Please refer to the "Approved Stability Book" carried on board.

5.1.2 Operational Spill Checklist

Action Considered	Designated Person	Completed
Sound emergency alarm	Person Discovering Incident	Y / N
Mobilize Oil Pollution Prevention Team	Chief Engineer / Master	Y / N
Cease all bunkering operations	Chief / 2nd Engineer	Y / N
Locate source of leakage	Chief / 2nd Engineer	Y / N
Operate manifold valves	Chief / 2nd Engineer	Y / N
Close all nonessential vent intakes and tank vents as required	Chief / 2nd Engineer	Y / N
Stop or reduce outflow	Chief Engineer / Deckhand	Y / N
Assess fire risk	Chief Officer	Y / N
Commence clean up	Chief Officer	Y / N
Assess Stress / Stability	Master / Chief Officer	Y / N
Transfer fuel from damaged area to slack tanks or other containment space	Chief / 2nd Engineer	Y / N
Request outside assistance if required	Master	Y / N
Counter excessive list if required / possible	Chief Officer	Y / N

5.1.3 Pipeline Leakage

In the event of leakage from an oil / NLS pipeline, valve, hose or metal arm, the Chief Engineer must ensure that the following actions are taken:

- Stop oil flow, close manifold and other valves.
- Sound emergency alarm and mobilize Oil Pollution Prevention Team
- Locate source and drain affected section into an available empty or slack tank. Repair if possible
- If there is any possibility of vapours entering the engine room or accommodation intakes, appropriate preventative steps must be quickly taken.
- Absorb spill with any absorbent materials on hand and dispose of oil-soaked materials in an appropriate container on board until it can be discharged to a reception facility.
- If oil is overboard, report to proper authorities immediately (as per Section 4 of this plan).

5.1.4 Tank Overflow

In the event of an oil tank overflow, the Chief Engineer must ensure that the following actions are taken:

- Stop oil flow, close manifold and other valves.
- Sound emergency alarm and mobilize Oil Pollution Prevention Team
- Place drain buckets under overflow pipes to contain possible spills.

- If there is any possibility of vapours entering the engine room or accommodation intakes, appropriate preventative steps must be quickly taken.
- Drain or transfer oil to slack or empty tanks if possible with due consideration paid to vessel stability. If no slack or empty tanks are available, oil may be pumped back ashore through delivery lines, having first gained permission to do so.
- Absorb spill with any absorbent materials on hand and dispose of oil-soaked materials in an appropriate container on board until it can be discharged to a reception facility.
- If oil is overboard, report to proper authorities immediately (as per Section 4 of this plan).

5.1.5 Hull Leakage

If oil is noticed on the water near the vessel during normal operations and cannot be accounted for, the possibility of hull leakage should be suspected.

In the event of a hull leakage, the Master must ensure that the following actions are taken:

- Sound emergency alarm and mobilize Oil Pollution Prevention Team.
- Stop any transfer or bunkering operations.
- Identify damage and report to proper authorities immediately (as per section 4 of this plan). Consider a diver if necessary and possible.
- If possible, contain spill using materials on hand and dispose of oil-soaked materials in an appropriate container.
- If there is any possibility of vapours entering the engine room or accommodation intakes, appropriate preventative steps must be quickly taken.
- Transfer fuel away from suspected leaks to empty or slack tanks if possible, or to a ballast tank if necessary. If in port, arrangements can be made to pump oil ashore to tanks or trucks. Due consideration is to be paid to vessel stress and stability.
- If it is not possible to identify the leaking tank, reduce level in all tanks in the vicinity, giving due consideration to vessel stress and stability.

5.1.6 Spills caused by Equipment in Machinery Spaces

If operational spills are caused by failure of equipment in machinery spaces, any further operation of this equipment should be stopped immediately and measures are to be taken to avoid a spill. Such equipment may be:

- Oily - water separating equipment or oil filtering equipment or oil filtering equipment to de-oil bilge water from the engine room bilges.
- Valves in pipes connecting ballast / cargo systems
- Cooling pipes in cooler systems
- Gearing of bow thruster
- Stern tubes
- Sound emergency alarm and mobilize Oil Pollution Prevention Team.
- Absorb spill with any absorbent material in hand and dispose of oil-soaked materials in an appropriate container.
- Do not restart equipment until problem has been rectified.

5.2 Spills Resulting from Accidents

In the event of a casualty the Master's first priority will be to ensure the safety of personnel and the vessel and initiate action to prevent escalation of the incident and marine pollution.

5.2.1 Ship Grounded / Stranded

In order to determine remedial action to be taken for ensuring the safety of the ship and its crew, the Master's priority should be to ensure that he receives detailed information about the damage the ship has sustained as soon as possible.

If the vessel grounds, the Master must ensure that the following actions are taken:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.
- Eliminate all avoidable sources of ignition and ban smoking onboard. Action bust be taken to prevent hazardous vapours from entering accommodation and machinery spaces. See section 5.1.1.
- Identify damage by means of a visual inspection.
- Take soundings around vessel to determine the nature and gradient of seabed.
- Check differences in tidal range at grounding site.
- Evaluate tidal current in grounding area.
- Take soundings of all tanks on shell and compare with departure soundings.
- Determine probability and/or quantity of oil released
- If oil release is determined or is probably, this is to be included in the casualty report.
- Determine other possible hazards to the vessel such as sliding off the grounding site or further damage from seas / swell, and torsion forces.

At this point, the Master should evaluate the question of refloating the vessel by own means. Before such an attempt is made, it must be determined:

- whether the ship is damaged in such a way that it may sink, break up or capsize after getting off
- whether the ship, after getting off, may have maneuvering problems upon leaving the dangerous area on its own.
- whether machinery, rudder or propeller are damaged due to grounding or may be damaged by trying to get off ground by own means.
- whether the ship may be trimmed or lightened sufficiently to avoid damage to other tanks in order to reduce additional pollution.
- weather evaluation; whether there is time/reason to await improvements in weather or tide.
- whether ship's structure permits refloating/consultation of DNV-GL Emergency Response Service (ERS)
- whether all steps of Coastal Shipping Ltd. procedure "Grounding" have been complied with.

If remaining aground is determined to be less of a risk then:

- Use anchors to prevent vessel movement.
- Take on ballast in empty tanks with due consideration paid to stress and stability. Please refer to the approved stability book.
- Consider transfer of fuel from damaged tanks with due consideration paid to stress and stability. Please refer to the approved stability book.
- Reduce longitudinal stress on the hull by transfer of fluids internally. Please refer to the approved stability book.
- If the change in stability and stress cannot be calculated onboard, contact the vessel's management to arrange for the necessary calculations. Refer to 5.7 Vessel Stress and Stability Information for information which should be provided.

5.2.2 Fire/Explosion

If the ship is aground and therefore cannot manoeuvre, all possible sources of ignition should be eliminated and action taken to prevent flammable vapors from entering the machinery spaces or the accommodation spaces.

If a fire or explosion occurs on board, the vessel's fire control party must ensure that the following actions are taken:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.
- Determine extent of damage and what damage control measures can be taken.
- Determine whether there are casualties.
- Request assistance as deemed necessary.
- Take necessary actions to prevent smoke and other hazardous vapours from entering the accommodation and machinery spaces.
- Assess possibility of oil leakage.
- Determine possible actions to control the discharge of oil. This will depend largely on the damage to the ship and cargo.
- If there is a discharge or possible discharge of oil, this to be included in the casualty report.
- Should abandonment be necessary, the Master must ensure that every effort is made to maneuver survival craft upwind of any oil spill.

The Coastal Shipping Emergency Procedure **"Fire and Explosion"** in the file Emergency Preparedness should be complied with.

Steps to control the discharge of oil will depend largely on the damage to the ship and cargo. Special information thereto is contained in subparagraphs 5.2.3, 5.2.4, and 5.2.6. Inform in line with Section 4 all parties interested about the Fire /Explosion and the actions taken so far.

5.2.3 Hull Failure

If the vessel suffers structural hull failure, the Master must ensure that the following actions are taken:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.
- Reduce speed or stop to minimize stress on hull.
- Assess immediate danger of sinking or capsizing.
- Initiate damage control measures if possible.
- If lightening is required, all efforts should be made to wait for a barge or other ship to receive the cargo.
- If oil has spilled, or if it is necessary to jettison oil to maintain stability, make a report as per section 4.2.3
- If the change in stability and stress cannot be calculated onboard, contact the vessel's management to arrange for the necessary calculations.
- Consider forecasted weather conditions and their effect on the situation.
- Should abandonment be necessary, the Master must ensure that every effort is made to maneuver survival craft upwind of any oil spill.

5.2.4 Excessive List

Should the ship for some reasons suddenly start to list excessively during discharging/loading operations, or bunkering, all ongoing operations should be stopped immediately until the cause has been determined.

The Officer on duty should inform the Master and/or Chief Officer without delay.
The Master should try to determine the reason for excessive list, and take steps to rectify the situation and to stabilize the ship's condition:

- Check reasons for list
- Soundings / Ullage to be taken in all tanks
- Bunker / Ballast / Cargo pumps to be made ready
- Consider measures to minimize list in transferring liquid from one compartment to another
- Ensure water tightness of empty spaces
- Close all opening
- Secure vent pipes to avoid ingress of water
- If bunkering: change to corrective tanks for rectifying the situation
- If ballasting / de-ballasting: change to corrective tanks to rectify the situation
- If there is reason to believe that the list may cause any spill, notify as per Section 4
- If the ship's crew is in jeopardy, prepare lifeboats for launching, and notify as per Section 4

If the situation is brought under control, inform all parties interested.

5.2.5 Cargo Containment System Failure

In the event of cargo containment system failure, the following priorities must be observed:

- Safety of life
- Control of damage to the vessel and cargo
- Prevention of environmental pollution

Personnel must not take risks which may endanger their own lives or the lives of any other crew members.

The nature of the containment failure may be varied, and for this reason a number of possibilities are addressed below.

Initial Emergency Action:

- Personnel are mustered and briefed on the situation. This briefing will include aspects of the Data Sheet on board (MSDS). The IBC Code contains the definitive list of pollutant aspects of NLS and the IMDG Code supplement contains emergency schedules for incidents with dangerous cargoes. Where a dangerous reaction of different cargo types is anticipated, see 5.2.9.
- Protective clothing and breathing apparatus donned as required.
- All accommodation access doors will be shut.
- All valves, hatches, storeroom doors on the cargo deck will be shut.
- All ventilation into the accommodation, except closed circuit systems will be closed down.
- Smoking is prohibited throughout the ship.

Further Actions in Mitigation

- Fire hoses and water sprays ready for immediate action.
- Firefighting equipment and Breathing apparatus prepared for action.
- The company/charters informed and technical assistance asked for recovery of containment system
- Consider venting of cargo.
- Consider jettisoning of cargo.

5.2.6 Ship submerged / foundered / wrecked

If the ship is wrecked to the extent that it or parts of it are submerged, take all measures to evacuate all persons onboard. Avoid contact with any spilled cargo or oil. Alert other shops and/or the nearest coastal state for assistance in rescuing lives and the as far as possible.

5.2.7 Collision

The Master shall follow the emergency plan as given in Coastal Shipping Ltd Emergency procedure "Collision" in file: Emergency Preparedness as follows:

- Sound emergency alarm, muster crew, and mobilize Oil Pollution Prevention Team once safe to do so.
- Determine whether there are casualties.
- If there is a possibility of fire or explosion, eliminate all avoidable sources of ignition and ban smoking onboard. Action should be taken to prevent flammable vapours from entering the accommodation and machinery spaces.
- Decide whether separation of vessels may cause or increase spillage of oil or increase the risk of sinking.
- If any oil tanks are penetrated, isolate these tanks or transfer oil to slack or empty tanks with due attention paid to stress and stability of the vessel. Please refer to the approved stability book.
- If there is an oil spill, make a report as per section 4.
- If possible to maneuver, the Master, in conjunction with the appropriate shore authorities should consider moving his ship to a more suitable location in order to facilitate emergency repair work or lightening operations, or to reduce the threat posed to any sensitive shoreline areas.

5.2.8 Procedures to reduce or Stop Outflow of Oil or NLS

The Master should assess the possibility of damage to the environment and whatever action can be taken to reduce further damage from any release, such as;

- Transfer /cargo internally, provided shipboard piping system is in an operational condition and in careful view of the compatibility of the substance and the tanks/pipes used for transfer, and taking into account the impact on the ship's overall stress and stability.
- Isolate damaged/penetrated tanks hermetically to ensure that hydrostatic pressure in tanks remains intact during tidal changes.
- Evaluate the possibility of pumping water into a damaged tank in order to form a water bottom stopping the outflow of oil.
- Evaluate the necessity of transferring bunkers / cargo to barges or other ships and request such assistance accordingly.
- Evaluate the possibility of additional release of oil or NLS in close co-operation with coastal states.

In case of large differences between the tide levels, the Master should try to isolate the damaged tanks to reduce additional to reduce additional loss of substances.

5.2.9 Dangerous reaction of cargo / contamination yielding a hazardous condition

In case of spillage of NLS cargo on deck, to the sea, or incidental mixture with other cargo through internal tanks leakage, consider dangerous reactions of such mixtures. Promptly consult the Material Sheet Data Sheet (MSDS) available for the cargo onboard about possible hazards and necessary precautions. Take necessary actions to protect the crew from contact with spilled material or its vapours and review first aid procedures in the event of contact.

5.2.10 Other dangerous cargo and / or vapour release

In case of release of dangerous NLS take necessary actions for the protection of the crew against health hazards, especially by contact with materials or its toxic vapours. Avoid material or vapours spreading over the ship. If any dangerous material or vapour is released from any part of the containment system, take arrangements to free the deck area as far as possible by turning the ship to have the accommodation upwind of the point of release.

Evacuate crew members from the endangered area. If persons have to carry out any unavoidable duties within the endangered area, insure personal protection devices are used for those persons to avoid direct contact. All possible sources of ignition should be eliminated and non-essential air intakes shut down to prevent intake of vapour into accommodation and engine spaces.

Take measures to reduce tanks level or pressure to stop any emission of material or vapour. Report such spillage to nearest coastal state in order to arrange precautionary measures for the environment.

5.2.11 Loss of tank environmental control

Consider loss of environmental control as a possible explosion hazard. Consult the MSDS sheets for specific hazards. Avoid air intake to the spaces.

5.3 Priority Actions

Top priority shall in all cases of emergency be the safety of the persons onboard and to take actions to prevent escalation of the incident. Immediate consideration should be given to the protective measures against fire, explosions, and personal exposure to toxic vapour.

Detailed information about damage sustained to the ship and its containment system has to be obtained. On the basis of the information the Master can decide next actions for the protection of lives, the ship, the cargo and the environment.

The Master should take into account the following when he is determining whether salvage assistance will be needed or not:

- Nearest land or hazard to navigation
- Vessel's set and drift
- Estimated time of casualty repair

- Determination of nearest capable assistance and its response time.

Detailed information about the cargo, especially NLS Cargo has to be available and to be referred to further actions regarding the cargo.

In case of necessary movement of cargo within the ship careful consideration is to be given to hull strength and stability as well as to the compatibility of all material (cargo, tanks, coating, piping) in view of any transfer actions planned.

Plans / tables about location and specification of the current cargo as well as bunkers and ballast have to be readily available. Information about current cargo / bunker / ballast distribution and the MSDS for the carried cargo substances are available at:

- Cargo, bunkers, ballast distribution: Cargo Office
- Material Safety Data Sheets (MSDS); Alleyway opposite of the cargo office

5.4 Mitigating Activities

If safety of both the ship and the personnel has been addressed the Master shall care for the following issues:

- Assessment of the situation and monitoring of all activities as documented evidence
- Care for further protection of the personnel, use of protection gear, assessment of further risk for health and safety
- Containment of the spilled material by absorption and proper and safe disposal of all material onboard until proper delivery ashore under close guidance of the safety information given by the Product Data Sheet
- Decontamination of Personnel after finishing the cleanup process.

5.5 Transfer of Bunker / Cargo - Lightening

If the ship has sustained extensive structural damage, it may be necessary to transfer all or part of the cargo/bunker to another ship. In Ship to Ship transfer operations involving a specialized service ship, the Master of that ship will normally be in overall charge.

In the case of non-specialized ships the Master or other person in overall charge of the operation should be mutually agreed and clearly established by the Masters concerned prior to the start of operations. The actual bunker/cargo transfer should be carried out in accordance with the requirements of the receiving ship.

In all cases each Master remains responsible for the safety to be jeopardized by the action of the other Master, his owner, regulatory officials or others.

The ship to ship transfer operations should be coordinated with the appropriate responsible local Authority. When selecting the area of operation the Masters should consider the following points:

- The need to notify and obtain the agreements of any responsible authority
- The destinations of the ships concerned
- The shelter provided, particularly from sea and swell
- The sea area and depth of water, which should be sufficient for maneuvering during mooring, unmooring, and transfer operations and allow a safe anchorage if operations have to be undertaken at anchor
- The traffic density
- The weather conditions and weather forecasts.

Further, before commencing Ship to Ship Transfer operations each ship should carry out, as far as possible, appropriate preparations like:

- Pre-mooring preparations of the ship
- Positioning of fenders if such equipment is available on board
- Mooring equipment arrangements
- Checking the communication channels between the two ships.

In addition to the general principles of Ship to Ship operations as aforementioned the Master should take note of supplemented instructions issued in the Coastal Shipping Ltd bunkering procedures.

5.6 Damage Stability and Hull Stress Calculation

Whenever the tank status changes in the course of the incident the stability and stress of the vessel has to be checked using the class approved cargo computer.

In case of hull damage stability shall instantly be checked using the appropriate application of the cargo computer. The damage control plan should be referred to. In addition to that the **DNV-GL Emergency Response Service (ERS)** is to be consulted for proper stress and stability calculations.

Whenever possible, contact to the **DNV GL ERS** will be via the Coastal Shipping Ltd. office to reduce the workload onboard. Otherwise the vessel can contact the **DNV GL ERS** directly using the following numbers:

Primary: **+47 91 84 97 15**
Backup: **+49 40 36149 199** (+code word "**OPA 90**")
Email: **emergency@dnvgl.com**

5.7 Vessel Stress and Stability Information

VOYAGE PARTICULARS

Departure Port

Departure Date

Time (GMT)

VESSEL CONDITION IMMEDIATELY BEFORE CASUALTY

Mean Draft Forward

Mean Draft Aft

KG(solid)

KG(fluid)

LCG of Vessel

Condition of Tanks and Compartments

#	COMPARTMENT	S.G.	TONNES

5.7.1 General Responsibilities of the Master and designated Officers / crew members

The responsibilities of the Master Officers and the crew onboard in the event of a spill actual or probable to bring the accident under control on board, limit overflows or cleanup procedures, and to secure the ship immediately if an incident occurs.

The following is an example which can be used by the Master to aid in designating officers. Should changes to the team be made, please make a record in this section:

Master
Chief Mate
Chief Engineer

In the event of an emergency, the team should be called out as soon as it is safe to do so.

The team should be given necessary training in the use of such equipment as oil absorbents that the vessel may carry. All members crew should be aware of their duties should an oil spill occur.

Master

- Overall in charge.
- Informs terminal authorities or coastal authorities of incident.
- Informs the local agent and requests agent to inform the local underwriter's representative.
- Advises the company's head office of the situation. Keeps everyone updated at regular intervals. and advises of any changes in status of the emergency.
- Keeps log of all events and progress of actions.

Chief Mate

- In charge of deck / cargo operations.
- In charge of lifeboats if required.
- Keeps the Master informed and updated on the situation and of the results of steps taken to contain any spills and limit outflow.
- Insures all openings in the deck and superstructure are closed to limit vapour entry.
- Position sorbent / clean up material to prevent any fluid escape.

Chief Engineer

- In charge of bunkering operations.
- Organizes distribution of oil spill detergents if required.
- Stops bunkering operations if applicable.
- Stops pumps and any unnecessary pieces of machinery.

Other Personnel

Deck Officer on duty

- Alerts and informs Chief Officer / Chief Engineer on the situation.
- Mobilize off duty crew as necessary.

Engineer on duty

- Assist the Chief Engineer.
- Prepare for fire fighting.
- Ensure sufficient power and water to deck.
- Organizes onboard clean up equipment.

Deck Officer off duty

- Under the direction of the Master, responsible for the reporting and record keeping of all events.

On duty Ratings

- Alerts the Officer on duty of any leakage.
- Position sorbent / clean up material to prevent any fluid escape.

Off duty personnel

- Assist as required

6.0 National and Local Co-Ordination Steps to Control Discharge

In accordance with the Canadian Pollutant Discharge Reporting Regulations, the Master or Owner of a ship must report, without delay, any discharge or anticipated discharge of a pollutant in Canadian waters or fishing zones, to a Pollution Prevention Officer (PPO). Reports must be made in the manner described in Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants, TP 9834, or "General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants" adopted by the IMO by Resolution A.851(20) as amended with MEPC.138(53). These initial reports can be made to Marine Communication and Traffic Service (MCTS) or any other Canadian Coast Guard Radio Station (CGRS), on the frequencies listed in the publication, Radio Aids to Marine Navigation (RAMN).

In addition to the above process for reporting a spill from a vessel to a PPO through a CGRS or MCTS, the Canadian Coast Guard maintains a 24 hour Operations Center which can be contacted at:

Canadian Coast Guard Operations Center
344 Slater Street
Ottawa, Ontario
K1A 0N7

Tel: (613) 990-5600 Fax: (613) 995-4700

Alternatively, spills may be reported to the appropriate regional center or nearest Vessel Traffic Service Center. See Appendix A, page 30-31, for contact information.

Appendix A:

Contact Information

Ship Interest Contacts

Vessel Management

Coastal Shipping Limited (Owners)
P. O. Box 910
Lewisporte, NL
A0G 3A0
Canada
Ph: (709) 535-6944
Fax: (709) 535-3354

24 Hour Emergency Contacts

Vice President, Operations	Dennis White	(709) 896-2421 work (709) 896-1404 cell (709) 896-2870 home
General Manager	Paul Gersok	(709) 535-6944 work (709) 541-1807 cell pgersok@woodwards.nf.ca
Marine Superintendent/DPA	Craig Farrell	(709) 535-6944 work (709) 541-0789 cell cfarrell@woodwards.nf.ca
Engineering Superintendents	Jim Babij	(709) 579-6127 work (709) 727-5065 cell (709) 576-0160 home
	Kevin Brewer	(709) 579-6127 work (709) 682-0826 cell (709) 227 2600 home

Coastal State Contacts

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Vessel Traffic Service Centers

Note:

The following contacts have been included as they are within the expected range of operation of the Vessel. Due to the nature of the Vessel's voyages and varied ports of call this list should not be considered exhaustive. For this reason, space has been included at the end of this section for addenda.

Newfoundland

St. John's	Tel:	1-709-772-2083
		1-800-563-2444 (24 hr.)
	Fax:	1-709-772-5369
Placentia Bay	Tel:	1-709-227-2182
	Fax:	1-709-227-5637
Port Aux Basques	Tel:	1-709-695-2167
	Fax:	1-709-695-7784
Goose Bay	Tel:	1-709-896-2252
	Fax:	1-709-896-8455
St. Anthony	Tel:	1-709-454-3852
	Fax:	1-709-454-3716

Nunavut

Nordreg Canada	Tel:	1-867-979-5724
P.O Box 189	Fax:	1-867-979-2464
Iqaluit, NU		
X0A 0H0		

Nova Scotia

Halifax	Tel:	1-902-426-9750 (MCTS Operations)
		1-902-426-9738 (Officer in Charge)
	Fax:	1-702-426-4483
Sydney	Tel:	1-902-564-7751 (MCTS Operations)
		1-902-564-7752 (Officer in Charge)
	Fax:	1-702-564-7662

New Brunswick

Saint John	Tel:	1-506-636-4696 (MCTS Operations)
		1-506-636-4269 (Officer in Charge)
	Fax:	1-506-636-5000

Quebec

Quebec City	Tel:	1-418-648-4427 (MCTS Operations)
		1-418-648-7459 (Officer in Charge)
	Fax:	1-418-648-7244

Montreal	Tel:	1-450-928-4544 (MCTS Operations)
		1-450-928-4547 (Officer in Charge)
	Fax:	1-450-928-4547
Riviere-Au-Renard	Tel:	1-418-269-5686 (MCTS Operations)
		1-418-269-7718 (Officer in Charge)
	Fax:	1-418-269-5514

Greenland

Spill Notification Point	Tel:	+299-101111
Groenlands Kommando	Fax:	+299-10112
Maritime Rescue Coordination Center Gronnedal		
KK-3930 Gronnndell		

Competant National Authority	Tel:	+45-31 578310
National Agency of Environmental Protection		+45-86 123099 (24hr)
Strandgade 29	Fax:	+45-31 572449/+45-86 181140
DK- 1401 Copenhagen		

Additional Contact Information

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Region	
Spill Notification Point	Contact Numbers

Appendix B:

Spill Equipment Inventory

M/T Tuvaq W.

List of Oil Spill Equipment

- 8 bags sawdust
- 26 booms
- 25 boxes rags
- 50 bags absorb-all
- 11 boom anchors
- 1 windy pump
- 1 pollution boom

Also to be kept onboard a sufficient quantity of squeegees, straw brooms, shovels, brushes, mops, degreaser, disposal bags, and personal protective equipment.

Appendix C:

Vessel Drawings

REVISION	DESCRIPTION	DATE	NAME

	NAME	DATE
DRAWN	C.Y.F.	
CHECKED	XLF	
APPROVED	YZT	

SHANGHAI NEW INNOVATION SHIP SCIENCE & TECHNOLOGY DEVELOPMENT CO., LTD.

7500 DWT OIL PRODUCT/CHEMICAL TANKER

TITLE

SCALE

DESIGN STAGE: FINAL DRAWING

YARD AND HULL No.	REVISION
GHCY-7500-07	F

DRAWING No.

SNIS,OT530,100,002

GENERAL ARRANGEMENT PLAN

SCALE

PAGE

TOTAL:

TOTAL

AREA: 0.5m²

Class Notation:

BV I ✠ HULL

OIL TANKER/CHEMICAL TANKER TYPE IMO II ESP.

NO FLASH POINT LIMITATION.

✠ MACH

UNRESTRICTED NAVIGATION

AUT_UMS

MON_SHAFT

AVM DPS

ICE CLASS IA

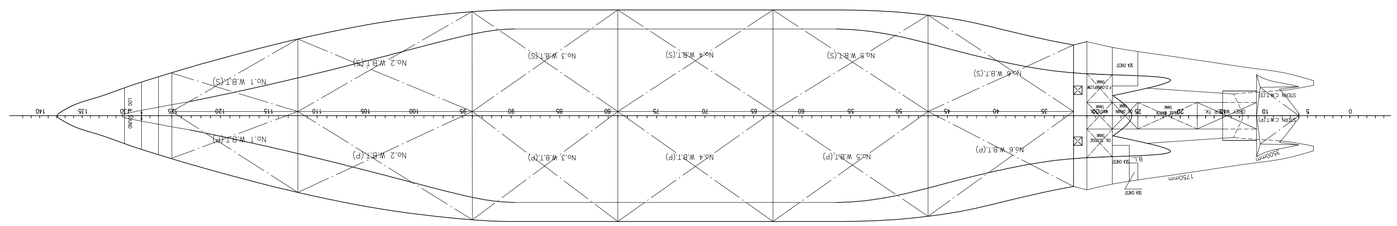
SHAFT GENERATOR-PTO

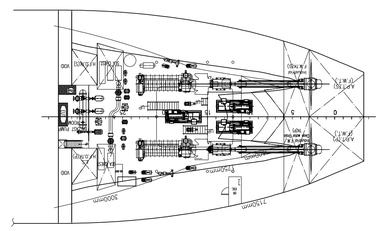
CLEAN SHIP

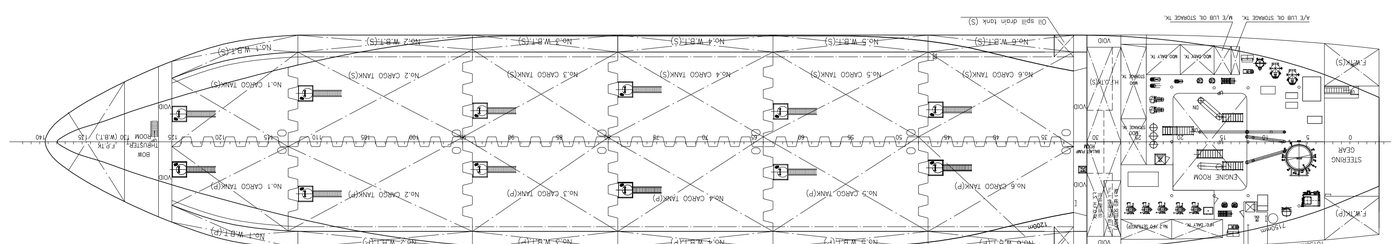
IG

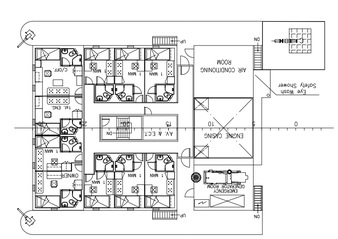
MAIN DIMENSIONS

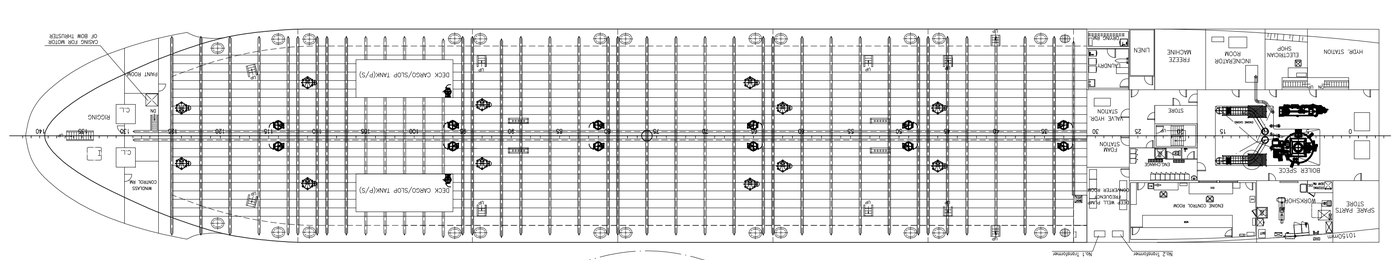
Length over all	obt. 112.70 m
Length between p.p.	106.00 m
Breadth moulded	17.60 m
Depth moulded	9.40 m
Design draught	7.00 m
Scantling draught	7.20 m
Deadweight at design draught	7500 t
Deadweight at scantling draught	obt. 7800 t
COMPLEMENTS	16 P
Speed	13.8 Kn
Speed	13.8 Kn
GRT	5200
Cargo tanks capacity incl. slop tanks (100%)	8981.4 m^3
H.F.O. tanks capacity (100%)	270.2 m^3
M.D.O. tanks capacity (100%)	92.4 m^3
F.W. tanks capacity (100%)	101.8 m^3
W.B. tanks capacity (100%)	3463.0 m^3

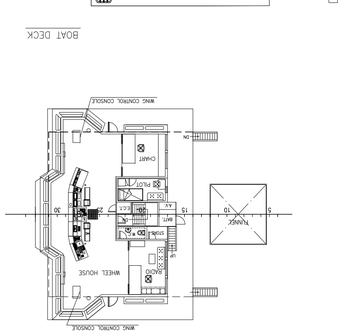


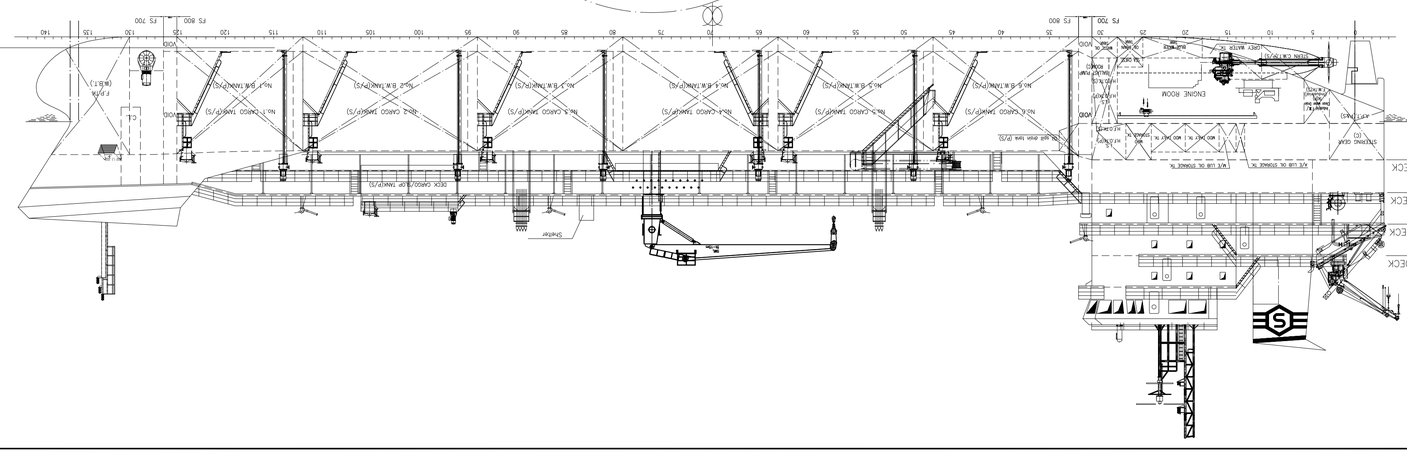












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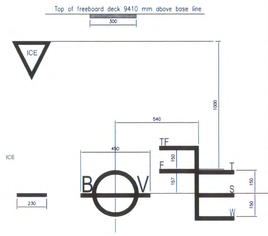
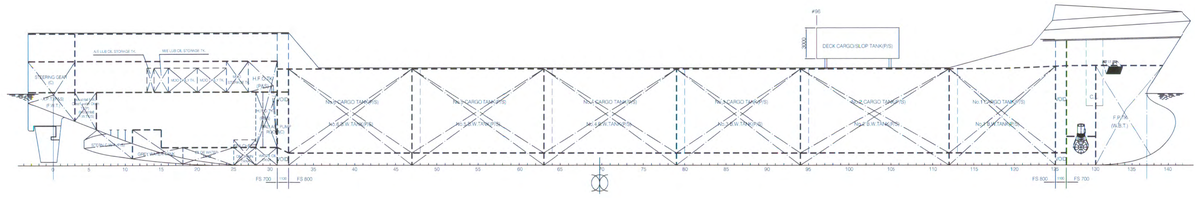
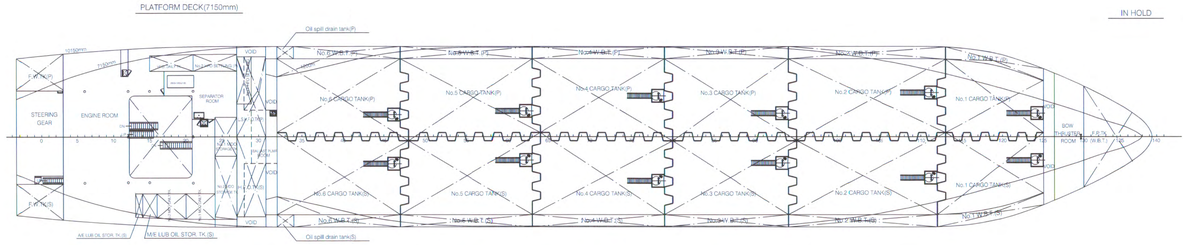


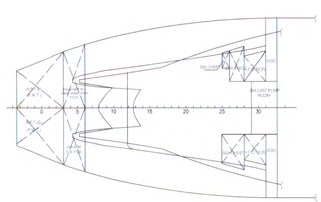
LOADING SCALE

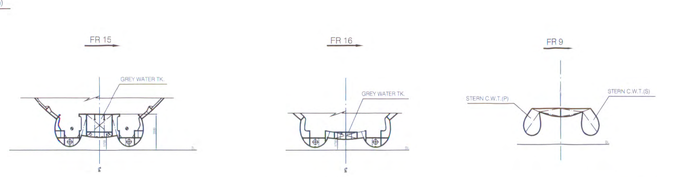
Draught	Deadweight	Specific gravity of water	Displ.	Moment to alter trim	Immersion	KM	Draught
吃 水	载 重 量	水 比 重	排水量	每 厘 米 纵倾力矩	每 厘 米 吨 数	横稳心	吃 水
m	t	1.025 1.015 1.010 1.000	t	tm/cm	t/cm	m	m
8.0	9000		12000	140		7.6	8.0
	8000		11000				
7.0	7000		10000	130		7.5	7.0
	6000		9000		17.0	7.5	
6.0	5000		8000	120		7.5	6.0
	4000		7000				
5.0	3000		6000	110		8.0	5.0
	2000		5000	100			
4.0	1000		4000	90	16.0	9.0	4.0
3.0	0				15.0	10.0	3.0



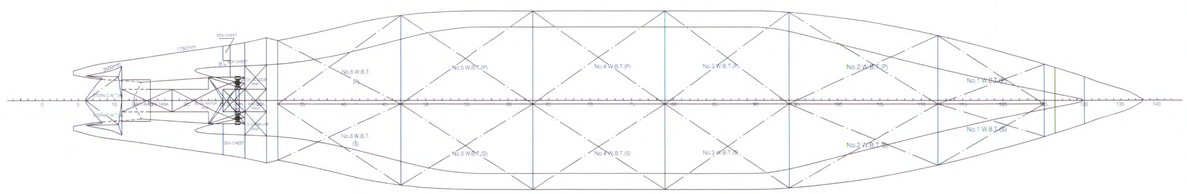


E/R BOTTOM (1750mm)





DOUBLE BOTTOM



MAIN DIMENSIONS

LENGTH OVER ALL	abt.112.70 m
LENGTH BETWEEN P.P.	106.00 m
BREADTH MOULDED	17.60 m
DEPTH MOULDED	9.40 m
DESIGN DRAUGHT	7.00 m
SCANTLING DRAUGHT	7.20 m

COMP. NAME	FRMIN #	FRMAX #	VNET m3	VOLM m3	CGX m	CGY m	CGZ m	MOM tm
CAPACITY OF Diesel Oil	(Density=0.85 t/m3)							
No.1 MDO. DAILY (S)	20	24	15.3	15.6	15.42	-6.73	8.36	3.2
No.2 MDO. DAILY (S)	16	20	13.9	14.1	12.63	-6.62	8.38	2.9
No.1 MDO SROE.TK. (P)	24	27	23.5	23.9	17.85	0.00	8.65	8.5
No.2 MDO SROE.TK. (S)	24	27	37.7	38.5	17.85	-4.96	8.66	35.7
SUBTOTAL			90.3	92.1				50.4
CAPACITY OF Heavy Fuel Oil	(Density=0.98 t/m3)							
HFO. DAILY TK.	15	21	12.4	12.7	12.71	7.06	8.42	1.2
No.1 HFO SETTLING	27	29	14.5	14.8	19.60	5.60	8.25	12.1
No.2 HFO SETTLING (P)	21	27	15.1	15.5	16.83	7.19	8.36	1.4
H.F.O.TK (S)	27	31	110.5	118.2	20.46	-4.36	6.97	106.9
L.S.H.F.O.TK (P)	27	31	96.7	103.4	20.58	4.18	6.76	106.9
SUBTOTAL			249.2	264.5				228.7

COMP. NAME	FRMIN #	FRMAX #	VNET m3	VOLM m3	CGX m	CGY m	CGZ m	MOM tm
CAPACITY OF Fresh Water	(Density=1 t/m3)							
Industrial F.W./Clean water Drain (P)	3	6	24.1	24.6	3.22	2.13	5.91	36.3
Industrial F.W.TK. (S)	3	6	24.1	24.6	3.22	-2.13	5.91	36.3
F.W.TK(P)	-3	3	49.8	52.3	0.18	3.84	7.77	37.8
F.W.TK(S)	-3	3	49.8	52.3	0.18	-3.84	7.77	37.8
STERN C.W.T.(P)	4	11	15.4	15.7	6.03	2.41	2.34	6.4
STERN C.W.T.(S)	4	11	15.4	15.7	6.03	-2.41	2.34	6.4
SUBTOTAL			185.2	178.6				159.5
CAPACITY OF Lubricating Oil	(Density=0.9 t/m3)							
A/E LUB OIL STOR. TK.(S)	13	14	2.9	2.9	9.45	-6.46	8.43	0.6
M/E LUB OIL STOR. TK.(S)	14	16	6.2	6.3	10.51	-6.52	8.41	1.3
SUBTOTAL			9.1	9.2				1.9

COMP. NAME	FRMIN #	FRMAX #	VNET m3	VOLM m3	CGX m	CGY m	CGZ m	MOM tm
CAPACITY OF Gray Water	(Density=1 t/m3)							
BILGE WATER TANK	18	28	28.2	28.7	16.51	0.00	0.98	27.8
F.O.OVERFLOW TANK	28	31	7.6	7.7	20.65	-2.15	0.87	1.6
OIL DRAIN TANK	25	28	7.9	8.0	18.56	0.00	0.88	1.8
GREY WATER TANK	11	18	15.4	15.7	9.76	0.00	2.34	3.7
OIL SLUDGE TANK	28	31	7.6	7.7	20.65	2.15	0.87	1.6
WASTE OIL TANK	28	31	7.9	7.9	20.65	0.00	0.87	1.8
SPILLP OIL TANK	32	34	5.1	5.2	23.53	8.04	8.59	0.7
SPILLS OIL TANK	32	34	5.1	5.2	23.53	-8.04	8.59	0.7
SUBTOTAL			84.7	86.4				39.7

COMP. NAME	FRMIN #	FRMAX #	VNET m3	VOLM m3	CGX m	CGY m	CGZ m	MOM tm
CAPACITY OF Liquid cargo								
No.1 CARGO TANK(P)	112	125	411.2	419.6	91.79	2.65	5.91	208.0
No.1 CARGO TANK(S)	112	125	417.9	426.4	91.77	-2.64	5.91	220.9
No.2 CARGO TANK(P)	94	113	832.1	849.1	79.82	3.49	5.63	493.4
No.2 CARGO TANK(S)	94	113	826.8	843.7	79.87	-3.48	5.63	482.1
No.3 CARGO TANK(P)	79	95	735.6	750.6	66.78	3.64	5.47	410.5
No.3 CARGO TANK(S)	79	95	727.5	742.4	66.82	-3.68	5.47	397.6
No.4 CARGO TANK(P)	63	80	780.6	796.6	54.41	3.66	5.47	431.1
No.4 CARGO TANK(S)	63	80	780.6	796.5	54.39	-3.66	5.47	431.0
No.5 CARGO TANK(P)	47	64	777.7	793.5	41.57	3.65	5.48	431.0
No.5 CARGO TANK(S)	47	64	777.9	793.7	41.67	-3.65	5.48	431.1
No.6 CARGO TANK(P)	32	48	701.9	716.3	29.17	3.43	5.69	416.2
No.6 CARGO TANK(S)	32	48	704.4	718.8	29.12	-3.43	5.69	419.2
DECK CARGO/SLOP TANK(P)	96	106	73.5	75.0	78.00	4.76	11.90	19.9
DECK CARGO/SLOP TANK(s)	96	106	73.5	75.0	78.00	-4.76	11.90	19.9
SUBTOTAL			8621.1	8797.1				4811.8

COMP. NAME	FRMIN #	FRMAX #	VNET m3	VOLM m3	CGX m	CGY m	CGZ m	MOM tm
CAPACITY OF Water Ballast	(Density=1.025 t/m3)							
No.1 W.B.T.(P)	112	125	205.8	210.0	91.85	4.80	3.94	150.6
No.1 W.B.T.(S)	112	125	197.3	201.3	91.85	-5.00	4.09	102.5
No.2 W.B.T.(P)	94	112	312.1	316.5	79.57	5.92	3.22	640.5
No.2 W.B.T.(S)	94	112	300.2	306.4	79.57	-6.15	3.33	490.2
No.3 W.B.T.(P)	79	94	263.0	268.4	66.40	6.12	3.04	752.6
No.3 W.B.T.(S)	79	94	253.1	258.3	66.40	-6.36	3.13	591.6
No.4 W.B.T.(P)	63	79	280.8	286.6	54.00	6.12	3.03	807.0
No.4 W.B.T.(S)	63	79	270.3	275.8	54.00	-6.36	3.13	634.7
No.5 W.B.T.(P)	47	63	280.8	286.5	41.20	6.11	3.05	783.9
No.5 W.B.T.(S)	47	63	270.2	275.7	41.20	-6.35	3.14	615.1
No.6 W.B.T.(P)	32	47	257.1	262.4	28.94	5.85	3.22	444.8
No.6 W.B.T.(S)	32	47	247.2	252.3	28.94	-6.08	3.32	335.3
F.P.TK (W.B.T.)	130	141	230.0	234.7	103.62	0.00	5.32	200.8
SUBTOTAL			3368.1	3436.8				6549.7

BUREAU VERITAS Register : 16341P
FOR REFERENCE
See report n° CPO/12466/STA

Shanghai, 10-Sep-2012

[Electronic document]

BUREAU VERITAS MARINE DIVISION PARIS 1828 CPO Shanghai INTERNATIONAL REGISTER

DATE 日期	REV 版本	DESCRIPTION 说明	DRAWN 设计	CHECKED 校对	APPROVED 审核

DETAIL DESIGN 详细设计		"BERING"	DRAWING NO. 图 号 ROJ1202-020-014-1
REV. 版本 A	F	CLASS 船级符号 BV	
OWNER 船 东	--	CAPACITY PLAN	PAGE 页 次 1/1 SCALE 比 例 1/200
BUILDER 船 厂	JWCSHUNDING SHIPBUILDING CO.,LTD		ROJ MARINE ENGINEERING CORP. 上海润吉船舶设计有限公司
DESIGNED 设 计	S. YE	C. V. 简 称 CV	
CHECKED 校 对	W.F. WANG		
VERIFIED 审 核	J.H. SIMA		
APPROVED 批 准	J.H. SIMA	DATE 日 期 2012-8-23	M. V. IMO NO. "BERING" 9610341

No. 7th &8th 8th Floor, JinTai Mansion, NO.1188, JiNing Road, PuDong New Area, Shanghai, P.R.China. Zip:200136
地址：上海市浦东新区金桥路1188号金台大厦8层7&8室 邮编：200136
Tel/ 电 86-21-61000070 61000068 Fax/ 传 86-021-61000060
网址/ E-mail: ROJ@CMA-CMM.COM 网址/ Web: WWW.CMA-CMM.COM

A0 841x1189

Appendix B – Diesel SDS

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DIESEL FUEL
Synonyms	:	Seasonal Diesel, #1 Diesel, #2 Heating Oil, #1 Heating Oil, D50, Arctic Diesel, Farm Diesel, Marine Diesel, Low Sulphur Diesel, LSD, Ultra Low Sulphur Diesel, ULSD, Mining Diesel, Naval Distillate, Dyed Diesel, Marked Diesel, Coloured Diesel, Furnace special, Biodiesel blend, B1, B2, B5, Diesel Low Cloud (LC). Marine Gas Oil
Product code	:	101802, 100107, 100668, 100658, 100911, 100663, 100652, 100460, 100065, 101796, 101793, 101795, 101792, 101794, 101791, 100768, 100643, 100642, 100103, 101798, 101800, 101797, 101788, 101789, 101787, 102531, 100734, 100733, 100640, 100997, 100995, 100732, 100731, 100994

Manufacturer or supplier's details

Petro-Canada
P.O. Box 2844, 150 - 6th Avenue South-West
Calgary Alberta T2P 3E3
Canada

Emergency telephone number		Suncor Energy: +1 403-296-3000; Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use	:	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining diesels, marine diesels, MDO and naval distillates may have a higher flash point requirement.
Prepared by	:	Product Safety: +1 905-804-4752

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Bright oily liquid.
Colour	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	Mild petroleum oil like.

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Inhalation)	:	Category 4

Skin irritation	:	Category 2
Carcinogenicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
Specific target organ toxicity - repeated exposure	:	Category 2 (Liver, thymus, Bone)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver, thymus, Bone) through prolonged or repeated exposure.

Precautionary statements :
Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Primary Routes of Entry	:	Eye contact Ingestion Inhalation Skin contact Skin Absorption
Target Organs	:	Skin Eyes Respiratory Tract
Inhalation	:	May cause respiratory tract irritation. Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Skin	:	Causes skin irritation.
Eyes	:	Causes eye irritation.
Ingestion	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration hazard if swallowed - can enter lungs and cause damage.
Aggravated Medical Condition	:	None known.

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
kerosine (petroleum), hydrodesulfurized	64742-81-0	70 - 100 %
kerosine (petroleum)	8008-20-6	
fuels, diesel	68334-30-5	
fuel oil no. 2	68476-30-2	
Alkanes, C10-20-branched and linear	928771-01-1	0 - 25 %
Soybean oil, Methyl ester	67784-80-9	0 - 5 %
Rape oil, Methyl ester	73891-99-3	
Fatty acids, tallow, Methyl esters	61788-61-2	

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Seek medical advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Wash clothing before reuse.
Seek medical advice.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.

If swallowed : Rinse mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
Seek medical advice.

Most important symptoms : First aider needs to protect himself.

and effects, both acute and delayed

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Water fog. Foam
Unsuitable extinguishing media	:	Do NOT use water jet.
Specific hazards during firefighting	:	Cool closed containers exposed to fire with water spray.
Hazardous combustion products	:	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), smoke and irritating vapours as products of incomplete combustion.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Material can create slippery conditions.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Non-sparking tools should be used. Ensure adequate ventilation. Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid spark promoters. Ground/bond container and

equipment. These alone may be insufficient to remove static electricity.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
kerosine (petroleum), hydrodesulfurized	64742-81-0	TWA	200 mg/m3	ACGIH
kerosine (petroleum)	8008-20-6	TWA	100 mg/m3	NIOSH REL

Engineering measures : Use only in well-ventilated areas.
Ensure that eyewash station and safety shower are proximal to the work-station location.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Filter type : organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection
Material : neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R). Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for

		wear and tear. At the first signs of hardening and cracks, they should be changed.
Remarks	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Eye protection	:	Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Protective measures	:	Wash contaminated clothing before re-use.
Hygiene measures	:	Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Bright oily liquid.
Colour	:	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	:	Mild petroleum oil like.
Odour Threshold	:	No data available
pH	:	No data available
Pour point	:	No data available
Boiling point/boiling range	:	150 - 371 °C (302 - 700 °F)
Flash point	:	> 40 °C (104 °F) Method: closed cup
Auto-Ignition Temperature	:	225 °C (437 °F)
Evaporation rate	:	No data available
Flammability	:	Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite.
Upper explosion limit	:	6 %(V)
Lower explosion limit	:	0.7 %(V)
Vapour pressure	:	7.5 mmHg (20 °C / 68 °F)

Relative vapour density	:	4.5
Relative density	:	0.8 - 0.88
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	1.3 - 4.1 cSt (40 °C / 104 °F)
Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Runoff to sewer may create fire or explosion hazard.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Reactive with oxidising agents and acids.
Hazardous decomposition products	:	May release COx, NOx, SOx, H2S, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Ingestion
Inhalation
Skin contact
Skin Absorption

Acute toxicity

Product:

Acute oral toxicity	Remarks: No data available
Acute inhalation toxicity	Remarks: No data available
Acute dermal toxicity	Remarks: No data available

Components:

kerosine (petroleum), hydrodesulfurized:

Acute oral toxicity	LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity	LC50 (Rat): > 5.2 mg/l Exposure time: 4 hrs Test atmosphere: dust/mist
Acute dermal toxicity	LD50 (Rabbit): > 2,000 mg/kg

kerosine (petroleum):

Acute oral toxicity	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	LC50 (Rat): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	LD50 (Rabbit): > 2,000 mg/kg

fuels, diesel:

Acute oral toxicity	LD50 (Rat): 7,500 mg/kg
Acute dermal toxicity	LD50 (Mouse): 24,500 mg/kg

fuel oil no. 2:

Acute oral toxicity	LD50 (Rat): 12,000 mg/kg
Acute inhalation toxicity	LC50 (Rat): 4.1 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	Remarks: No data available
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: No data available
Toxicity to algae	:	Remarks: No data available
Toxicity to bacteria	:	Remarks: No data available

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labelled prior to recycling or disposal. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.
Contaminated packaging	:	Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No.	:	1202
Proper shipping name	:	Diesel fuel
Class	:	3
Packing group	:	III
Labels	:	3
Packing instruction (cargo aircraft)	:	366

IMDG-Code

UN number	:	1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

49 CFR

UN/ID/NA number	:	1202
Proper shipping name	:	Diesel fuel
Class	:	3
Packing group	:	III
Labels	:	3
ERG Code	:	128
Marine pollutant	:	no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

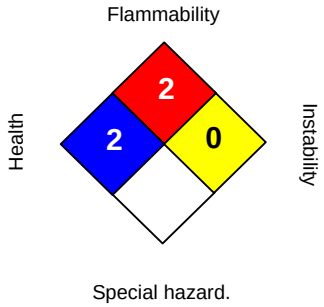
The components of this product are reported in the following inventories:

DSL	On the inventory, or in compliance with the inventory
TSCA	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.
EINECS	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	**2**
FLAMMABILITY	**2**
PHYSICAL HAZARD	**0**
PERSONAL PROTECTION	**H**

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

For Copy of (M)SDS : Internet: www.petro-canada.ca/msds
Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Appendix C – MEL-ENV-PRO Ship to Shore Fuel Discharge Procedure

DOCUMENT ID: MEL-ENV-PRO Ship to Shore Fuel Discharge	
People concerned: Agnico Eagle employees, contractors, visitors on the Meliadine site	**Effective Date: 2017-07-12**
This procedure corresponds to the required minimum standard. Each and everyone also have to comply with the rules and regulations of the Nunavut Government in terms of health and safety at work.	

Rev #	Date	Description	Initiator
1	2019-03-25	Changed to Intelex format	Bethany Hodgins

Objective:

- To ensure that prior to the discharge of any fuel into the Agnico Eagle Rankin Inlet Tank Farm of Agnico Eagle Rankin Inlet Oil Handling Facility (OHF) that all proper steps are in place to ensure compliance with Canadian Shipping Act, Nunavut Water Board License, Nunavut impact review Board Certificate and other laws and regulations.

Definitions (If applicable):

Tool/Equipment Required	PPE Required
•	• Standard Site PPE

Specific Training Requirements
• N/A

Procedure

1. The Oil Pollution Emergency Plan (OPEP) must be reviewed on an annual basis and updated prior to the first annual discharge. This will include but not limited to:
    a) Reviewing the Phone numbers for emergency's
    b) Updating maps
    c) Review and if necessary update equipment lists
    d) Review roles and responsibilities
    e) Update Declaration

    This is the responsibility of the Environment department.

2. Contact Canadian Coast Guard and Transport Canada Pollution Prevention and make them aware of plans for transferring of fuel into our OHF for that season.

    This is the responsibility of the Environment department.

3. Complete *Inventory report for Spill Response Sea Can at AEM's Oil Handling Facility in Rankin Inlet.* (*Inventory Checklist found on Page 6)

    This is the responsibility of the Environment Department.

4. Ensure Shipping Company has provided Hose Testing Annual certification.
    This is the responsibility of the Environment Department.

5. All personnel who will be a part of the fuel transfer (including Rankin Inlet Supervisor and third part contractor Intertek) must review the OPEP and be familiar with preventive measures to take and with the steps to take in the case of a spill event while fueling.
    This is the responsibility of the Department of Procurement and Logistics.

6. Install secondary containment underneath each connection of conduit on land.
    This is the responsibility of the Environment Department.

7. Monitor secondary containment underneath each connection of conduit on land.
    This is the responsibility of the Department of Procurement and Logistics.

8. Ensure there is two way functional communications between the OHF and the off-loading Vessel.
    This is the responsibility of the Department of Procurement and Logistics.

9. Ensure there is lighting in place at the transfer flange to provide illumination during any transfers taking place during the low to no light hours.
    This is the responsibility of the Department of Procurement and Logistics.

10. Prior to any discharge Agnico Eagle must receive a copy of the Ship/Shore checklist completed by the shipping company. Agnico Eagle should also verify this has been completed (as much as realistically possibly without boarding the ship).
    This is the responsibility of the Department of Procurement and Logistics.

11. Contact must be made with both the H&S and Environmental Departments prior to the discharge of fuels.
    Meliadine Health & Safety
    meliadine.healthandsafety@agnicoeagle.com
    Meliadine Environment

meli.environment@agnicoeagle.com
This is the responsibility of the Department of Procurement and Logistics.

12. The *Pre-discharge Checklist for AEM's Oil Handling Facility in Rankin Inlet* must be completed, signed and provided to the Environment Department prior to discharge. (*Checklist found on Page 5).
This must be done for each fuel tanker for each campaign.
This is the responsibility of the Department of Procurement and Logistics.

Transfer

1. Once the above points are completed, the ship to shore transfer can commence.

2. Photos of the complete fuel transfer process should be taken, visually proving that all above procedures have been reached.
This is the responsibility of Environment and Procurement and Logistics Departments.

3. During the ship-to-shore transfer, Agnico Eagle will have competent personnel on location at all times to monitor the fuel transfer and maintain contact with the tanker's crew.
This is the responsibility of the Department of Procurement and Logistics.

4. During the ship-to-shore transfer, Agnico Eagle will have competent personnel on location at all times to monitor the fuel transfer and maintain contact with the tanker's crew.
This is the responsibility of the Department of Procurement and Logistics.

5. We are required by law to have a fuel spill scenario every two years. However, since we have shift work at Meliadine, to ensure adequate training annually we will do mock spill/training and switch shifts each year. This way each shift completes every second year.
This is the responsibility of the Environment Department in conjunction with the Emergency Response Team to plan and execute.

Related Documentation (If applicable):
• N/A

References (If applicable):
• N/A

Appendix

AGNICO EAGLE
MELIADINE

OHF / Ship to Shore Fuel Discharge

Pre-discharge Checklist for Agnico Eagle's Oil Handling Facility in Rankin Inlet

Date :

Inspected By :

Time :

Vessel Unloading :

Pre-Discharge Check List	Conform	Non-conform	Comments
Is there two way communications between the OHF and the off-loading Vessel?			
Has a review of response material checklist been completed?			
Current Copy of OPEP and Declaration at the OHF.			
Prior to discharge, have the certification of the transfer conduits been received?			
Has there been secondary containment placed underneath each connection of Conduit?			
Is lighting in place at the transfer flange to provide illumination during any transfers taking place during the low to no light hours.			
Prior to discharge, has the Vessels' Ship/Shore checklist been reviewed and a completed copy received by Agnico Eagle?			
Prior to discharge inform H&S and Environment Departments that fuel transfer will commence.			
Has the emergency response equipment been reviewed with all personnel and contractors on shore?			

AGNICO EAGLE
MELIADINE

OHF / Ship to Shore Fuel Discharge

Comments / Recommendations

Signature :

AGNICO EAGLE
MELIADINE

OHF / Ship to Shore Fuel Discharge

Inventory report for Spill Response Sea Can at Agnico Eagle's Oil Handling Facility in Rankin Inlet

Date :

Inspected By :

Time :

Vessel Unloading :

Subject	Conform	Non-conform	Comments
Is the material and PPE stored in a manner that is organized and accessible in order to easily respond to spill?			
Are the sea cans in physically good shape? Easy to open?			
Are the sea cans identified as "Environmental Emergency Sea Can"?			
Is all the spill material in place?			
6 x Anchor sets (25 kg anchor, chain ballast, rode line and marker buoy)			
4 x Tow bridles with bullet float			
32 x 8" float x 12" skirt Optimax 2 Boom – 25' Sections			
1 x mini Max hydraulic skimmer with pump, power pack			
1 x Aluminum boat with 15 hp prop motor			
10 x 1/2" polyester yacht braid rope (600' rolls)			
5 x Drive pin anchors			
5 x slater anchors			
5 x wing anchors			
30 x sorbent boom, 5" x 4 per bag			
4 x mustang floater suit			

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MELIADINE

OHF / Ship to Shore Fuel Discharge

8 x personal floatation devices			
12 x oil resistant gloves			
12 x leather gloves			
2 x sledge hammer with fiberglass handle			
2 x spade – long handle			
2 x Fire extinguisher – 20 lb ABC with brackets			
20 x Tyvex Suit XL			
1 x Alberta standard #3 First aid kit			
4 x Storage totes for small items			
1 x quick tank (500 gallon / 1893 ltrs.)			

Comments / Recommendations

Signature :

Authorization (Print Name)	
Approved: _____ Name JOHSC Worker Rep.	Date: _____
Approved: _____ Name Department Superintendent / Delegate	Date: _____
Approved: _____ Name Health & Safety Superintendent / Delegate	Date: _____

OHF / Ship to Shore Fuel Discharge

Pre-discharge Checklist for Agnico Eagle's Oil Handling Facility in Rankin Inlet

Date :

Inspected By :

Time :

Vessel Unloading :

Pre-Discharge Check List	Conform	Non-conform	Comments
Is there two way communications between the OHF and the off-loading Vessel?			
Has a review of response material checklist been completed?			
Current Copy of OPEP and Declaration at the OHF.			
Prior to discharge, have the certification of the transfer conduits been received?			
Has there been secondary containment placed underneath each connection of Conduit?			
Is lighting in place at the transfer flange to provide illumination during any transfers taking place during the low to no light hours.			
Prior to discharge, has the Vessels' Ship/Shore checklist been reviewed and a completed copy received by Agnico Eagle?			
Prior to discharge inform H&S and Environment Departments that fuel transfer will commence.			
Has the emergency response equipment been reviewed with all personnel and contractors on shore?			

OHF / Ship to Shore
Fuel Discharge

Comments / Recommendations

Signature :

Appendix D – Ship to Shore Checklist (Woodward)

ISGOTT Checks pre-arrival Ship/Shore Safety Checklist

Date and time: _____

Port and berth: _____

Tanker:_____

Terminal:_____

Product to be transferred:_____

Part 1A. Tanker: checks pre-arrival			
Item	**Check**	**Status**	**Remarks**
1	Pre-arrival information is exchanged (6.5, 21.2)	Yes / No	
2	International shore fire connection is available (5.5, 19.4.3.1)	Yes / No	
3	Transfer hoses are of suitable construction (18.2)	Yes / No	
4	Terminal information booklet reviewed (15.2.2)	Yes / No	
5	Pre-berthing information is exchanged (21.3, 22.3)	Yes / No	
6	Pressure/vacuum valves and/or high-velocity vents are operational (11.1.8)	Yes / No	
7	Fixed and portable oxygen analyzers are operational (2.4)	Yes / No	

Part 1B. Tanker: checks pre-arrival if using an inert gas system			
Item	**Check**	**Status**	**Remarks**
8	Inert gas system pressure and oxygen recorders are operational (11.1.5.2, 11.1.11)	Yes / No	
9	Inert gas system and associated equipment are operational (11.1.5.2, 11.1.11)	Yes / No	
10	Cargo tank atmospheres' oxygen content is less than 8% (11.1.3)	Yes / No	
11	Cargo tank atmospheres are at positive pressure (11.1.3)	Yes / No	

Part 2. Terminal: checks pre-arrival			
Item	**Check**	**Status**	**Remarks**
12	Pre-arrival information is exchanged (6.5, 21.2)	Yes / No	
13	International shore fire connection is available (5.5, 19.4.3.1, 19.4.3.5)	Yes / No	
14	Transfer equipment is of suitable construction (18.1, 18.2)	Yes / No	
15	Terminal information booklet transmitted to the tanker (15.2.2)	Yes / No	
16	Pre-berthing information is exchanged (21.3, 22.3)	Yes / No	

ISGOTT Checks after mooring Ship/Shore Safety Checklist

Part 3. Tanker: checks after mooring			
Item	**Check (ISGOTT Reference)**	**Status (circle)**	**Remarks**
17	Fendering is effective (22.4.1)	Yes / No	
18	Mooring arrangement is effective (22.2, 22.4.3)	Yes / No	
19	Access to and from the tanker is safe (16.4)	Yes / No	
20	Scuppers and savealls are plugged (23.7.4, 23.7.5)	Yes / No	
21	Cargo system sea connections and overboard discharges are secured (23.7.3)	Yes / No	
22	Very high frequency and ultra-high frequency transceivers are set to low power mode (4.11.6, 4.13.2.2)	Yes / No	
23	External openings in superstructures are controlled (23.1)	Yes / No	
24	Pumproom ventilation is effective (10.12.2)	Yes / No	
25	Medium frequency/high-frequency radio antennae are isolated (4.11.4, 4.13.2.1)	Yes / No	
26	Accommodation spaces are at positive pressure (23.2)	Yes / No	
27	Fire control plans are readily available (9.11.2.5)	Yes / No	

Part 4. Terminal: checks after mooring			
Item	**Check**	**Status**	**Remarks**
28	Fendering is effective (22.4.1)	Yes / No	
29	Tanker is moored according to the terminal mooring plan (22.2, 22.4.3)	Yes / No	
30	Access to and from the terminal is safe (16.4)	Yes / No	
31	Spill containment and sumps are secure (18.4.2, 18.4.3, 23.7.4, 23.7.5)	Yes / No	

ISGOTT Checks pre-transfer Ship/Shore Safety Checklist

Date and time: _____

Port and berth: _____

Tanker: _____

Terminal: _____

Product to be transferred: _____

Part 5A. Tanker and terminal: pre-transfer conference				
Item	**Check**	**Tanker status**	**Terminal status**	**Remarks**
32	Tanker is ready to move at the agreed notice period (9.11, 21.7.1.1, 22.5.4)	Yes	Yes	
33	Effective tanker and terminal communications are established (21.1.1, 21.1.2)	Yes	Yes	
34	Transfer equipment is in a safe condition (isolated, drained, and de-pressurized) (18.4.1)	Yes	Yes	
35	Operation supervision and watchkeeping is adequate (7.9, 23.11)	Yes	Yes	
36	There are sufficient personnel to deal with an emergency (9.11.2.2, 23.11)	Yes	Yes	
37	Smoking restrictions and designated smoking areas are established (4.10, 23.10)	Yes	Yes	
38	Naked light restrictions are established (4.10.1)	Yes	Yes	
39	Control of electrical and electronic devices is agreed (4.11, 4.12)	Yes	Yes	
40	Means of emergency escape from both tanker and terminal are established (20.5)	Yes	Yes	
41	Firefighting equipment is ready for use (5, 19.4, 23.8)	Yes	Yes	
42	Oil spill clean-up material is available (20.4)	Yes	Yes	
43	Manifolds are properly connected (23.6.1)	Yes	Yes	
44	Sampling and gauging protocols are agreed (23.5.3.2, 23.7.7.5)	Yes	Yes	
45	Procedures for cargo, bunkers, and ballast handling operations are agreed (21.4, 21.5, 21.6)	Yes	Yes	

Part 5A. Tanker and terminal: pre-transfer conference (cont.)				
Item	**Check**	**Tanker status**	**Terminal status**	**Remarks**
46	Cargo transfer management controls are agreed (12.1)	Yes	Yes	
47	Cargo tank cleaning requirements, including crude oil washing, are agreed (12.3, 12.5, 21.4.1)	Yes	Yes	See also parts 7B/7C as applicable
48	Cargo tank gas freeing arrangements agreed (12.4)	Yes	Yes	See also part 7C
49	Cargo and bunker slop handling requirements agreed (12.1, 21.2, 21.4)	Yes	Yes	See also part 7C
50	Routine for regular checks on cargo transferred are agreed (23.7.2)	Yes	Yes	
51	Emergency signals and shutdown procedures are agreed (12.1.6.3, 18.5, 21.1.2)	Yes	Yes	
52	Safety data sheets are available (1.4.4, 20.1, 21.4)	Yes	Yes	
53	Hazardous properties of the products to be transferred are discussed (1.2, 1.4)	Yes	Yes	
54	Electrical insulation of the tanker/terminal interface is effective (12.9.5, 17.4, 18.2.14)	Yes	Yes	
55	Tank venting system and closed operation procedures are agreed (11.3.3.1, 21.4, 21.5, 23.3.3)	Yes	Yes	
56	Vapour return line operational parameters are agreed (11.5, 18.3, 23.7.7)	Yes	Yes	
57	Measures to avoid back-filling are agreed (12.1.13.7)	Yes	Yes	
58	Status of unused cargo and bunker connections is satisfactory (23.7.1, 23.7.6)	Yes	Yes	
59	Portable very high frequency and ultra high frequency radios are intrinsically safe (4.12.4, 21.1.1)	Yes	Yes	
60	Procedures for receiving nitrogen from terminal to cargo tank are agreed (12.1.14.8)	Yes	Yes	

Additional for chemical tankers – Checks pre-transfer

Part 5B. Tanker and terminal: bulk liquid chemicals. Checks pre-transfer				
Item	**Check**	**Tanker status**	**Terminal status**	**Remarks**
61	Inhibition certificate received (if required) from manufacturer	Yes	Yes	
62	Appropriate personal protective equipment identified and available (4.8.1)	Yes	Yes	
63	Countermeasures against personal contact with cargo are agreed (1.4)	Yes	Yes	
64	Cargo handling rate and relationship with valve closure times and automatic shutdown systems is agreed (16.8, 21.4, 21.5, 21.6)	Yes	Yes	
65	Cargo system gauge operation and alarm set points are confirmed (12.1.6.6.1)	Yes	Yes	
66	Adequate portable vapour detection instruments are in use (2.4)	Yes	Yes	
67	Information on firefighting media and procedures is exchanged (5, 19)	Yes	Yes	
68	Transfer hoses confirmed suitable for the product being handled (18.2)	Yes	Yes	
69	Confirm cargo handling is only by a permanent installed pipeline system	Yes	Yes	
70	Procedures are in place to receive nitrogen from the terminal for inerting or purging (12.1.14.8)	Yes	Yes	

Part 6. Tanker and terminal: agreements pre-transfer				
Part 5 item	**Agreement**	**Details**	**Tanker initials**	**Terminal initials**
32	Tanker manoeuvring readiness	Notice period (maximum) for full readiness to manoeuvre: Period of disablement (if permitted):		
33	Security protocols	Security level: Local requirements:		
33	Effective tanker/terminal communications	Primary system: Backup system:		
35	Operational supervision and watchkeeping	Tanker: Terminal:		
37 38	Dedicated smoking areas and naked lights restrictions	Tanker: Terminal:		
45	Maximum wind, current and sea/swell criteria or other environmental factors	Stop cargo transfer: Disconnect: Unberth:		
45 46	Limits for cargo, bunkers and ballast handling	Maximum transfer rates: Topping-off rates: Maximum manifold pressure: Cargo temperature: Other limitations:		
45 46	Pressure surge control	Minimum number of cargo tanks open: Tank switching protocols:		

Part 6. Tanker and terminal: agreements pre-transfer (cont.)				
Part 5 item	**Agreement**	**Details**	**Tanker initials**	**Terminal initials**
		Minimum number of cargo tanks open: Tank switching protocols: Full load rate: Topping-off rate: Closing time of automatic valves:		
46	Cargo transfer management procedures	Action notice periods: Transfer stop protocols:		
50	Routine for regular checks on cargo transferred are agreed	Routine transferred quantity checks:		
51	Emergency signals	Tanker: Terminal:		
55	Tank venting system	Procedure:		
55	Closed operations	Requirements:		
56	Vapour return line	Operational parameters: Maximum flow rate:		
60	Nitrogen supply from terminal	Procedures to receive: Maximum pressure: Flow rate:		
XX	Exceptions and additions	Special issues that both parties should be aware of:		

Date and time: _____

Port and berth: _____

Tanker:_____

Terminal: _____

Product to be transferred: _____

Part 7A. General tanker: checks pre-transfer			
Item	**Check**	**Status**	**Remarks**
84	Portable drip trays are correctly positioned and empty (23.7.5)	Yes	
85	Individual cargo tank inert gas supply valves are secured for cargo plan (12.1.13.4)	Yes	
86	Inert gas system delivering inert gas with oxygen content not more than 5% (11.1.3)	Yes	
87	Cargo tank high-level alarms are operational (12.1.6.6.1)	Yes	
88	All cargo, ballast and bunker tanks openings are secured (23.3)	Yes	

ISGOTT Checks after pre-transfer conference Ship/Shore Safety Checklist

For tankers that will perform tank cleaning alongside and/or gas freeing alongside

Part 7C. Tanker: checks before tank cleaning and/or gas freeing			
Item	**Check**	**Status**	**Remarks**
91	Permission for tank cleaning operations is confirmed (21.2.3, 21.4, 25.4.3)	Yes	
92	Permission for gas freeing operations is confirmed (12.4.3)	Yes	
93	Tank cleaning procedures are agreed (12.3.2, 21.4, 21.6)	Yes	
94	If cargo tank entry is required, procedures for entry have been agreed with the terminal (10.5)	Yes	
95	Slop reception facilities and requirements are confirmed (12.1, 21.2, 21.4)	Yes	

Declaration

We, the undersigned, have checked the items in the applicable parts 1 to 7 as marked and signed below:

	Tanker	Terminal
Part 1A. Tanker: checks pre-arrival	☐	☐
Part 1B. Tanker: checks pre-arrival if using an inert gas system	☐	☐
Part 2. Terminal: checks pre-arrival	☐	☐
Part 3. Tanker: checks after mooring	☐	☐
Part 4. Terminal: checks after mooring	☐	☐
Part 5A. Tanker and terminal: pre-transfer conference	☐	☐
Part 5B. Tanker and terminal: bulk liquid chemicals. Checks pre-transfer	☐	☐
Part 6. Tanker and terminal: agreements pre-transfer	☐	☐
Part 7A. General tanker: checks pre-transfer	☐	☐
Part 7C. Tanker: checks before tank cleaning and/or gas freeing	☐	☐

In accordance with the guidance in chapter 25 of ISGOTT, we have satisfied ourselves that the entries we have made are correct to the best of our knowledge and that the tanker and terminal are in agreement to undertake the transfer operation.

We have also agreed to carry out the repetitive checks noted in parts 8 and 9 of the ISGOTT SSSCL, which should occur at intervals of not more than_____ hours for the tanker and not more than_____ hours for the terminal.

If, to our knowledge, the status of any item changes, we will immediately inform the other party.

Tanker	Terminal
Name	Name
Rank	Position
Signature	Signature
Date	Date
Time	Time

ISGOTT Checks during transfer Ship/Shore Safety Checklist

Repetitive checks

Part 8. Tanker: repetitive checks during and after transfer								
Item ref	Check	Time	Time	Time	Time	Time	Time	Remarks
Interval time: ..... hrs								
8	Inert gas system pressure and oxygen recording operational	Yes	Yes	Yes	Yes	Yes	Yes	
9	Inert gas system and all associated equipment are operational	Yes	Yes	Yes	Yes	Yes	Yes	
11	Cargo tank atmospheres are at positive pressure	Yes	Yes	Yes	Yes	Yes	Yes	
18	Mooring arrangement is effective	Yes	Yes	Yes	Yes	Yes	Yes	
19	Access to and from the tanker is safe	Yes	Yes	Yes	Yes	Yes	Yes	
20	Scuppers and savealls are plugged	Yes	Yes	Yes	Yes	Yes	Yes	
23	External openings in superstructures are controlled	Yes	Yes	Yes	Yes	Yes	Yes	
24	Pumproom ventilation is effective	Yes	Yes	Yes	Yes	Yes	Yes	
28	Tanker is ready to move at agreed notice period	Yes	Yes	Yes	Yes	Yes	Yes	
29	Fendering is effective	Yes	Yes	Yes	Yes	Yes	Yes	
33	Communications are effective	Yes	Yes	Yes	Yes	Yes	Yes	
35	Supervision and watchkeeping is adequate	Yes	Yes	Yes	Yes	Yes	Yes	
36	Sufficient personnel are available to deal with an emergency	Yes	Yes	Yes	Yes	Yes	Yes	

Part 8. Tanker: repetitive checks during and after the transfer (cont.)								
37	Smoking restrictions and designated smoking areas are complied with	Yes	Yes	Yes	Yes	Yes	Yes	
38	Naked light restrictions are complied with	Yes	Yes	Yes	Yes	Yes	Yes	
39	Control of electrical devices and equipment in hazardous zones is complied with	Yes	Yes	Yes	Yes	Yes	Yes	
40 41 42 51	Emergency response preparedness is satisfactory	Yes	Yes	Yes	Yes	Yes	Yes	
54	Electrical insulation of the tanker/terminal interface is effective	Yes	Yes	Yes	Yes	Yes	Yes	
55	Tank venting system and closed operation procedures are as agreed	Yes	Yes	Yes	Yes	Yes	Yes	
85	Individual cargo tank inert gas valves settings are as agreed	Yes	Yes	Yes	Yes	Yes	Yes	
86	Inert gas delivery maintained at not more than 5% oxygen	Yes	Yes	Yes	Yes	Yes	Yes	
87	Cargo tank high level alarms are operational	Yes	Yes	Yes	Yes	Yes	Yes	
Initials								

Part 9. Terminal: repetitive checks during and after transfer								
Item ref	Check	Time	Time	Time	Time	Time	Time	Remarks
Interval time: ..... hrs								
18	Mooring arrangement is effective	Yes	Yes	Yes	Yes	Yes	Yes	
19	Access to and from the terminal is safe	Yes	Yes	Yes	Yes	Yes	Yes	
29	Fendering is effective	Yes	Yes	Yes	Yes	Yes	Yes	
32	Spill containment and sumps are secure	Yes	Yes	Yes	Yes	Yes	Yes	
33	Communications are effective	Yes	Yes	Yes	Yes	Yes	Yes	
35	Supervision and watchkeeping is adequate	Yes	Yes	Yes	Yes	Yes	Yes	
36	Sufficient personnel are available to deal with an emergency	Yes	Yes	Yes	Yes	Yes	Yes	
37	Smoking restrictions and designated smoking areas are complied with	Yes	Yes	Yes	Yes	Yes	Yes	
38	Naked light restrictions are complied with	Yes	Yes	Yes	Yes	Yes	Yes	
39	Control of electrical devices and equipment in hazardous zones is complied with	Yes	Yes	Yes	Yes	Yes	Yes	
40 41 47 51	Emergency response preparedness is satisfactory	Yes	Yes	Yes	Yes	Yes	Yes	
54	Electrical insulation of the tanker/terminal interface is effective	Yes	Yes	Yes	Yes	Yes	Yes	
55	Tank venting system and closed operation procedures are as agreed	Yes	Yes	Yes	Yes	Yes	Yes	
Initials								

Appendix E – The Central and Arctic Regional Response Plan

Canadian Coast Guard
Central & Arctic Region

Regional Response Plan

December 2008

LETTER OF PROMULGATION

The *Central & Arctic Regional Response Plan (2008)* replaces the *Central & Arctic Region Contingency Chapter (2006)* and the *Arctic Response Strategy (1999)*. This plan is a component of the *Canadian Coast Guard National Response Plan* which is the responsibility of the Director of Safety and Environmental Response Systems, Ottawa. It establishes the framework and the procedures by which Central & Arctic Region will prepare for, assess, respond to and document actions taken in response to pollution incidents in this Region.

The saving of life is of paramount consideration and the Plan is subordinate to the operational requirements of marine search and rescue.

The Plan has been reviewed by the internal partners identified in Section 3.3 in context to the services they may provide and by the external partners identified in Sections 3.4 and 3.5 to confirm their mandated response authorities.

Responsibility for the *Regional Response Plan* lies with the Assistant Commissioner Coast Guard Central & Arctic Region. The Central & Arctic Region Environmental Response branch is the custodian of the plan. The responsibility for specific sections is identified in Section 7 - Plan Maintenance and Custodians. Comments, recommendations and communications relating to the various sections are clearly identified in this section.

REVISION RECORD

CENTRAL & ARCTIC REGIONAL RESPONSE PLAN			
Section	Replace	Transmittal No.	Description of Changes
Entire Plan	All	December 1, 2005	Complete revision of Central & Arctic Regional Response Plan
Entire plan	All	April 1, 2006	Complete revision of Central & Arctic Regional Response Plan
7.1 Maintenance Process	Page 7-1	May 8, 2007	Update address to 520 Exmouth Street
8.3 CCG ER Phone List	Page 8-1	June 4, 2007	Update address to 520 Exmouth Street
Entire Plan	All	December 2008	Complete revision of Central & Arctic Regional Response Plan

Section 1 - INTRODUCTION

1.1. Authority

This plan is based upon the policy and guiding principles set forth in the *National Response Plan* of the *Canadian Coast Guard National Response Strategy*.

1.2. Purpose

The *Central and Arctic Regional Response Plan* is designed as a guide to Canadian Coast Guard staff and relevant stakeholders involved in marine spill responses. It outlines the Regional application of the various roles of On-Scene Commander (OSC) (active response), Federal Monitoring Officer (FMO) (ensuring the Responsible Party fulfills their obligations), and as a Resource Agency (in assistance to other Lead Agencies).

It contains the specific information and activities that are pertinent to all spill response activities within Central & Arctic Region (C&A Region).

1.3. Area of Responsibility

For the purposes of marine pollution response Central & Arctic Region is defined geographically as:

- The contiguous waters of the Canadian Arctic (North of 60^{o} Latitude) to the limits of the International Boundary, including the North Slope Area of the Yukon Territories, and internal waters of the Northwest Territories and the Territory of Nunavut; and

- The waterways contained within the provinces of Alberta, Saskatchewan, Manitoba, Ontario, and a western portion of Quebec commencing at the east wall of the Beauharnois Lock in the St. Lawrence River.

(see Figure 1-1 Fisheries and Oceans Central & Arctic Region)

Significant waterways include the Canadian Great Lakes and interconnecting waterways to the international Boundary with the United States, Hudson and James Bays, Lake Winnipeg, Lake Athabasca and interconnecting waterways, Great Slave Lake, Mackenzie River and the Northwest Passage in the Canadian Arctic.

There are also a number of specific geographic locations which, although not excluded from Canadian Coast Guard's mandate, require coordination between the managing authorities and this plan. These areas include the waters associated with

the various Port Authorities (Hamilton, Thunder Bay, Toronto and Windsor) and the St. Lawrence Seaway Authority (Welland Canal, St. Lawrence Locks) as defined by the *Canada Marine Act, 1998*.

Figure 1-1: Fisheries and Oceans Central & Arctic Region

1.4. Safety Policy

Safety is the first and foremost consideration in any pollution response in Central & Arctic Region. This commitment is expressed throughout this and other documents as well as in the programs relied on by the Environmental Response (ER) branch to prepare for such spills (i.e. training and exercising programs). General safety procedures and considerations to be followed by all members of the Regional Response Team are identified in Section 5.7 of this plan.

1.5. Links to the National Response Plan

The Guiding Principles and Mandate (including legislative, interdepartmental, intergovernmental and international agreements) as well as designation of Lead and Resource Agency roles are contained in the *National Response Plan Section 1 – Introduction.* The mechanism for activating the Environmental Response National Response Team is also defined in the *National Response Plan*.

1.6. Regional Response Plan Structure

The Regional Response Plan is structured to reflect the three fundamental phases of Environmental Response activities. These are:

1) Preparedness - through the regional application of Contingency Planning (resulting in specific response strategies), Training (state of personnel readiness), Exercising (state of system readiness) and Inventory Maintenance and Management (state of mechanical/equipment readiness).

2) Response Operations - identifying the mechanisms for:
   - *Initiating* (through a dedicated Duty Officer and Assessment process),
   - *Sustaining* (Operational functions as Lead or Resource Agency),
   - *Controlling* (using the Response Management System), and
   - *Finalizing* the response activity (decommissioning and reporting).

3) Claims, Recovery and After-action activities - for the documentation and recovery of spent resources from the polluter, their agents, national or international funding conventions.

Surrounding these fundamentals are the specifics of the Environmental Response Program in Central and Arctic Region that are too cumbersome to be included in the main text of this Response Plan. They include: Regional Agreements and Memoranda of Understanding, Regional Organization and the specific Annexes which support the program. Finally, the Response Plan includes the preliminary and supplementary matter such as Letter of Promulgation, Record of Revision and the Identification of Custodians and the Plan Maintenance process.

1.7. Linkages to other Response Plans in the Region

When a pollutant is spilled into the water, the Canada Shipping Act is not the only legislation that applies. Recognizing that being designated Lead Agency for pollution response to mystery spills and spills from vessels does not preclude other agencies from completing their mandate CCG acknowledges that the Internal and External Partners listed in Sections 3.4 and 3.5 have plans that are active within Central & Arctic Region.

1.8. Linkages to International Joint Plans

International Joint Plans and agreements affecting Central & Arctic Region include:

- Canada-United States Joint Marine Pollution Contingency Plan
- Canada-Denmark Agreement for Co-operation Relating to the Marine Environment, Annex B (Joint Marine Contingency Plan concerning Incidents resulting from Shipping Activities)
- Great Lakes Water Quality Agreement, Annex 9
- International Boundary Waters Treaty Act

The Canadian Coast Guard Environmental Response Branch also provides technical support for the Emergency Prevention, Preparedness and Response (EPPR) Working Group of the Arctic Council. The EPPR Working Group exchanges information on best practices for preventing spills, preparing to respond to spills should they occur, and practical response measures for use in the event of a spill.

The Arctic Council is an intergovernmental forum of the eight circumpolar countries (Canada, Denmark, Finland, Iceland, Norway, Sweden, the Russian Federation and the United States of America) that provides a mechanism to address the common concerns and challenges faced by the Arctic governments and the people of the Arctic.

Some work has been initiated with the Russian Federation for the development of a Joint Pollution Response Plan. To date no agreements have been signed.

Section 2 - AGREEMENTS AND MEMORANDA OF UNDERSTANDING

2.1 Overview

The Canadian Coast Guard (CCG), both Central & Arctic and National Headquarters, maintain numerous memoranda and letters of understanding and agreement between other government departments which outline shared responsibilities in pollution response. A brief description of the major agreements is listed below.

- Letter of Agreement between Canadian Coast Guard, Environmental Response Branch and Canadian Coast Guard, Operational Services and Canadian Coast Guard, Technical Services regarding the use of Environmental Response First Response Units (FRUs) by non-environmental response staff. This agreement concerns the use of FRUs at the various CCG facility sites (bases, sub-bases and search and rescue stations).

- Northwest Territories/Nunavut Spills Working Agreement. This agreement formalizes procedures whereby spill investigation and monitoring in the Northwest Territories (NT) and Nunavut (NU) can be coordinated.

- Fisheries & Oceans (DFO) and Environment Canada (EC) Letter of Agreement respecting transfer of responsibility as lead agency for mystery spills from Environment Canada (EC) to the Canadian Coast Guard/Fisheries & Oceans Canada (July 1996)

- Transport Canada (TC) and Fisheries & Oceans (DFO) Memorandum of Understanding respecting Marine Transportation Safety & Environmental Protection (May 1996). This MOU outlines the responsibilities transferred from TC to DFO in accordance with the *Public Service Rearrangement and Transfer of Duties Act*. Those pertinent to this plan include:
    a) The responsibility for ensuring the provision of pollution clean up services
    b) The authority to take actions to mitigate or prevent pollution from ships

- Letter of Understanding between the Canadian Coast Guard and the Hamilton Port Authority to outline the roles that the CCG and the HPA will

play in the event of a pollution incident which falls within the mandate of the Canadian Coast Guard.

- Letter of Understanding between the Canadian Coast Guard and the Thunder Bay Port Authority to outline the roles that the CCG and the TBPA will play in the event of a pollution incident which falls within the mandate of the Canadian Coast Guard.

- Letter of Understanding between the Canadian Coast Guard and the Toronto Port Authority to outline the roles that the CCG and the TPA will play in the event of a pollution incident which falls within the mandate of the Canadian Coast Guard.

- Letter of Understanding between the Canadian Coast Guard and the Windsor Port Authority to outline the roles that the CCG and the WPA will play in the event of a pollution incident which falls within the mandate of the Canadian Coast Guard.

Some memoranda of understanding and letters of agreement have been rendered defunct by virtue of the dissolution or reorganization of the entities that signed the original document. It is the Region's intent to assess the need for an MOU and in those cases where renewal is needed, to draft a new MOU and submit to the partner organization the request for re-entry into that agreement. For further information on these memoranda, please contact the Environmental Response Planning Section.

Section 3 - ORGANIZATION

3.1 General Application

This section describes the primary working relationships between Fisheries and Oceans (DFO), Canadian Coast Guard, Environmental Response branch (CCG/ER) and the various internal and external partners, clients and external resources.

Internal partners include: Other DFO sectors, directorates and branches, and other federal departments which provide direct assistance or have specific mandates which directly affect response activities.

External partners include those entities that share the burden of pollution response for their specific area of responsibility. These agencies include the provincial and territorial government ministries with the generic mandate of pollution response.

Clients include those entities that are specifically identified by the *Canada Shipping Act (CSA)* and have direct involvement in the response regime; they include Oil Handling Facilities (OHF), Legislated Ships and Non-legislated Ships.

External resources are those resources outside of the government that the Canadian Coast Guard may engage while conducting spill response activities. These include the Response Organizations (RO) certified by Transport Canada and other independent contractors which may perform more specific functions.

3.2 Fisheries and Oceans, Canadian Coast Guard - Environmental Response Branch (CCG/ER)

The Assistant Commissioner, Canadian Coast Guard through the Maritime Services Directorate and the Superintendent of Environmental Response (ER) directs the Regional Environmental Response Team. This team represents one facet of the overall crisis management structure within Central and Arctic Region and performs the function of the Lead Response Agency for pollution incidents as defined in the *National Response Plan – Section 1* of the *Canadian Coast Guard National Response Strategy.* The branch consists of approximately seventeen (17) full time employees (FTEs).

Internally, the Environmental Response Branch is made up of five (5) distinct but integrated functions:

1) *Direction and Administration* - providing the overall guidance, management and liaison with Headquarters. The Superintendent holds the responsibility for escalating a response and/or dedicating resources.
2) *Planning* - providing the design and management of plans and procedures to facilitate the preparedness posture of the Region (responsible for developing and maintaining intradepartmental, interdepartmental, client and regime stakeholder relationships).

3) *Operations and Inventory Maintenance & Management* - provide the management and maintenance of equipment to ensure the operational response readiness of the Region.
4) *Training* - provides the coordination and delivery of educational materials, to internal as well as external partners and clients, in support of the overall preparedness posture of the Region.
5) *Exercising* - provides the management and coordination of internal and external partners and clients to validate, practice and reinforce all aspects of the Response readiness of the Region.

In addition to these core functions, each staff member is required to actively participate in the operational aspects of the response regime based upon their skill and ability levels. This includes assuming various roles within the Response Management Structure acting as Duty Officer (DO) and supporting the overall emergency preparedness structure within the Region (not necessarily related exclusively to oil spills or pollution).

In the context of this Plan, the Environmental Response Branch is tasked to:

- Fulfill the Canadian Coast Guard's obligations as Lead Agency in an OSC or FMO posture in responding to marine pollution incidents from ships in waters of Canadian interest as well as from unknown sources.
- Act as a Resource Agency in support of a response led by another agency when requested.
- Staff a Duty Officer position on a 24/7 basis which, together with other agency representatives, will assess or direct the assessment of spill reports.
- Ensure that an appropriate response to pollution incidents is initiated on a timely basis.
- Provide initial response capabilities throughout the region.
- Monitor response and clean-up priorities when polluter has accepted responsibility.
- Ensure international commitments in spill preparedness and response are fulfilled.
- Provide a pollution response capability for lightering, salvage and offshore recovery operations.
- Provide Regional and HQ briefings on status of emergency operations.
- Evaluate, acquire and maintain specialized marine emergency countermeasures equipment and develop deployment techniques.
- Develop, distribute and maintain the *Central and Arctic Regional Response Plan* of the *Canadian Coast Guard National Response Strategy* (including area annexes) on behalf of Fisheries and Oceans.
- Review and comment on other government as well as industry pollution response plans upon request.
- Provide pollution response related training to Canadian Coast Guard and civilian personnel.

- Conduct spill response exercises according to the Canadian Coast Guard National Exercise Program (NEP) standards.
- Provide detailed explanations of response operations and policies to representatives of the media, interest groups, industry, police and Provincial and Municipal governments.
- Provide a centre of expertise for pollution concerns.
- Develop and foster a good working relationship with other authorities, shipping and oil/chemical handling communities.
- Working with Environmental Response Headquarters and the Chemical Industry to develop, implement and maintain a corresponding and complimentary regional capability for spills of hazardous and noxious substances other than oil.

3.3 Internal Partners – Fisheries and Oceans

Other branches and directorates within Fisheries and Oceans which directly and in a continuous active way support preparedness and response activities include:

Marine Traffic and Communications Branch (MTCS) – CCG/Marine Programs Directorate

Marine Traffic and Communications Services operates a marine VHF/MF/HF communications system (depending on location) primarily for the provision of marine safety information, distress coordination and marine traffic regulation. MCTS will support Environmental Response (ER) activities by:

- Establishment of Movement Restriction Areas (MRA's) or exclusion zones as directed by the Federal Monitoring Officer (FMO) or On Scene Commander (OSC).
- Providing communications/radio equipment operators in support of off-site ER operations.
- Dissemination of marine information and issuing marine Notices to Shipping (NOTSHIPS).
- Providing vessel tombstone information including, but not limited to, vessel name, call sign, nationality, tonnage, dangerous cargo type and quantity.

Regional Operations Centre (ROC) and Fleet Resources – CCG/Operational Services Directorate

Regional Operations Centre

The ROC provides notification to the Environmental Response Duty Officer (ERDO) when notified of a spill or an occurrence which may result in a spill. Upon receiving information regarding a spill, the ROC confirms the report using reliable resources and agencies. When the incident has been confirmed the Operation Centre begins the alerting and notification procedure. A schedule of ERDOs, approved by the Superintendent Environmental Response Canadian Coast Guard, will be maintained by the ER Regional Emergency Operations Officer (REOO) and forwarded to ROC for distribution.

The Regional Operations Centre will support the Environmental Response Branch during a marine pollution incident by:

- Maintaining up to update contact lists for Canadian Coast Guard and other government agencies for use as incidents progress.
- Coordinating the allocation of CCG resources as required by the FMO or the OSC to respond to a marine pollution incident.
- Provide communications support (when necessary).

Fleet Resources

Fleet Resources may be called upon to provide a host of support and/or lead services depending upon the type and severity of the situation and limitations or constraints of the vessel. Commanding Officers maintain full responsibility for the operation and safety of their vessel and personnel and therefore, will/may:

- Be called upon to be interim On-scene Commander.
- Be the principal point of contact aboard ship for the Environmental Response Duty Officer or On Scene Commander.
- Investigate spill reports for the purpose of confirmation.
- Provide surveillance and monitoring of third party (or pollutant) as required.
- Initiate early spill response; containment, boom or sorbent material deployment, clean up and recovery procedures.
- Provide site safety, (i.e. fire fighting, first aid and crowd control).

Fleet does maintain their own limited capabilities to respond to their needs as required.

Canadian Coast Guard Bases

In preparation for and during a pollution incident, CCG bases may also provide resources for response. These resources are generally within the scope of normal base activities and include:

- Small vessel use
- Base facilities (boardrooms, workshops)
- Helicopter landing pads
- Boat launch and docking slips
- Staging areas

Safety, Security and Emergency Services Branch – DFO Corporate Services

For large spills of a significant nature the Regional Manager of Safety, Security & Emergency Services may provide the following:

- Advice and recommendations to the On Scene Commander on issues of site and employee safety and the application of departmental security policy measures.
- General occupational health & safety and security advice to the On-Scene Commander/Deputy On-Scene Commander as per the departmental Loss Control Manual.

- A Health & Safety Officer to perform the functions of the Heath & Safety Officer described in the Response Management System User Guide. This person will report directly to the OSC or FMO throughout the duration of the response.

On occasions when the Regional Manager of Safety & Security (or delegate) is not available, or when spills are of a minor nature, the On-Scene Commander shall appoint a member of the response team to fulfill the general duties required.

Communications Branch – DFO Communications
Communications team manages the media (external) handling inquiries from print, radio, television and internet news organizations through the application of *Fisheries & Oceans Crisis Communications Plan*. Communications branch coordinates all aspects of information being released to ensure the public is getting the most relevant, accurate information as soon as practicable.

Legal Services
The DFO Legal Services in CCG Headquarters section will provide legal advice and guidance in the event of a marine pollution incident where CCG may or has been engaged. This especially includes advice on the issuance of Letters of Undertaking (LOUs) and in situations where Canadian Coast Guard may have to take command and control of an incident away from the Polluter.

Other DFO Resources
Indirectly, but just as significant in the event of a spill, is the availability of other DFO resources. This includes any and all appropriate functions including, but not limited to the following:

- Trenton Joint Rescue Coordination Centre – CCG, Maritime Services Directorate, Search and Rescue Branch (SAR)
- Finance and Administration – Human Resources and Corporate Services Directorate
- Human Resources - Human Resources and Corporate Services Directorate
- Facilities – Real Property
- Other Technical Resources – CCG, Integrated Technical Services Directorate
- Fish Habitat Branch – Habitat Fisheries and Oceans Management

3.4 Internal Partners – Other Government Departments

Other federal departments which provide direct assistance or have specific mandates which directly affect response activities include:

Environment Canada (EC)
There are two (3) Environment Canada regions located within Central & Arctic region. They are Ontario, Prairie and Northern and Pacific and Yukon Regions.

The Environmental Emergencies Section provides:

- In Ontario, the Co-chair (with the Ontario Ministry of the Environment (MOE)) of the Regional Environmental Emergencies Team (REET).
- In the Arctic (consisting of the three Territories), the Co-chair (with the relevant Territorial Government, Department of Environment) for the Arctic Regional Environmental Emergencies Team.
- Coordination of the Shoreline Cleanup and Assessment Teams (SCAT).
- Advice concerning environmental impacts associated with vessel source spills, resource sensitivity and prioritization, environmental forecasting, spill and cleanup monitoring and clean up techniques and priorities
- Sampling assistance, identification and characterization of materials

The REET serves as a mechanism for the provision of consolidated, coordinated and comprehensive environmental information and advice concerning the fate and effects of hazardous and noxious substances, spill trajectories, resources and shoreline protection strategies, clean up priorities, physical and chemical counter measures, remedial endpoints, damage assessment, and the management of hazardous wastes generated during a spill and other matters which arise while planning and responding to emergency events which affect or risk environmental quality. In the planning mode REET members meet to improve contingency plans, resolve regional preparedness issues and exchange new scientific and response ideas.

In Ontario Region, Environment Canada has divided the province into eighteen (18) REET areas and plans to hold one (1) REET meeting per area per year, consolidating some areas where possible and maintaining annual meetings in the higher risk areas (Windsor, Sarnia, Sault Ste. Marie).

Two of three primary Arctic REET (AREET) areas are in Prairie and Northern Region: the Northwest Territories and Nunavut Territory. There is no REET established in Alberta, Saskatchewan and Manitoba.

The Meteorological Service of Canada (part of EC and REET) provides:

- Meteorological forecasting

The Canadian Wildlife Service (part of EC and REET) provides

- Advice on wildlife protection, rescue and rehabilitation
- Permits for wildlife hazing and capture

Transport Canada (TC)

The Environmental Response Systems Division in Ottawa is responsible for Canada's Marine Oil Spill Preparedness and Response Regime. It:

- works with other federal agencies and departments, such as Fisheries and Oceans Canada, the Canadian Coast Guard and Environment Canada to establish guidelines and regulatory framework for preparedness and response to oil spills and spills of noxious and hazardous substances into Canada's marine environment.

- Manages the National Aerial Surveillance Program

There are two Transport Canada regions located within Central & Arctic region. They are Ontario and Prairie and Northern regions.

The Aircraft Services Directorate provides:

- Aerial surveillance as part of the Prevention mandate within Transport Canada, and can provide aerial spill tracking, recording, and personnel transport.

The Marine Safety Branch provides:

- Technical advice and recommendations to the On-Scene Commander or the Ship Owner regarding, but not limited to, lightering, damage assessment and salvage.

  Note: The MOU between Transport Canada and Fisheries & Oceans Respecting Marine Transportation Safety & Environmental Protection (May 1996) Annex D – E-5 states that "Transport Canada and Fisheries and Oceans will jointly approve salvage operations, emergency lightering or discharge of cargo." After discussing this clause with two senior surveyors, they both agree – Marine Safety does not approve salvage plans. Marine Safety advises and recommends only.
- Restriction of transit or movement of a vessel following a damage assessment.
- Spill investigation and enforcement of the various aspects of the pollution prevention conventions and legislation in Canada
- Regional planning, in conjunction with EC and CCG, for the selection of Places of Refuge. Note: in the Great Lakes and connecting channels, selection of a place of refuge will be determined in conjunction with the USCG and USEPA.
- Monitoring of the spill preparedness activities of Oil Handling Facilities (OHFs) and certified Response Organizations (ROs) through a review and audit process.

Indian and Northern Affairs Canada (INAC)

Canadian Coast Guard (CCG) works most closely with INAC in Nunavut (NU) and the Northwest Territories (NT). INAC has lead responsibilities in the Arctic for spills on water which do not originate at federal facilities, exploration facilities or from ships and barges. INAC also, by letter of agreement, will investigate ship-source spills on behalf of CCG. INAC is also a member of the Beaufort Sea Emergency Preparedness Working Group, along with CCG/DFO, EC, TC and other appropriate agencies.

National Energy Board (NEB)

Based in Calgary, Alberta, the National Energy Board is an independent Agency that reports to parliament through the Ministry of Natural Resources. The NEB is the

Lead Agency for spills that occur at offshore and nearshore oil and gas exploration and production facilities.

In the event of a marine pollution incident where CCG is requested for assistance as a resource agency, CCG is available to provide pollution response expertise as indicated under Section 7.2 of the *National Response Plan* as it relates to NEB.

Public Safety Canada

Public Safety Canada is the federal coordinating department responsible for engaging relevant federal departments in an integrated Government of Canada response to an emergency.

For emergencies requiring an integrated Government of Canada response, federal support is based on a regional "single- window" concept. This concept is intended to facilitate regional interdepartmental and intergovernmental coordination, while not unduly restricting operations. Coordination includes sharing of pertinent information in order to maintain situational awareness.

The Government Operations Centre (GOC) is a 24/7facility where an integrated Government of Canada response is managed. It is the focal point of information management flow and provides strategic-level activities. It's permanent staff includes watch officers, duty officers specializing in national communications as well as a geomatics team to map incidents.

Indirect support from other federal departments in the form of advice or resources also comes from: Heritage Canada (Parks Service) in the form of support to REET, National Defense regarding assistance and resources, RCMP with respect to investigations and those sections or departments specifically identified in the various Memorandums of Understanding (MOU) as outlined in Section 2 of this chapter.

3.5 External Partners - Provincial and Territorial Ministries and Departments

In general, liaison with provincial and territorial concerns is facilitated through REET (Regional Environmental Emergencies Team), which is chaired by Environment Canada (EC) or, in the case of the Province of Ontario, is co-chaired by Environment Canada and the Ontario Ministry of the Environment (MOE). The following agencies have the primary mandate for marine or freshwater pollution response in their province or territory of jurisdiction:

Territory or Province	Department
Northwest Territories	Environment and Natural Resources
Nunavut	Department of Environment
Alberta	Alberta Environment
Saskatchewan	Saskatchewan Environment

Manitoba	Manitoba Conservation
Ontario	Ontario Ministry of the Environment

In emergency situations conflicts sometimes arise with respect to legal and administrative jurisdiction and application of standards and common practices. To facilitate these issues the various Ministries related to emergency measures are usually contacted to provide coordination and clarify where necessary the concerns. These include:

- Government of Nunavut – Department of Community of Government Services, Emergency Management Division
- Government of the Northwest Territories – Department of Municipal and Community Affairs – Emergency Services Division
- Government of the Yukon Territories – Department of Community Services, Emergency Measures Organization
- Government of Ontario - Ministry of the Community Safety & Correctional Service, Emergency Measures Ontario
- Government of Manitoba –Manitoba Emergency Measures Organization
- Government of Saskatchewan – Resource Management and Corrections & Public Safety, Saskatchewan Emergency Measures Organization
- Government of Alberta – Ministry of Municipal Affairs, Public Safety Division, Emergency Management Alberta

Provincial Governments can provide consolidated access to local, municipal and provincial resources.

Central & Arctic Region recognizes that First Nations have a vested interest in response operations that may occur in their territory and will ensure that they are represented on the REET or have access to the Federal Monitoring Officer or On Scene Commander through the CCG Liaison Officer.

3.6 Clients

With respect to ship-source pollution incidents, there are three major groups the Canadian Coast Guard will be directly engaged with. These are Oil Handling Facilities, Legislated Ships and Ships as defined in *Part XV* of the *Canada Shipping Act.*

Oil Handling Facilities (OHF)

Operators of facilities that transfer oil to or from oil tankers over 150 gross registered tonnes or other vessels over 400 gross registered tonnes are required by the Canada Shipping Act (2001) to:

- Have an Oil Pollution Emergency Plan (OPEP) on site.
- Have a declaration conforming to the regulations on site.
- Take reasonable measures to implement their required oil pollution emergency plan in the event of an oil pollution incident.

- Have on site the resources required to contain a spill of oil equal to the facility's rated capability within one hour.
- Begin recovery/cleanup operations of oil equal to the facility's rated capability within 6 hours.
- Have an arrangement with a certified Response Organization (RO) that permits the handling of spills beyond the rated capabilities of the Oil Handling Facility.[1]

Legislated Ships

In Canadian waters, ships over 400 gross registered tonnes and oil tankers over 150 gross registered tonnes are required to have a Shipboard Oil Pollution Emergency Plan (SOPEP) and an arrangement with a certified Response Organization (RO) to respond to an oil pollution incident of an amount equivalent to the maximum amount of product that the vessel can carry as fuel and/or as cargo up to a maximum of 10,000 tonnes.[1]

Other ships as defined by Part XV of the Canada Shipping Act (CSA)

Any ship that is less than 400 GRT or any tanker less than 150 GRT is still covered by the *Canada Shipping Act (2001)* in that it must report the potential or actual pollution incident to a Pollution Response Officer, or in the case of an incident in Canadian Arctic Waters as defined by the Arctic Waters Pollution Prevention Act to a Pollution Prevention Officer. The ship must take immediate steps to mitigate or remedy the situation. These ships are not required to have a Shipboard Oil Pollution Emergency Plan nor an arrangement with a certified Response Organization.

3.7 External Resources

There are two main categories of external resources that the Canadian Coast Guard (CCG) will engage. These are the Response Organizations certified by Transport Canada under the *Canada Shipping Act (2001)* and other contractors.

Response Organizations (ROs)

Response Organizations are privately established pollution response companies certified by Transport Canada. These companies hold a certificate of designation to handle oil spills of up to 10,000 tonnes (T). Response Organizations can provide the polluter or any lead agency with the resources, trained personnel and operational management structure to deal with a marine oil pollution incident within its identified Geographical Area of Response (GAR).

The Eastern Canada Response Corporation (ECRC) is the only certified response organization in Central & Arctic Region. The company is certified to ten thousand tonnes (10 000T) and two of its three regions cover Central & Arctic Region.

[1] There is no requirement for an Oil Handling Facility nor a Legislated Ship to have an arrangement with a Response Organization certified by Transport Canada in Canadian waters north of 60° North Latitude

1) ECRC Great Lakes Region is managed from the Response Centre in Corunna, Ontario. Its area of coverage includes all waters
   - south of 60 degrees north in the provinces of Alberta, Saskatchewan, Manitoba and Ontario to that portion of the St. Lawrence River in the Province of Ontario
   - to a line drawn between Butternut Bay (Latitude 44 31' 12" north and Longitude 75 46' 54" west) on the Canadian side
   - to Oak Point (Latitude 44 30' 48" north and Longitude 75 45' 20" west) on the US side of the St. Lawrence River.

2) ECRC Quebec Region (also known as Societé d'Intervention Maritime Est du Canada - SIMEC) is managed from the Response Centre in Quebec City, Quebec and has staffed Response Centres in Verchères, Quebec and in Sept-Iles, Quebec. Their coverage includes:
   - James Bay, Ungava Bay and in Hudson Bay south of the sixtieth parallel North and that portion of the St. Lawrence River in the Province of Ontario
   - to a line drawn between Butternut Bay (Latitude 44 31' 12" North and Longitude 75 46' 54" West) on the Canadian side to Oak Point (Latitude 44 30' 48" north and Longitude 75 45' 20" West) on the US side of the St. Lawrence River.

There are no certified response organizations established north of 60° N latitude.

Although resources from the Response Organizations in the south may be made available for use north of 60°, they must obtain the necessary approvals to move equipment from their designated area of response.

Contractors

Private sector contractors may be engaged by the CCG as required. All standard government contracting rules apply.

Section 4 – PREPAREDNESS

4.1 Overview

Oil spill preparedness is defined by the advanced planning used to create systems to effectively and efficiently combat the range of spills likely to be encountered.

In Central and Arctic Region, preparedness involves:

- The development of regional procedures to be followed in the event of an incident, coordinated by the Planning section.
- The implementation, training and maintenance of the Response Management System (RMS) to manage and combat the incident.
- The identification of priorities, development of strategies, logistics and tactics necessary to fulfill those priorities, lead by the Planning section.
- The liaising with internal and external partners, clients and resources that may be involved in pollution response activities, lead by the Planning section.
- The training and continued maintenance and upgrading of skills, coordinated through the Training specialist.
- The exercising and quality assurance activities required to continuously reinforce the training and contingency planning activities, facilitated through the Exercise specialist.
- The asset management including the acquisition, lifecycle maintenance, operational readiness and storage of equipment lead by the Operations section and Inventory specialist.
- The integration of other Canadian Coast Guard Assets and Human Resources, when necessary, through the Training and Exercising processes.

The Memorandum of Understanding (MOU) between the Director General/Maritime Services (MS) and the Director General/Integrated Technical Support (ITS) of the Canadian Coast Guard (March 2004) specifies that the ITS Directorate will be the single CCG focus for the life cycle management of all CCG physical assets and for the development of all technical solutions. It is unknown when ITS will assume the services of design, procurement, in-service support and disposal of all equipment and systems required to satisfy ER's mandate. In the interim, ER will remain the focal point.

4.2 Response Management System (RMS)

The Canadian Coast Guard uses the Response Management System (RMS) as its emergency management system. It is based on, and operates under the same principles as the Incident Command System (ICS) which was developed in the U.S. to coordinate multi-agency responses to large forest fires. The system was adjusted to reflect the current marine oil spill response regime and Canadian law. The Canadian Coast Guard does not implement the ICS principle of unified command, but will participate in any command structure used by the Polluter or Other Lead Agency.

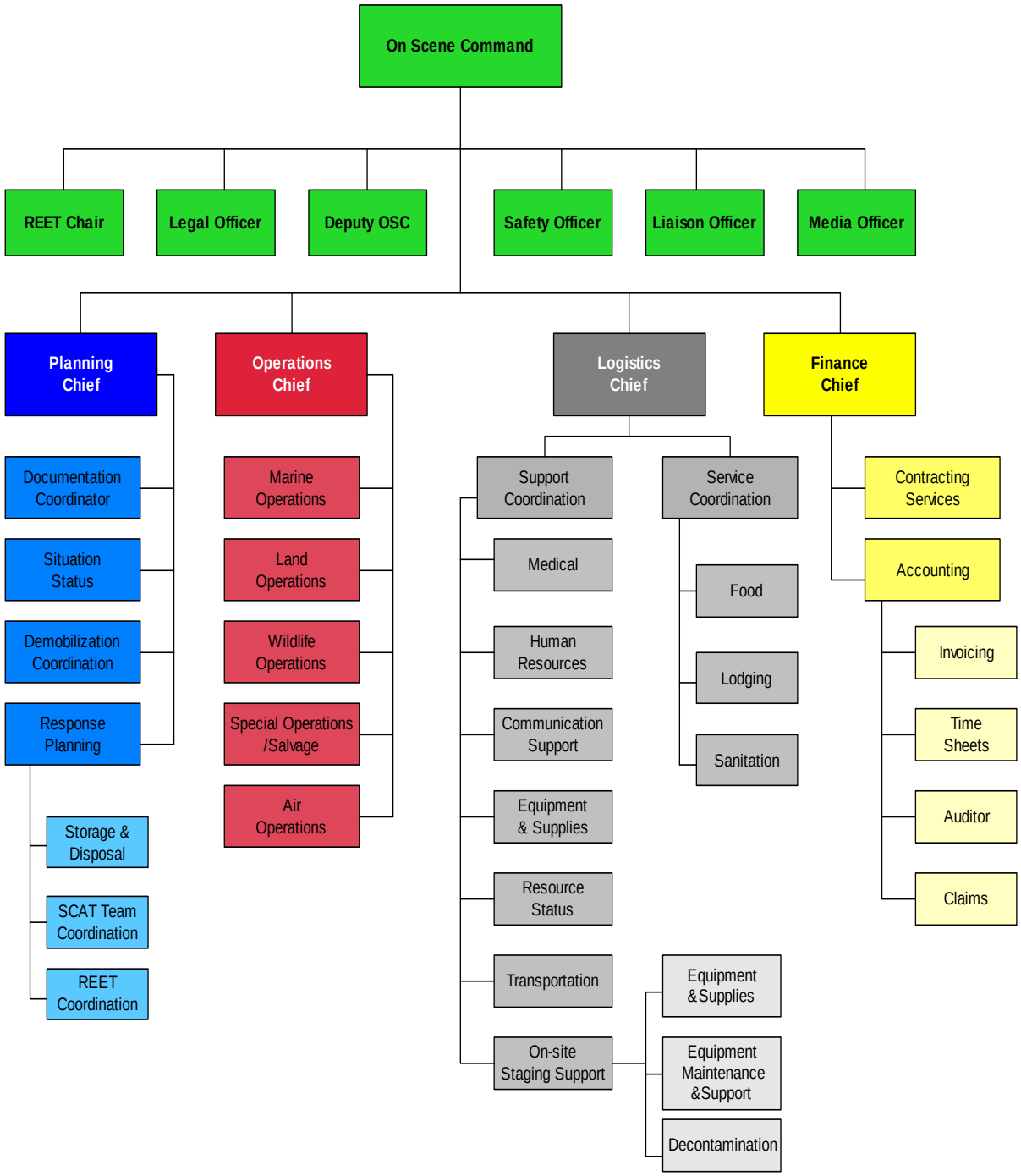
The RMS uses a “management by objectives” approach. It outlines the roles and responsibilities of individual positions, identifies the reporting structure, establishes a common set of terminology and uses standardized forms and paperwork. The central document in the RMS process is the Incident Action Plan, which documents the existing conditions and outlines objectives and strategies for recovery and response.

The system structure is designed to expand or contract to best fit the specific circumstances of the incident. Not all positions within the system will be staffed for every incident; in those cases the supervising position shall be responsible for all subordinate tasks/roles. Regional staff members have been designated as members of the Regional Response Team and may be called upon to fill specified roles in this management system (see Figure 4.1 for a fully expanded system design).

The system also contains management tools that can be used by the On Scene Commander and response personnel to better manage the system and the spill incident. These tools include a field operations guidebook, forms, reports, established meeting schedules and agendas. The RMS will also be used by the Federal Monitoring Officer and their Incident Monitoring Team while monitoring the Polluter’s response to an incident.

The detailed RMS process is contained in a separate document referenced in Section 9.1 of this plan (Response Management Systems User’s Guide, Version 3.0 (May 2006)).

Figure 4.1 - CCG RMS Command Structure



4.3 Planning

Area Plans

To facilitate an effective and efficient response, Canadian Coast Guard administers 16 area plans as an annex to the Central & Arctic Regional Response Plan. They are Keewatin, Baffin, Beaufort Sea & Amundsen Gulf, Great Slave Lake, Hudson & James Bay, Kitikmeot, Mackenzie River & Delta, Inland Waters S of 60, Lake Erie, Lake Huron, Lake of the Woods, Lake Ontario, Lake Superior, St. Lawrence, St. Mary's and St. Clair & Detroit areas. These plans incorporate detailed response information for specific manageable geographic areas or response communities. The normal operating period for an area plan is the first 12-24 hours of a spill response.

They are developed and maintained as follows:

1) Risk Analysis
   The risk analysis determines which communities or areas are most likely to be endangered by a potential oil spill and why, their associated environmental sensitivities, plus the typical type of spill that could be expected. When considering the environmental sensitivities, the focus is on what is most likely to be impacted and to consider as many factors as are applicable. A single factor discovered in the risk assessment is just one of many layers in the decision to make a site a priority.

2) Priority Identification/Verification
   Current priorities are discussed with members of the Regional Environmental Emergencies Team (REET) at planning meetings. It provides the opportunity for additions, deletions or modifications. Where there are no REET meetings held, community consultations are organized by the Planning section.

3) Strategy and Tactics Development
   Canadian Coast Guard determines RMS objectives for the agreed upon priorities. Strategies are designed, that name the activities relative to those objectives. Those activities may be response actions to be implemented, or may be the type of resources that could be affected by the spill. For area plan development, tactics provide the detail for implementing the selected strategies. Tactics then specify the resources, both human and equipment, to facilitate, to install or to maintain the strategy.

4) Updating
   Area plans are reviewed and updated annually.

Regional Procedure Development

Regional procedures for notification, verification, activation and cost recovery of a response are all described in the *Central & Arctic Regional Response Plan* of the *Canadian Coast Guard National Response Plan*. Supporting documentation in the

form of Standard Operating Procedures and supplementary plans (e.g. Health & Safety Plan and Media Relations Plan) are not included in the Regional Response Plan but are referenced in Section 9.

Liaison with External and Internal Partners, Clients and Resources

To ensure that all partners, clients and resources are aware of the Canadian Coast Guard's mandate and responsibilities as they pertain to pollution preparedness and response, the Environmental Response Planning Section takes the initiative to:

- Work with Internal Partners within Fisheries & Oceans to communicate the branch's needs in the event of a pollution incident.

  Exception: Coordination of the Duty Officer (DO) function between Environmental Response (ER) and the Regional Operations Centre (ROC) is coordinated by the Regional Emergency Operations Officer REOO).
- Work with other government departments that have a mandate for pollution response within their jurisdiction to communicate the role that Canadian Coast Guard plays in marine and freshwater pollution incidents and to share what resources Canadian Coast Guard maintains for pollution response activities and the mechanism to access these resources in the event that another Lead Agency may require them for a non-CCG mandated spill or other type of emergency.
- Liaise with potential clients (oil handling facilities, shipping companies and other operators) so that CCG expectations in the event of an incident are understood.
- Provide copies of area plans to CCG vessels that are relevant to their area of operations. CCG ER will brief Operations at the pre and post season conferences on any changes to the plans and/or to the captain and/or crew's responsibilities.
- Maintain a network of contractors that can provide services to Canadian Coast Guard in the event of a pollution incident that exceeds the resource capability of the region.
- Upon request of the Regional Advisory Councils (RACs) or Secretariat (Transport Canada) on Marine Oil Spill Response, provide information on Central & Arctic Region's preparedness and spill response activities.

Arctic Community Emergency Plans

The Canadian Coast Guard is committed to assisting Arctic communities in the development of the marine pollution component of their Community Emergency Plans. This commitment was made in 1999 when the CCG Arctic Response Strategy (ARS) was published. The Arctic Response Strategy has since been re-assessed and viable components have been incorporated into the text of this Plan.

4.4 Training Program and Curriculum

Introduction

The Training Curriculum of the Environmental Response Branch is focused on providing the necessary skills and knowledge for responders to function effectively during a spill response operation. As the competencies required for an effective spill response are described and organized within the Response Management System (RMS), so too can the training curriculum be described in the context of RMS.

With RMS as the framework for spill response, all response team members will be trained in theory and application of RMS. The level of training complexity will vary by level of individual responsibility, but all members will have fundamental knowledge of the structure and processes that drive the RMS.

In addition to the training curriculum described in this section, it is understood that there are competencies and certifications required that are not specific to ER or spill response. These would include driver's licenses, radio operator's licenses, and familiarity with basic electronic equipment such as phones, fax machines, cell phones and laptop computers.

Training Curriculum

Command Staff

During a spill response operation, the command staff will vary depending on the size and complexity of the spill.
On a smaller spill, senior ER staff members may be appointed to command positions with few subordinate or supporting positions.
On larger scale spills, the OSC may be the Director of Maritime Services, or Assistant Commissioner Canadian Coast Guard, with multiple support positions from ER staff, CG fleet, base personnel and contractors.

To adequately prepare personnel for the management functions of spill response, the following curriculum has been identified:

On Scene Command Course (OSC)
This course trains participants in all aspects of spill response including planning, implementation, and supervision. Other topics include legislation, legal issues, financial responsibilities, and media relations. Prerequisites include BOSRC, MSROC, PPO designation, media relations and management training.

Response Management System Course (RMS)
The current RMS curriculum is an introductory two-day course on the system and its user's guide. It is anticipated that future development will include multiple levels of training which will include organizational structure and

responsibilities, as well as in-depth requirements of each position within this emergency management structure.

Federal Monitoring Course (FMO) - Proposed
Subject to national development, this course will augment the On Scene Command Course to provide those persons designated as Canadian Coast Guard Federal Monitoring Officers the necessary skills and knowledge to perform FMO duties.

Operations Section

During a spill response operation, the operations section of the RMS may be populated by regional ER staff, CCG fleet officers and crew, CCG/DFO base personnel or contractors. The resident knowledge of this group will vary, and a comprehensive ER training program exists to train responders in spill response operations. Training for members of the CCG Regional Response Team (RRT) personnel is offered in the following three areas:

(a) Safety Training
(b) Operational Training
(c) Specialty Training

(a) Safety Training

Health and Safety training is required to ensure compliance with federal and provincial legislation with the ultimate goal of ensuring the health and safety of response personnel. Additional video and printed reference material is available through the Canadian Coast Guard ER Training Officer.

Site Safety Course
The Site Safety Course is designed for response personnel prior to commencing work on a response site. Topics include employer and employee responsibilities, classification and hazards of petroleum products, and the safety practices and considerations associated with both water-based and shore-based operations. Site safety training is mandatory for Regional Response Team members and all volunteers or short time workers who may be employed during a response.

Workplace Hazardous Materials Information System (WHMIS)
This 3-hour course is provided to Canadian Coast Guard employees to ensure compliance with appropriate worker safety legislation. It was developed to ensure workers have the necessary information to work safely with hazardous materials in their workplace.

First Aid/CPR
This 16 hour course provides the participants with the skills and knowledge to successfully obtain the St. John Ambulance Standard First Aid Certificate. The primary focus of this 14-hour course is to provide adequate knowledge

and level of skill to persons in positions of responsibility to provide for persons suffering from respiratory and circulatory arrest. Preventative measures are discussed.

Small Non-Pleasure Vessel Basic Safety Course - MED A3
The 8-hour MED A3 course is *required by regulation* for crewmembers of small non-pleasure vessels of not more than 150 GT operating not more than 20 miles offshore. Topics include marine hazards and emergencies, marine firefighting, lifesaving appliances and abandonment and survival and rescue skills.

Transportation of Dangerous Goods (TDG)
This 6-hour course provides personnel with the responsibility for the transportation of dangerous goods to be aware of and comply with safety measures and appropriate legislation concerning TDG.

(b) Operational Training
There are various levels of oil spill response courses designed for response team members, ships crews and other responders who may be expected to assist with marine oil spill response. Operational training related to the assessment and response to petroleum spills is delivered by ER while training for response to hazardous and noxious materials spills is obtained outside of the Branch.

First Responder Oil Spill Training (FROST)
This 1 day course is designed specifically for CCG personnel in Central & Arctic Region who are designated custodians of First Response Units (FRUs), and may be tasked with deployment of the pollution countermeasures equipment. It has also been adapted for use in communities north of 60° where Arctic Community packs function as first response units.
It teaches First Responders to:

- assess an oil spill according to its extent, possible source and likely behavior
- deploy boom for containment and protection purposes and in support of response activities
- work safely at the spill site

Basic Oil Spill Response Course (BOSRC)
This 20 hour course instructs First Responders how to:

- assess an oil spill according to its extent, possible source and likely behavior
- deploy boom for containment and protection purposes and in support of response activities
- operate oil recovery equipment
- undertake basic shoreline cleanup operations
- work safely at the spill site

Marine Spill Response Operations Course (MSROC)
This 40-hour course will enable trained and experienced personnel to coordinate and supervise the response operations of a marine oil spill. It is intended to train individuals to be On Scene Commander (OSC) for small (tier 1) spills, or operations section chief on larger spills. Topics include legislative framework, safety, equipment suites and strategies, media relations, RMS, shoreline assessment and cleanup techniques, and disposal. Prerequisites include BOSRC, a Radio Operator License and current or future deployment to a spill response team.

Environmental Response Duty Officer (ERDO) Training
This 15 hour course is a prerequisite for duty officers for the ER branch and the regional operations centre. It introduces the participant to CCG mandate, lead agency responsibilities and introductory spill assessment techniques. It also integrates delivery of training on the Marine Pollution Incident Reporting System (MPIRS), the database used to capture spill report and response information.

Pollution Response Officer (PRO) Training
This three day course is currently provided by the Environmental Response Branch of the Canadian Coast Guard and is required training for all Environmental Response personnel. Participants who successfully complete this course earn the designation of Pollution Response Officer under Part 8 of the Canada Shipping Act (2001). This course examines the powers of a PRO, specific procedures related to vessel directions and detentions and the legal framework and implications surrounding the execution of those powers. Course participants also learn sampling procedures and gain an understanding of the role of other government agencies involved in a marine pollution incident.

Pollution Prevention Officer (PPO) Training
This 40 hour course is currently provided by the Marine Safety Branch of Transport Canada. It is a prerequisite for any officer of the Canadian Coast Guard to be delegated Pollution Prevention Officer (PPO) powers under the *Arctic Waters Pollution Prevention Act*. Participants learn the existing pollution prevention and response regime, the powers of a PPO and the specific tasks of prevention, control, investigation and prosecution.

Small Vessel Operator Proficiency
This 21-hour course meets the training needs of the small vessel master. This course is required by regulation (for vessels less than 5GT on sheltered and near coastal voyages) and teaches participants to effectively manage safety of those on board, protect the vessel from damage and protect the marine environment.

Basic Barge Operator Training
This course was developed and is delivered by regional ER staff. Through both classroom and practical sessions, the course introduces participants to safe boating practices and procedures, rules of the road, collision regulations, load plans for pollution response vessels, safe deployment of oil spill response equipment and basic trailer towing and maneuvering.

Single Side Sweep System
The single side sweep is an equipment suite designed to allow one vessel to perform oil containment and recovery, and allow for temporary storage. This two day training session is provided to some ER staff and crews of Canadian Coast Guard vessels that can support this equipment. This training typically is conducted with crews who have previously completed BOSRC.

HAZMAT Awareness
This 6-hour course is intended for First Responders on the scene of a hazardous materials incident and shows how to assess the incident. Topics include; First Responder's role and responsibilities, scene safety, recognizing and identifying hazardous materials, incident management, and sources of assistance.

HAZMAT Technicians Level
This 40-hour course is designed for responders to releases or potential releases of hazardous substances. The focus is on recognizing and evaluating a hazardous materials incident, organizing the response team, protecting response personnel, identifying and using response resources, implementing basic control measures, decision-making, and protecting the public and environment. Emphasis is on hands-on use of equipment practically applying lecture information through exercises. Participants will wear fully encapsulating suits.
Prerequisite: Hazmat Awareness.

(c) Specialty Training
Specialty training includes training that only select members of the Regional Response Team (RRT) will have to apply.

Shoreline Clean up and Assessment (SCAT)
This 24-hour course covers how oil impacts the shoreline. Specific topics include shoreline types and effects of oil, wind, waves and ice on shorelines. Shoreline protection and cleanup methods are described in depth. Field exercises are conducted as part of the training.

Media Training
This 16-hour course is designed to provide participants with the skills and knowledge to communicate effectively and proficiently with various forms of media. Topics include; developing and disseminating incident information to

news media, incident personnel, other appropriate agencies and organizations.

Communications System Training
This 8 hours hands-on course provides participants with the knowledge and skills to provide communications in support of a spill response. Topics include; mobile telephone, fax, and intercom set up, preparing communication plans, and internal/external spill response communications.

Wildlife Rehabilitation
The capture and treatment of oiled wildlife is typically assigned to the trained experts at Canadian Wildlife Service (CWS). This CWS training is periodically made available to outside agencies, and some ER staff may participate to facilitate a better understanding of each others' role at the time of a spill.

Financial Management
This training is provided by the Public Service Commission (PSC) and teaches government spending and cost accounting principles. It is imperative that any response team member who may have to purchase assets or manage contracts be familiar with these practices and procedures.

Planning Section
During a spill response operation, the planning section of the RMS will likely be populated with ER staff whose substantive positions are as Planning Officers within the branch. Therefore, the planning skills and training required to effectively and efficiently perform these tasks should be resident within our branch staff.

Should additional personnel be required to fulfill these roles, they would require training in RMS, as well as Site Safety (as required by OSH regulation). The required planning skills and spill response knowledge may be acquired through various training or experience factors, and would be assessed prior to assignment on the response team. In addition to planning skills, preferred training might include SCAT, FROST and/or BOSRC, and MSROC.

Logistics Section
During a spill response operation, the logistics section of the RMS will likely be populated with ER staff whose substantive position involves the tracking of spill response equipment inventory and human resources within the region. Therefore, the skills and training required to efficiently and effectively perform the logistics function should be resident within our regional ER staff.

Should additional personnel be required to fulfill these roles, they would require training in RMS, as well as Site Safety (as required by OSH regulation). The required logistical skills may be acquired through various training or experience factors (knowledge of IRCMS and TMA, BOSRC training) and would be assessed prior to assignment on the response team.

Finance Section
During a spill response operation, the finance section of the RMS will likely be populated by regional finance staff whose substantive positions involve government expenditure and cost accounting knowledge and application. Therefore, the skills and knowledge required to effectively and efficiently perform the finance function should be resident within regional Canadian Coast Guard staff. These personnel will require RMS and Site Safety training prior to deployment on a spill response team.

Training Records
Records for personnel trained in spill response and/or emergency management are maintained by the Region.

4.5 Exercise Program

Introduction
Under the guidelines of the National Exercise Program (NEP), the Environmental Response Branch will implement a Regional Exercise Program. This program will be conducted over a three-year cycle. Coordination of the program will be the responsibility of the Regional Exercise Officer (RXO) of the Environmental Response Branch. Exercises will be designed and conducted in coordination with departmental staff, CCG base staff and CCG vessels on a regular basis. The purpose of the Regional Exercise Program is to validate environmental response training and regional emergency preparedness standards, policies and procedures.

Canadian Coast Guard will, through regional and area-specific exercising, ensure high priority initiatives such as exercising complex equipment (i.e. Lori Brush skimmers, sweep systems and command/communications facilities) are undertaken and will use industry and private sources of personnel where possible and/or appropriate.

Exercise Planning Matrix
The matrix below represents a typical three year exercising cycle followed by Canadian Coast Guard. The program cycle is designed to test all 17-response functions as outlined under NEP as well as including the different types of exercises. It includes internal, external (with other government departments as well as private sector organizations) and international exercises.

Table 4.1 *- Central & Arctic Region Exercise Matrix*

EXERCISE TYPE	YEAR1	YEAR2	YEAR3
Notification	**Quarterly**	**Quarterly**	**Quarterly**
Management	**2**	**2**	**2**
Operational drills	**3**	**3**	**3**
Combined Functional	**1**	**1**	**1**
Full Scale	**0**	**1**	**0**

Notification exercises will test the regional call-out system. Some of these exercises will be internal to the branch, some will be a full regional call-out to all CCG and DFO staff as well as to external resources (eg: freight contractors to check their availability to move Marine Emergency Response Trailers (MERTs) or First Response Units (FRUs).

Management exercises will focus on the development of the spill through the Response Management System (RMS).

Operational Drills will focus on equipment deployments in packages (i.e. a First Response Unit, NOFI V-Sweep).

Combined Functional exercises will be an equipment deployment (operational drill) with the goal of implementing a tactic designed in one of the Region's Area Plan Annexes.

A *Full Scale* exercise will incorporate a management-type exercise with the concurrent deployment of a spill countermeasure system (system = pollution containment, recovery, primary and secondary storage devices)

Exercising Partnership

Canadian Coast Guard will endeavor to participate, by request and on a situation by situation basis, in exercises lead by Oil Handling Facilities (OHFs), certified Response Organizations (ROs) and other government agencies throughout the Region.

Central and Arctic Region is a part of the Canadian Coast Guard response community and as such is also part of the International Response Community. Canadian Coast Guard's regional boundaries are in such close proximity with our United States neighboring response communities that joint exercising is a high priority. Specifically this region conducts joint exercises in the geographic areas of the Great Lakes and the Beaufort Sea with the United States Coast Guard's (USCG) (9^{th}) ninth (Great Lakes) and (17^{th}) seventeenth (Alaska) districts, respectively.

Exercise Evaluation and Shared Learnings

An important part of the National Exercise Program is the evaluation and use of subsequent findings. Four types of information can be learned from an exercise, all of which lead to improvement of overall response capability.

1) Contingency planning
2) Response techniques
3) Response training
4) Exercise program development

The primary sources of the information and learning will be the formal exercise evaluation report that is produced for every exercise by the evaluation team. This formal exercise report will follow the format laid out in Section 11 of the *Canadian Coast Guard National Exercise Program Planning and Evaluation Guide*.

4.6 Inventory Management, Maintenance and Infrastructure

Inventory Response Control Management System

To ensure that a nationally consistent and effective state of preparedness is maintained, an Inventory Response Control & Management System (IRCMS) has been implemented which utilizes The Management Authority database as its main tool. CCG HQ administers this system in concert with regional IRCMS Officers. In this region the program is administered by the Logistics and Statistics Officer in the Operations Section.

This system has been developed to:

- Maintain a real time record of the location and quantity of resources;
- Maintain a proper state of readiness through a pro-active approach using work orders and preventative maintenance;
- Assist in keeping response managers informed about Environmental Response's state of preparedness;
- Assist in the tracking of National Response Team personnel or equipment assigned to National or International incidents

Pre-positioned Equipment Caches and Depots

Central and Arctic Region covers an extremely large geographical and culturally diverse portion of Canada. There are, in essence, two zones of operation which are entrenched in the *Canada Shipping Act*. These are:

- the Arctic Zone, or all areas of Canadian jurisdiction north of 60^0 North Latitude; and
- the Central Zone, dominated in a marine transportation sense by the Great Lakes, but which include the southern portions of Hudson and James Bay, along with the major waterways and watersheds of Lake Winnipeg, Winnipegosis, Lake of the Woods, and Lake Athabasca.

The Environmental Response (ER) Branch has pre-positioned equipment to facilitate and maintain an effective response operation. Response strategies in each of the two zones (Central or Arctic) are based upon identification of local and regional response. This is means that the equipment generally required for such a spill size is contained within the Region. This capacity is supplemented by nationally available resources, which would be "cascaded" from/to other regions when and if required. Preparedness capacities in other regions are identified in their respective Regional Response Plans.

Arctic Zone

Arctic Community Packs (ACPs) are placed in northern communities for rapid (local) initial response. Canadian Coast Guard provides initial response training to members of the communities so that they may effectively deploy equipment in the ACPs in the event of a spill. Access (keys) for the ACPs have been given to an official in each community in most cases. The Senior Response Officer (ER-Hay River) maintains the current key holder listing.

The inventory for each Canadian Coast Guard Arctic Community Pack location is listed in Table 4-2. The program has received funding under the Health of the Oceans Initiative to proceed with placing Arctic Community Packs in additional sites. The equipment profiles at the existing Arctic Community Pack sites will be changed to reflect characteristics of the community. The inventory at all communities will be "site specific" and will coincide with response strategies designed by the ER planning group. The locations for the proposed additional Arctic Community Packs are: Baker Lake, Broughton Island (Qikiqtarjuaq), Chesterfield Inlet, Churchill, Hall Beach, Kimmirut, Iqaluit, Pangnirtung, Tuktoyaktuk and Yellowknife.

The main base of operations with Environmental Response dedicated personnel is located in Hay River, Northwest Territories. This base is home to a Rapid Air Transportable (RAT) cache of equipment known as the "RAT150". The RAT150T used in conjunction with the "Delta" (Δ) 1000T meets planning standards for a 1000 tonne (T) response. The selection of equipment for the RAT150 must meet pumping rates / capacities of 1000T thresholds and be complimentary[2] to the equipment held in the Δ1000T depots.

The response package, warehoused in Hay River, will be maintained in 100% readiness during the shipping season. The equipment will be broken down and be containerized such that it will fit through the smallest cargo door of any of the selected aircraft. Equipment will be TDG compliant, be palletized as appropriate, and labelled for ease of selection and loading.

[2] The logistics of moving large bulky items (ISO containers) in the arctic necessitates a LCM, deck barge, cargo vessel, icebreakers or any combination thereof. Consequently it is estimated that the 1000T design capacity would be available staged on-scene in 5 - 7 days. Following the doctrine *something sooner rather than everything later* having 150T of the 1000T equipment suite air-lifted within 48 hours is preferable to having nothing until the entire 1000T capacity arrives a week later.

Table 4-2 *- Canadian Coast Guard Arctic Community Pack Locations*

LOCATION	EQUIPMENT SUMMARY			
	Boom (24")	**Skimmers**	**Boats**	**Storage**
Arctic Bay (Ikpiarjuk)	3,650'	TDS-118	16' Aluminum	Open top Tank
Cambridge Bay (Ikaluktutiak)	1,350'	TDS-118	16' Aluminum	Open top Tank
Cape Dorset (Kinngait)	1500'	TDS-118	16' Aluminum	Open top Tank
Clyde River (Kangiqtugaapik)	4,500'	TDS-118	16' Aluminum	Open top Tank
Coppermine (Kugluktuk)	1,350'	TDS-118	16' Aluminum	Open top Tank
Coral Harbour (Salliq)	1,500'	TDS-118	16' Aluminum	Open top Tank
Gjoa Haven (Uqsuqtuuq)	1,350'	TDS-118	16' Aluminum	Open top Tank
Holman (Ulukhaktok)	1,500'	TDS-118	16' Aluminum	Open top Tank
Rankin Inlet (Kangiqsiniq)	2,200'	TDS-118	16' Aluminum	Open top Tank
Resolute (Qausuittuq)	1,350'	TDS-118	16' Aluminum	Open top Tank
Hay River FRU +	1,000'	-	37' Seatruck 42' Cutter	-

In combination with the RAT150T, equipment found in the ∆1000T depots will be at a 1000T capacity. Hence, the delta or "∆" is the difference between the RAT150T and a full 1000T. The ∆1000T depots will have containerized heavier equipment (not suitable for air transport to smaller communities) augmenting the RAT150T to a 1000T capacity, ready to be loaded on deck barge, Canadian Coast Guard icebreaker or freighter. While response personnel cascade in to the spill site pre-identified local, CCG base and available ER personnel will mobilize to the centres and load the equipment on suitable marine transport.

Three ∆1000T depots are strategically located in the northern communities of Tuktoyaktuk (NorthWest Territories), Iqaluit (Nunavut), and in Churchill (Manitoba). For the purposes of response in Central & Arctic Region, Churchill is included in the Arctic Zone of operations despite it being south of 60° North Latitude due to the similarities in response characteristics that it shares with locations north of 60° North Latitude.

Table 4-3 *- Canadian Coast Guard Arctic Design Inventory*[3]

PCM equipment	Description	Hay River RAT150T	Tuk Δ1000T	Iqaluit Δ1000T	Churchill Δ1000T
Skimmers	Light to medium product /disk type	3	1	1	1
	Heavy product /weir type	0	2	2	2
Boom	24" river type	0	10000'	10000'	10000'
	24" lay-flat type	5000'	0	0	0
Land storage	4T Open top tank	0	0	0	0
	8T Open top tank	7	3	3	3
	45T shore bladders	3	0	0	0
O/w storage	Total (in 5-25T Seaslugs)	50	250T	250T	250T
Pumps	2" low pres / volume style	4	1	1	1
	4" trash	5	1	1	1
	3" positive displacement	6	1	1	1
Vessels	"Car-topper" + 9.9hp	0	0	0	0
	Seatruck	0	2	2	2
	RAT RHI	2	0	0	0
Generators	5KW gas	7	2	2	2
Pressure washer	Larger hot water type	1	1	1	1
	Small cold water type	3	1	1	1
Incinerator	Sorbent	2	0	0	0
	Liquid waste	2	0	0	0

Central Zone

The Central zone is dominated by the Great Lakes and has well defined road transportation infrastructure.

Local / first response inventories have been established at all regional Canadian Coast Guard shore-side facilities that have fleet assets or a significant number of program vessels and that have operational personnel to deploy the equipment. Standardized inventory consists of a 20-24' trailer with a 1000' (nominal) of 24" boom and related accessories.

The 2500T Rapid Road Transportable cache is centred around the St. Mary's River and from time to time in major CCG facilities in Ontario. The response package warehoused in a series of 45' transport trailers will be maintained in 100% readiness during the shipping season. The primary purpose of the RRT 2500T system is significant containment of resources; shoreline, sheltered, and off-shore sweep and recovery ability; and staging and storage transfer area equipment.

[3] Inventories in Tuktoyaktuk and Iqaluit are at 95% completion. The Churchill Depot is at about 50% (pending the construction of a new and adequate facility) with the bulk of the inventory in storage at the Thundar Bay Coast Guard base. The RAT 150 needs an evaluation of the command and control component as well as storage for the second Saccke burner.

Table 4-4 *Canadian Coast Guard RRT 2500T Design Inventory*

PCM equipment	Description	BOOMERT #1-5 (each)	SKIMMERT #1 and #2[4]	Softside
Skimmers	Light to medium product/ disk type	-	3	
	Heavy product/ weir type	-	1	1
Boom	24" river type	4000'		
Sweep	36" Nofi V-sweep	-		1
Land storage	4T Open top tank	-	7	1
O/w storage	25T Towable bladders	-	4	4
Pumps	3" positive displacement	-	4	1
Generators	5KW gas	-	2	

Table 4-5 *Canadian Coast Guard locations for First Response Units (FRUs)*

Location	Relevant Area Plan(s)	Primary custodian	Secondary custodian
Amherstburg	Lake Erie/St. Clair-Detroit	SAR crew	ITS field services
Cobourg	Lake Ontario	SAR crew	
Gimli	Lake Winnipeg	SAR crew	
Goderich	Lake Huron	SAR crew	
Kenora	Lake of the Woods	ITS field services	
Kingston	Lake Ontario	SAR crew	
Meaford	Lake Huron	SAR crew	
Parry Sound	Lake Huron	ER personnel	ITS field services
Port Dover	Lake Erie	SAR crew	
Port Weller	Lake Ontario	SAR crew	
Prescott	St. Lawrence River	ER personnel	ITS field services
Selkirk	Lake Winnipeg	ITS field services	
Thunder Bay	Lake Superior	SAR crew	ITS field services
Tobermory	Lake Huron	SAR crew	
Hay River	Mackenzie River & Delta	ER personnel	ITS field services

[4] An additional SkimMERT is being added this year to accommodate additional hoses. The exact configuration of each SKIMMERT is not known yet so the inventories will remain listed together for this year.

Section 5 - RESPONSE OPERATIONS

5.1 Pattern of Response

Based upon the principles outlined in the *National Response Plan*, *(Sections 1.3, 1.5 & 4.4),* Central and Arctic Region assesses, notifies relevant parties, and initiates the tasking/deployment of necessary resources. This is based upon the determination of CCG's role as Lead or Resource Agency and the appropriate CCG Posture. The Duty Officer (DO) is tasked with this initial assessment, which is then verified by the Superintendent, Environmental Response. The appropriate response is activated by the Superintendent who in turn assigns an On-scene Commander (OSC) or Federal Monitoring Officer (FMO) and notifies Canadian Coast Guard (CCG) Management. Upon termination of the incident cost recovery actions are undertaken. To illustrate the generic process see Figure 5-1-Typical Sequence of Events and Table 5-1-Typical Functions Descriptions has been provided.

CCG Expectations of Ships for Response

In most instances when a spill occurs the initial report will trigger the mobilization of local response organizations. It is not normally practical for ship personnel to be directly involved in the clean up activities.

Small Spills

Ships are expected to take whatever actions listed in their Shipboard Oil Pollution Emergency Plan (SOPEP) that are reasonable and necessary to prevent the oil from escaping over the side and having done so, to take action to clean-up the oil contained on deck. Spilled oil should not be washed overboard, nor should degreasers or dispersants be used on spilled oil in the water. Once the oil is in the water, the ship's ability to respond in a practical manner is greatly reduced. It is Canadian Coast Guard's expectation that a response organization or other competent contractor be called upon to provide operational response capability at the discretion of the Polluter.

Where there is no availability of local response contractors or where there is a delay in response activation, the Master of the vessel should consider the use of available materials to contain and clean up the spilled oil by, for example, using ship-stocked absorbent material or utilizing mooring ropes or air filled hoses as makeshift booms.

Large Spills

The ship is restricted as to what action it can take to respond to a major spill. In the case of a casualty the safety of the ship and crew take priority. Therefore the ship's actions will be limited to reporting the incident details

to the appropriate authorities and to ensure that a response is initiated. In large spills it is Canadian Coast Guard's expectation that the Polluter appoint an On-Scene Commander (OSC) which may be a representative of the company that owns the ship or the ship's insurer.

Canadian Coast Guard needs to be kept informed as to the escalating response costs accrued by the Polluter during a response in order to prepare for the possibility that the Polluter will cease their response activities once their Limit of Liability is reached.

CCG expectations of Oil Handling Facilities (OHF) for Response

In most instances when a spill occurs, the initial report will trigger the mobilization of the facility response team. It is normal, in most cases, for the oil handling facility personnel to be the initial responders when a spill occurs.

Small Spills

For the purpose of this plan, a small spill will be defined based on the maximum oil transfer rate of the oil handling facility (i.e. what Level it is assigned under the *Canada Shipping Act, 2001),* which directly links to the minimum spill size to which it must be prepared to respond to within one hour. Oil handling facilities are required to have the resources on site to contain a spill of a minimum size within one hour and have the resources required to recover, or where the oil cannot be recovered the resources to control a spill of a minimum spill size within six hours. Response organizations may be called upon to provide additional operational response capability at the discretion of the Polluter.

Large Spills

For the purposes of this plan, any spill above the facility's minimum spill size will be characterized as a large spill. Oil handling facility personnel are still expected to deploy their on-site equipment. Response organizations will likely be called upon to provide additional operational response capability at the discretion of the Polluter.

***Figure 5-**1 - Pattern of Response – Typical Sequence of Events*

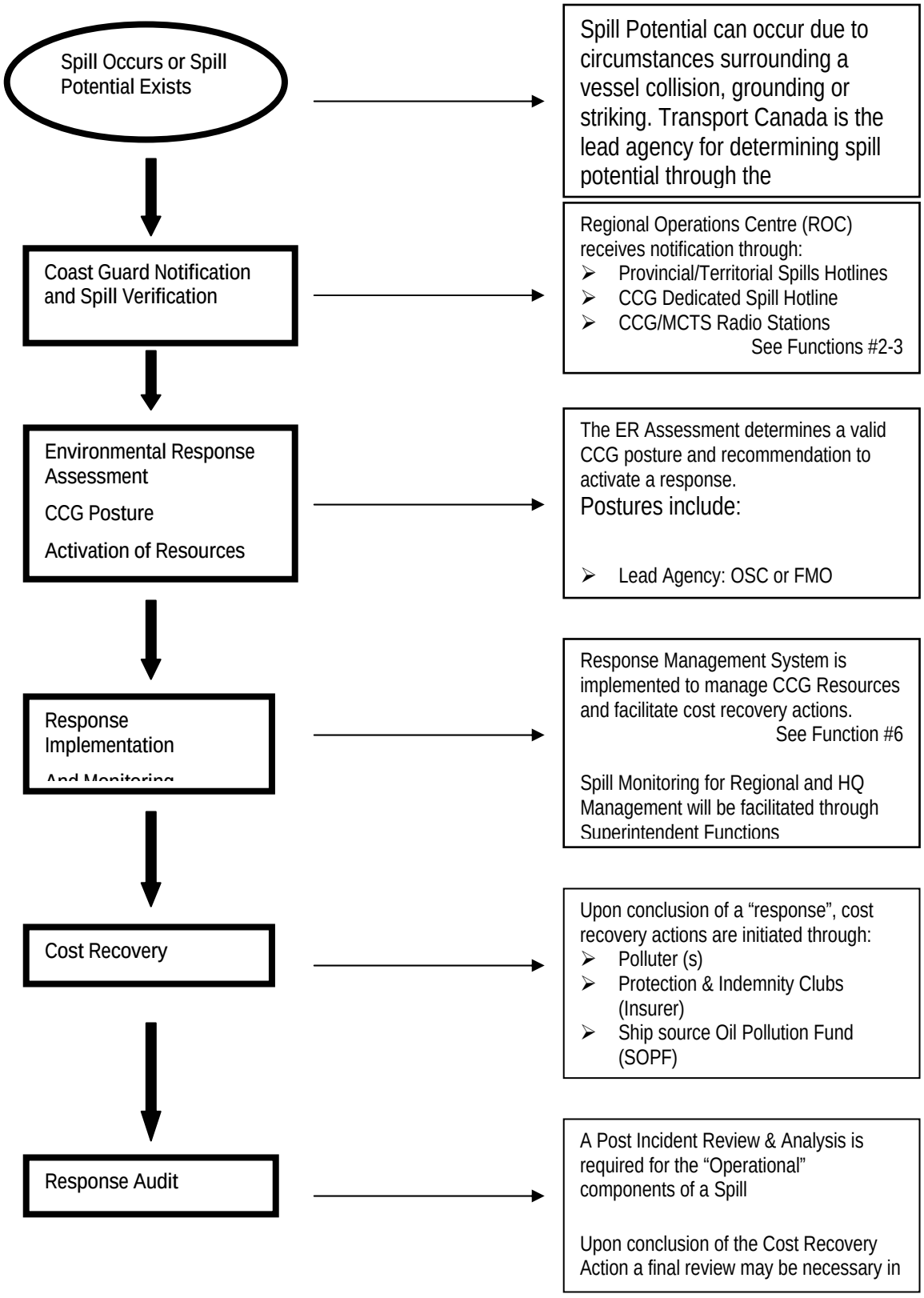


Table 5-1 *- Pattern of Response – Function Descriptions*

Function		***Description***
1	**Responsible Party/Third Party Functions** *(Spill occurs or sufficient potential risk exists)*	• Spill is sighted/reported. Spill reports originate from source (to regulatory body) or by third party (to various emergency or dedicated pollution hotlines) • Transport Canada is responsible for determining potential risk
2	**Spills Hotline Functions** *(Canadian Coast Guard Notification)*	• Assessment for dissemination • Dissemination (fan out according to applicable procedures) to relevant parties, calls from other spill hotlines are received by CCG-ROC.
3	**CCG-ROC Duty Officer Functions** *(Canadian Coast Guard Spill Verification)*	• Spill Assessment-pollution verification ➢ Mandate Confirmation ➢ Pollution Verification ➢ Source Credibility • Notification to ERDO • Dissemination • Initiation of MPIRS
4	**ER Duty Officer Functions** *(Environmental Response Assessment – CCG Posture)*	• Spill Assessment-response analysis • Source Control/Mitigation • Safety Issues • Tactical & Logistical Issues • Recommendation to Superintendent of likely Response Posture • Documentation – MPIRS
5	**Superintendent Functions** *(Environmental Response Assessment – Activation of CCG Resources)*	• Response Posture Evaluation ➢ Potential Risk to CCG Personnel and Equipment ➢ Propriety of request ➢ International Implications • Identification of OSC/FMO • Obtain an Order-In-Council (Arctic) • Obtain a Finance Code & Regional File Number • Notification of Senior Management and ongoing monitoring • MPIRS documentation • Obtain AC CCG sign off on MPIRS situation report
6	**OSC/FMO Functions** *(Response Implementation*	• Management or monitoring of response using the Response Management System (RMS). Escalation or de-escalation in accordance with needs of the incident. • Consolidation of all documentation upon conclusion of the response for Cost Recovery purposes. • Coordinate final debrief to facilitate future improvements to the systems and processes in place.
7	**Chief Financial Officer Function** *(Cost Recovery)*	• Utilizing CCG Ship-source and Marine Pollution Response Costing Principles and Documentation Standards (DFO 6332) compile pollution response costs recovery claim.

8.	**Internal** **Review Team Functions** *(Audit)*	• Utilizing the National Exercise Program Planning and Evaluation Guide, a Team is selected to complete the Post-Incident Review of an incident. • Improvements & corrective actions are to be documented

5.2 Spill Potential or Pollution Risk Assessment

Given an actual spill (i.e. pollutant in the water), the activities specified in this plan are rather obvious. However, in the event of vessel grounding, striking or collision that does not immediately result in a release, the responsibility for determining the risk of pollution rests with a Pollution Prevention Officer (PPO) within the Marine Safety (MS) branch of Transport Canada (TC). Should TC-MS be unable to make that determination, the Canadian Coast Guard (CCG), Environmental Response Duty Officer (ERDO) will complete that requirement. In some cases this may involve engaging a marine architect as no accredited expertise for vessel stability assessment resides within the ER section.

For all other areas where Canadian Coast Guard is the Lead Agency, this activity shall be considered the responsibility of the Canadian Coast Guard, Environmental Response Duty Officer.

5.3 Notification

To facilitate the notification of Canadian Coast Guard, and in addition to the existing Marine Communications system, a series of call-out or “Spill Hotline” agreements with the Province of Ontario, Nunavut and Northwest Territories and other Federal Departments within the Region have been implemented.

In addition, Central and Arctic Region, provides a 24 hr public access spills hotline:

24 hour toll free - Spills Hotline:
1-800-265-0237

Notification may occur through various mechanisms, depending upon the manner in which the spill (incident) occurs.

5.4 Verification

In all cases, spill information is initially processed and verified through the Regional Operations Centre (ROC) located in Sarnia, Ontario (See Section 3.3 – Organization). The ROC Officer on duty:

1. Determines whether the pollution is within Canadian Coast Guard’s mandate as Lead Agency or as a potential Resource Agency
2. Establishes the credibility of the source

3. Identifies the following:
    - Incident name (nature of incident)
    - Time of call (local / UTC)
    - Time of spill (local/UTC) *(if available)*
    - Reported by / call back particulars
    - Source determination
    - Incident background and description of clean-up activities (if any)
    - On-scene environmental/atmospheric conditions
    - Pollutant type and quantity
    - Verifying party contact information (as applicable)
4. Initiates an MPIRS entry for the following cases:
    - Originally pursuing verification as Canadian Coast Guard mandate but additional information about source changes lead to another agency
    - Canadian Coast Guard mandate and verified no pollution
    - Canadian Coast Guard mandate and verified pollution
    - Likely to impact on / impacting on foreign waters
    - Significant impact on region, though not falling under Canadian Coast Guard mandate.
    - Request for Canadian Coast Guard as a resource agency.
5. Enters information into MPIRS (indicated in #3 above) as well as name of paged ERDO.

This information is then relayed to the Environmental Response Duty Officer to determine Canadian Coast Guard posture. It should be noted that all spill incidents, irrespective of CCG's mandate, may require Canadian Coast Guard resources if requested (see Resource Agency Role in Section 1.5 of the *National Response Plan).*

By agreement, spill verification will be completed by the Regional Operations Centre (ROC) Duty Officer. The verification will be complete when the ER Duty Officer is advised where Canadian Coast Guard is Lead Agency. (see Figure 5.2 Pollution Verification Process and Figure 5.3 Response Analysis Process)

5.5 Spill Assessment – Environmental Response Duty Officer

To facilitate the requirement for efficient and rapid notification and assessment of incidents, Central and Arctic Region, in accordance with the *National Response Plan,* Section 4.4, has instituted a 24-hr year round monitoring regime integrated with the Regional Operations Centre (ROC). The following sections identify the context in which this activity is carried out.

Coordination

The coordination of the ER Duty Officer is the responsibility of the ER Regional Emergency Operations Officer (REOO). These duties include assigning shifts in an equitable manner, keeping records of the duty officer schedules, maintaining equipment required to perform ER Duty Officer functions, reviewing individual ER Duty Officer performance, reviewing ER Duty Officer procedures, and liaising with the ROC and National HQ.

Performance

The ER Duty Officer function shall be performed by the following positions provided sufficient experience, appropriate training, and at the discretion of the Superintendent ER:

- ✓ Senior Officers
- ✓ Those in capacity to act for Senior Officer.

Review

The ER Duty Officer procedures shall be reviewed in reaction to:

- Changes at the Regional Operations Centre (ROC) affecting the ER Duty Officer function
- Changes in Canadian Coast Guard (CCG) policy on the response to ship source pollution
- In consideration of accepted recommendations stemming from exercises and operational responses.

The individual officer performance shall be reviewed in context of their execution of a spill assessment.

Responsibilities

At the beginning of the ER Duty Officer's shift the following are required:

- Functioning communication equipment (pager, cell phone/Blackberry);
- The necessary analytical tools (e.g. spill assessment forms, Greenwood's Guide to Great Lakes Shipping, Area Plans, Oil Spill Response Field Guide, OSH reference tools, and the CANUTEC Emergency Response Guide book.)

During the ER Duty Officers shift the following are required to be complete:

- MPIRS cases for any spill reports that required ER Duty Officer analysis by noon of the next business day;
- Extra Duty Reports;
- Notification of the next ER Duty Officer and the ER Regional Emergency Operations Officer of any on-going cases.

Availability

The availability of the ER Duty Officer is 24 hours/7 days a week. Pages must be responded to within 10 minutes of notification. Should the ER Duty Officer (DO) be unable to fulfill their duties at any time during the shift, they are required to

notify the ER Regional Emergency Operations Officer (REOO) immediately who will notify the ROC of any changes immediately. The following activities conflict with the performance of the ER Duty Officer function:

- travel out of country / region / pager range;
- inability to respond immediately due to performance of other job functions (instructing a course, running an exercise, delivering a presentation, involved in a maintenance run that would be too difficult to reschedule, chairing a meeting, or participating in any activity that requires attendance or would be inappropriate to leave);
- inability to respond immediately due to personal reasons (vacation, sickness, etc.).

Should an individual become unavailable for a significant portion of the shift for reasons noted above, that shift may be assigned to another officer at the discretion of the ER Regional Emergency Operations Officer.

Function

The primary function of the ER Duty Officer is to complete an initial incident assessment and analysis, making a recommendation to the Superintendent of ER as to the appropriate course of action. **

The initial assessment will be complete for the following cases:

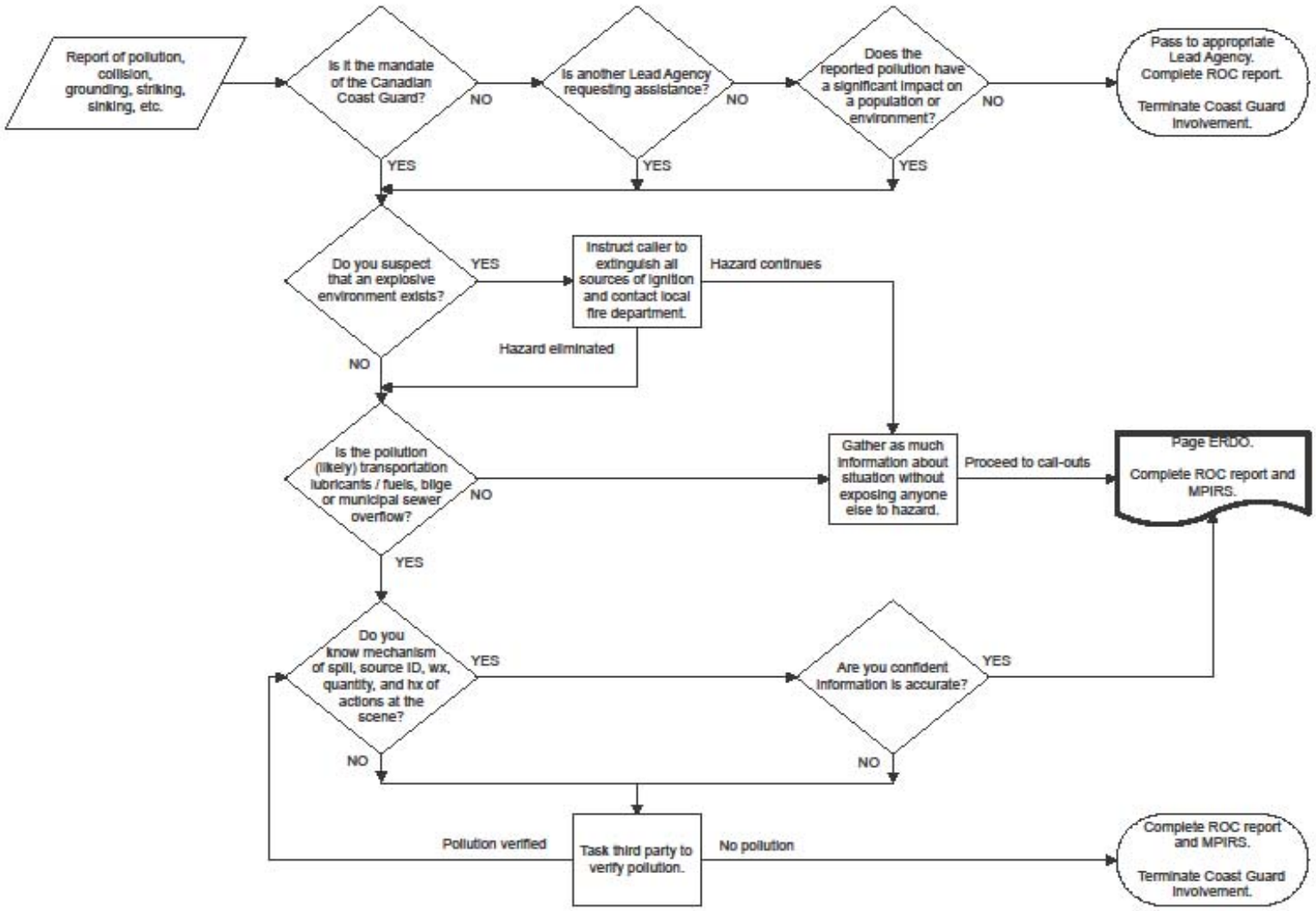
- Canadian Coast Guard mandate and verified pollution
- Likely to impact on / impacting on foreign waters
- Significant impact on region, though not falling under Canadian Coast Guard mandate.
- Request for Canadian Coast Guard as a resource agency.

The analysis function is complete when the Superintendent ER is informed and advised of the recommended course of action that will consider the following (see flow chart):

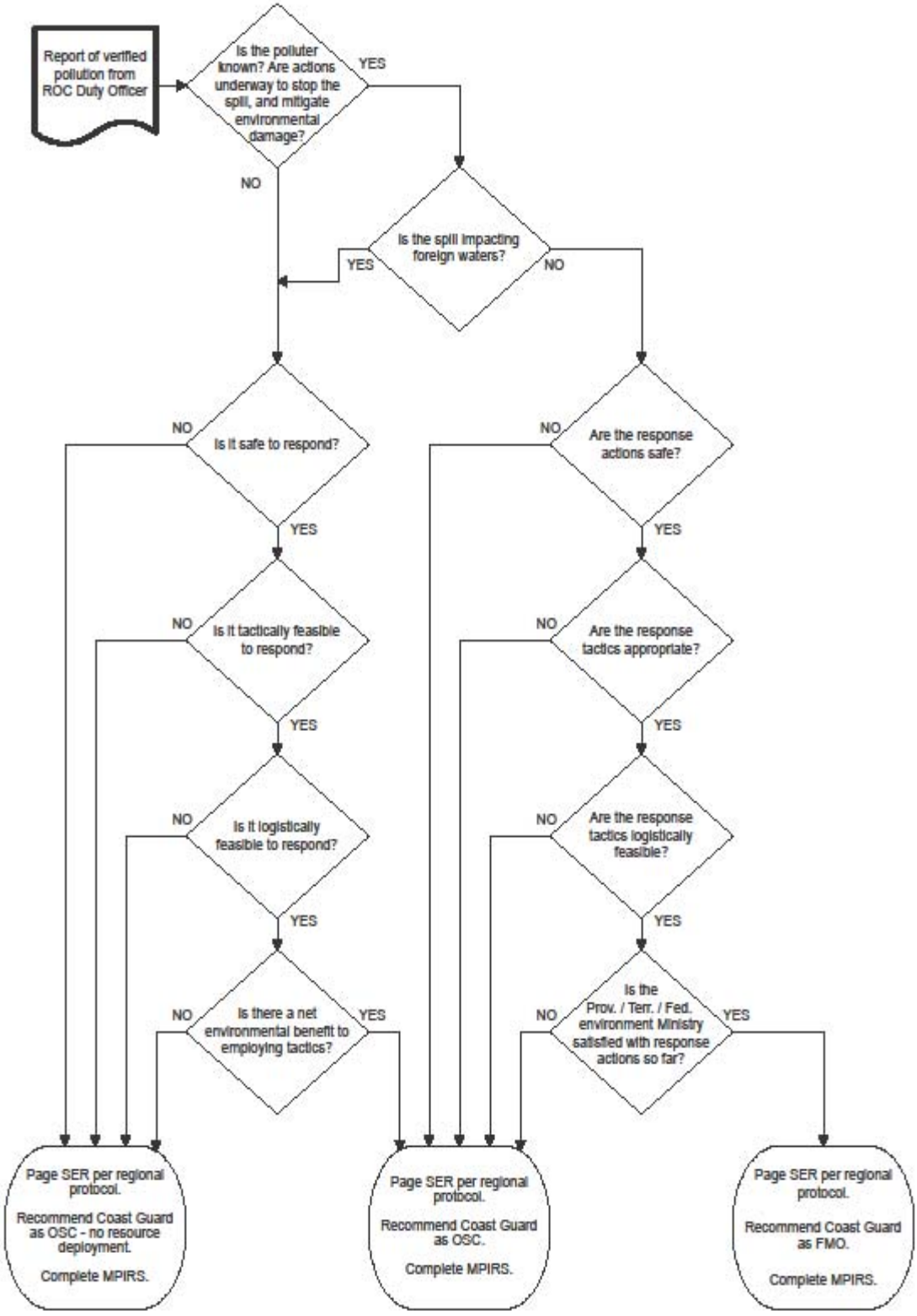
- polluter's actions and intentions (if applicable);
- safety concerns, tactical, logistical, and environmental feasibility of any response.

** The ER Duty Officer does not need to notify the Superintendent of any incidents that require "no activation" of CCG resources (assets/personnel) in monitoring/clean-up activity.

Spill assessment: *pollution verification process*



Spill assessment: *response analysis process*



5.6 Activation of Canadian Coast Guard Response Resources

In the event of small (0-150 T) to medium size (150-1000 T) spill incidents, the Superintendent, Environmental Response, acting upon the assessment provided by the Duty Officer, initiates/activates the appropriate response. This entails, but is not limited to, the following activities:

- Identification of overall health and safety risks to response personnel.
- Establishing the propriety of the recommended response posture. This includes the verification of international issues in border areas.
- Verification of Canadian Coast Guard capability to respond, impact on normal regional operations and, if necessary, the potential requirement for the notification and activation of the National Response Team.
- Assignment of the designated On-Scene Commander (OSC) or Federal Monitoring Officer (FMO). SROs are typically assigned as FMO/OSC for incidents occurring within their geographic area.
- Obtaining the necessary Order-in-Council, for spills in Arctic Waters
- Obtaining the financial project code, and forwarding it to the OSC/FMO.
- Signing a contract with the Response Organization (RO) in accordance with PWGSC contracting rules.
- Creation and dissemination of initial situation report to Regional and National management in accordance with the *Safety and Environmental Response Systems (SERS) – Incident Notification Guidelines*.
- Completion of MPIRS to document above activities.

For significantly larger spill incidents (1000T and above) the Superintendent, Environmental Response shall immediately assume the OSC/FMO role, notify Regional and National management of the situation and initiate the Response Management System (RMS) (and activation of the National Response Team, if necessary) in addition to the above activities. Upon stabilization of the immediate emergency, the Assistant Commissioner, Canadian Coast Guard, Central and Arctic Region and/or Director General, Canadian Coast Guard shall assess the requirement for assigning a new OSC/FMO.

5.7 Response Implementation

As stated previously (Section 4 - Preparedness), the Canadian Coast Guard will employ the Response Management System (RMS) as its primary management and operational tool. At the heart of this system is the development of clear obtainable objectives and the implementation of the supporting tactical deployment. This is achieved through the creation of incident action plans spanning specified operational time periods. For small spills these plans can be rather informal. As spill size and impacts increase, so to will the complexity of

operational assignments and hence a need for greater formalization of the Incident Action Plan.

All operations shall be carried out in accordance with the Guiding Principles set out in *Section 1.3* of the *National Response Plan* and the *Oil Spill Response Field Guide* (ISBN 0-660-16112-5).

Central and Arctic Region covers an extremely large geographical and culturally diverse portion of Canada. There are, in essence, two zones of operation which are entrenched in the *Canada Shipping Act*.
These are the:

- Arctic zone, or all areas of Canadian jurisdiction north of 60^0 N Latitude;
- Central zone, dominated in a marine transportation sense by the Great Lakes, but which include the southern portions of Hudson, James and Ungava Bay, along with the major waterways and watersheds of Lake Winnipeg, Winnipegosis, Lake of the Woods, and Lake Athabasca.

Arctic zone – first response
The highest risk of pollution in the arctic is during a ship fuel transfer to facilities in Canada's northern communities. Should pollution occur, the vessel and oil handling facility have responsibilities to implement their Oil Pollution Emergency Plans (OPEP) that deal with source control. The next step would be for the community to respond using its response plan, protecting the identified priority area(s) and employing the response equipment in an Arctic Community Pack, if so equipped.

Arctic zone – escalation
If the pollution is beyond the ship, facility, and community response then the Rapid Air Transportable (RAT)150T will be the first line Canadian Coast Guard ER response (Arctic icebreakers or Special River Nav-aid Tenders may have been on-scene first). Upon activation of the RAT150T, standing offers with aviation contractors will be called up. Closest ER personnel will be dispatched to the community to assess, plan, assemble (and train) responders, while preparing to stage the in-coming equipment. The Hay River base personnel will transport the pallets to the airport where they will be loaded into the awaiting airframe. Upon arrival the pallets will be unloaded and a trailer tongue and wheels affixed to the pallet to facilitate movement (by ATV if necessary) to a forward staging area and ultimately to a beach site. The timeframe for full forward staged capacity with personnel at any community with suitable runways is under 48 hours.

The hospitality industry of Arctic communities can be rapidly overwhelmed with the influx of as little as 10 people. Experience has shown that these communities could only support 10-15 additional personnel and only offer 10-15 community responders. Consequently, the RAT was designed considering the amount and type of equipment that is most easily handled by a combination of trained

Canadian Coast Guard personnel and community responders. The RAT150T response is predicated on an in-community response with the following positions identified in the table below:

Table 5-2 *Anticipated personnel usage for the RAT150T in an Arctic community*

Position	Canadian Coast Guard responder	Community responder
OSC	X	
OSC support		X
Chief Ops & Planning	X	
Logs – services	X	X
Logs – support	X	X
Ops skimming (A)	X	X
Ops skimming (B)	X	X
Ops shoreline (A)	X	X X X X
Ops shoreline (B)	X	X X X X
Ops booming vessel (A)	X	X
Ops booming vessel (B)	X	X
Transfer / disposal	X	X
Totals	**11**	**16**

Upon escalating beyond a RAT150T response, the Δ1000T will be stood up. Standing offers / arrangements with local contractors will be activated to move the containers / seatrucks to a location where they can be transferred to a ship / barge. If required, closest Canadian Coast Guard base personnel will be dispatched to the depot to assist. The closest suitable marine transportation asset will also be contracted to move the equipment to the spill site. The timeframe for full forward staged capacity with personnel is estimated at one week.

As the 150T response is predicated on an in-community response a larger spill would have to be supported by a Canadian Coast Guard icebreaker, rented camp barge, or flown in from surrounding communities.

Table 5-3 *Anticipated personnel usage for the 1000T in an Arctic community.*

Position	Canadian Coast Guard ER responder	CCG Fleet or professional contractor	Community responder
OSC	X		
OSC support		X	X
Chief of Planning	X		
Plan – response	X		
Plan – demobilization	X		
Chief of Logs	X		
Logs – services		X	X
Logs – support	X X	X X X	
Chief of Ops	X		
Air Ops		X	
Ops on-water	X X	X X X X	
Ops shoreline	X X		X X X X X X X X X
Ops booming	X X	X X X X	
Transfer / disposal	X	X	X
Totals	**14**	**13**	**13**

Central Zone – first response

The highest risk of pollution occurring in the region is found in the Great Lakes. Statistically the areas in the Great Lakes of highest risk are the connecting channels due to volumes, numbers of transits, and convergence factors (existing VTS / navigational aid systems recognize this). Areas with traditionally high pleasure craft and small commercial craft traffic experience frequent (though low in volume) pollution incidents.

If the pollution is in the local vicinity of a Canadian Coast Guard Search and Rescue (SAR) station or facility with operational staff, a First Response Unit (FRU) may be deployed as an initial attempt at containment. If more equipment sweeps systems or recovery units are required then the Rapid Road Transportable (RRT) 2500T will be activated.

Transfer of Lead Agency

Transfer of Lead from CCG

Should an incident initially appear to fall within the jurisdiction of the Canadian Coast Guard yet later is determined to be another government agency's

responsibility, the CCG-appointed OSC or FMO will verbally acknowledge the transfer of Lead Agency responsibility followed by written confirmation on the terms of the transfer (this may require time for termination of a response contract with CCG and the establishment of a response contract with the appropriate Lead Agency.) When the Lead is transferred from CCG to another Lead Agency, CCG will submit an invoice of its response costs to the Lead Agency for response activities undertaken up to the time of transfer recognition.
Should the Lead Agency wish to retain CCG as a Resource Agency, the criteria in Section 7 of the *National Response Plan* of the *CCG National Marine Spills Response Plan* will apply.

Transfer of Lead to CCG
When the Lead is transferred to Canadian Coast Guard from another agency, the Canadian Coast Guard will incorporate the appropriate costs borne by the other agency in the initial stages of the spill into its claim to the Polluter or to the Ship Source Oil Pollution Fund, (SOPF) as the case may be.

Safety Procedures and Considerations

All petroleum cargoes are considered hazardous substances. Canadian Coast Guard command, clean-up, monitoring and verification personnel have protective equipment and training available to them up to Level “D”. All Environmental Response branch staff have been issued with a variety of personal protective equipment (PPE) and are expected to deploy to a spill site (includes exercises and training) with all appropriate gear. Safety glasses and rain suits with rubber boots and gloves are appropriate for Canadian Coast Guard's traditional verification of and response to oil pollution.

Bulk chemical carriers, rail cars, road trailers, sour (H2S) petroleum products or BTX (benzene, toluene, xylene) carried on oil tankers are all sources of substances for which Canadian Coast Guard personnel are not readily equipped for. In most cases where the pollutant reported is suspected to be from one of these sources Canadian Coast Guard assets should not be tasked to verify. If it falls within Canadian Coast Guard mandate the ER program personnel will get directly involved in the verification, likely looking to other government departments or contractors to continue with the assessment and response.

When the pollution is reported to the ROC by a member of the public, or by a credible professional as a mystery spill, closer examination of the circumstances or probable cause of the pollution will occur as part of spill verification. During the conversation with the individual reporting the incident the ROC Duty Officer will want to find out what it is that they observed. These are:

- Colour [typical petroleum silvery to rainbow to dark purple / brown or is it frothy, green organic matter, rusty, etc.]
- Odour [does it smell like gas, diesel, rotten eggs, no odour]
- Proximity to any likely source [vessel, industrial outfall, municipal outfall, midlake, mid channel, washed up industrial storage drum]

- Volumes [football field sized, shopping mall parking lot big, or a thin ribbon]
- Other factors [heavy rainfall in last 12 hours; seasonal conditions / times / areas known for algae blooms; fish or animal kills].

By picking up on any "flags" during an assessment it can be reasonably determined whether the pollution should not/should be classified as a hazardous substance (for which CCG personnel are unable to respond to). The ER duty officer will consult with experts in Environment Canada (EC), Spills Action Centre (SAC), and CANUTEC, as appropriate to determine the safety for personnel.

Alternative countermeasures

Alternative countermeasures are those non-mechanical techniques utilized in oil spill response operations such as in-situ burning, dispersant application, and shoreline cleaner application.

Central Zone

The likelihood of approval of in-situ burning operations on the Great Lakes or in connecting channels or inland lakes is minimal. The use of dispersants in the Great Lakes, connecting channels or in inland waterways will not be considered. Shoreline cleaner agents approved by Environment Canada may be considered.

Arctic Zone

In view of the difficulties associated with mounting an effective response in the Arctic, the CCG has recommended that further research be done in the areas of in-situ burning, the use of dispersants (reference Quebec paper) and other oil in ice recovery methods. This research should be operational R&D and assume that the product spilled is Arctic diesel and that the spill occurs during the Arctic shipping season.

5.8 Summary Report and Post Incident Review

It is regional policy to provide a Summary Report and/or conduct a formal Post Incident Review for incidents deemed noteworthy or valuable by the OSC/FMO or Assistant Commissioner, Canadian Coast Guard.

Summary Report

The summary report shall contain at minimum the following, but can include any information deemed relevant by the OSC/FMO.

Summary Incident Report Format

(a) Overview of Crisis Event

- spill source (not cause), initial environmental conditions and assessment of situation

(b) Spill chronology
- spill response activities and climate/wind /sea condition data
- key response objectives (success and failures in implementation), major shifts in tactics, other agencies involvement

(c) Costs and cost recovery issues
- total estimated cost summary
- identification of Cost Recovery requirements and options

(d) References
- Situation Reports

Post Incident Review

The main objective of a Post Incident Review is the evaluation of the incident to ultimately improve Canadian Coast Guard's effectiveness at spill response. To that end, this requirement is essentially similar to the principles of exercise evaluation. Therefore, when required, the review shall be conducted in accordance with the principles contained in the *National Exercise Program – Evaluation guidelines, Chapter 11*.

This entails six distinct tasks:

1) Brief the Evaluation Team
2) Brief the Response Team
3) Evaluate the Incident
4) Prepare a Preliminary Summary of Key Observations
5) Hold an Incident Debriefing Session
6) Prepare an Official Post Incident Evaluation Report

Post Incident Evaluation Report Format

(a) Executive Summary -Summarizes overall findings and observations

(b) Overview of Incident Objectives -Briefly describes the key objectives, environmental conditions and initial situation assessment

(c) Evaluation Techniques and Criteria - Describes the technique(s) (i.e. self, peer or independent evaluation) and the major evaluation criteria used

(d) Assessment of Key Incident Objectives - This provides a critical appraisal of the incident objectives or major shifts in tactics. Each key objective assessment will include the following:

Findings – A summary statement describing key positive and negative findings.

Specific Observations - Observed decisions and tasks noted during the incident by responders, management and interested parties.

Conclusions - Assessment of the impact of the finding on overall achievement of the incident objective(s)

Recommendations – A description of potential corrective or follow-up action required to implement the findings to improve overall marine spill response preparedness.

(e) Appendices or Attachments - May or may not be required

Section 6 – CLAIMS & COST RECOVERY

6.1 Purpose

The purpose of this section of the *Regional Response Plan* is to outline the requirements and regional processes to assist in the creation of a claim to the relevant fund or directly to a polluter.

The ability of Canadian Coast Guard to recover or pursue recovery of response expenses or costs associated with monitoring activities is set out in the *Marine Liability Act, Part 6, "Liability and Compensation for Pollution"*. This ability to recover costs is seen as the embodiment of the polluter-pay-principle set out in the *National Response Plan, Guiding Principles, Section 1.3*.
Note: That at this time there is no mechanism to recover monitoring costs from an oil handling facility.

In addition to the above and recognizing the potential financial risks and impacts to Canada, Canadian legislation also provides for the creation and maintenance of a Ship-Source Oil Pollution Fund, (SOPF). This fund, in addition to the International Oil Pollution Compensation Fund (IOPCF) and the Protection & Indemnity (P&I) Clubs, provides for the assessment of claims/loss against member ships and/or shipping companies. Neither of these funds hinder nor otherwise limit Canadian Coast Guard's ability to lay claims directly against a Polluter. However, the Polluter is only required to reimburse a claim up to its Limit of Liability. This limit is calculated using the guidelines established in the *Convention on Limitation of Liability for Maritime Claims (LLMC), 1976*.

6.2 Policy Guidelines

The following points serve as regional guidelines for pursuing cost recovery activities:

- The decision to seek cost recovery should be made based on common sense and in consultation with other operational and finance team members.
- Cost recovery should be avoided in situations where the administrative costs of recovery action exceed the dollars expected to be recovered.
- Cost recovery embodies the "Polluter Pays" principle.
- Costs incurred while acting as a resource agency must be recovered from the lead agency.
- Costs incurred while acting as OSC/FMO are recoverable from either the polluter, its P&I Club, the Ship-Source Oil Pollution Fund or from the International Oil Pollution Compensation Fund.

6.3 Responsibilities

On-Scene Commander/Federal Monitoring Officer (OSC/FMO)
The OSC/FMO is responsible for ensuring that complete and accurate documentation is provided for a timely and effective cost recovery process. The OSC/FMO is responsible for preparing all documentation necessary to initiate cost recovery.

Regional Finance Staff
Response, monitoring and administrative costs must be calculated in accordance with national financial accounting and recording practices. Senior administrative officers within Maritime Services may be called upon to provide expert advice as required. It is recommended that a regional finance representative be on-scene as soon as possible to help establish procedures, to safeguard documentation, and to ensure the integrity of the costing process.

Environmental Response Headquarters
The Environmental Response Senior Advisor for Cost Recovery and Claims will submit those claims that are intended for the Ship-Source Oil Pollution Fund and to International Fund Conventions in accordance with the guidelines specified by each. The Advisor will also issue equipment charge-out rates periodically for use by all regions.

6.4 Process
The Response Management System (RMS) documentation (field notes, Incident Action Plans, Minutes and meeting records, time sheets and any and all expense records, invoices/requisitions etc.) shall form the basis of data for the Cost Recovery action.

The Region will initiate cost recovery actions against the Polluter. Should the Polluter be unable or unwilling to pay the costs, the Region will forward the claim to HQ Senior Advisor for Cost Recovery and Claims for submission to the Ship-Source Oil Pollution Fund. Should the costs of the response exceed the Limit of Liability of the Polluter, reimbursement of costs will be through the SOPF and then through the IOPCF. Claims associated with mystery spills will be submitted directly to HQ for a claim against the SOPF.

6.5 Documentation
Proper documentation alleviates the need to reconstruct the incident after the fact, reduces the volume of questions, and adds credence to the claim. The key source of information that enables various parties to determine the degree of reasonableness of the actions taken and the costs claimed is the part of the cost recovery summary known as a “narrative”. That justification is considered to be a critical component to successful and timely claims.

The regional guideline for producing cost summaries and documentation handling is as follows:

Incidents of minimum complexity and limited expenditures (under $15K)

- Expenditures may be summarized within the body of the Final Report, including any description of "calculated" values (i.e. administration costs)
- Original invoices shall be kept on the dedicated spill file.

Incidents of medium complexity and moderate expenditures (up to $50K)

- Expenditures will be summarized in a single table by Cost Element within the body of the Final Report.
- A supporting cost summary document or appendix shall be created to provide a detailed cost summary by date. Copies of the expenditure documentation will be included.
- Original invoices shall be kept on the dedicated spill file organized by date.

Incidents of high complexity and significant expenditures ($50K plus)

- Expenditures will be summarized in a single table by Cost Element within the body of the Final Report. (similar to medium complexity incidents)
- A supporting cost summary document will be created summarizing the daily expenditures by individual cost element, followed by a cumulative summary of each cost element (spreadsheet of all daily summaries). The sum total of all cost elements will then be summarized for use in the final report.
- Due to the volume of transactions, copies of the expenditure documents will not be provided in the supporting cost summary document.
- Original invoices will be kept in their original state, filed by date and archived when feasible to a dedicated file.

Table 6.1 Sample Cost Element Table

Cost Element	Description
Personnel	Includes hourly regular and overtime costs associated with CCG Staff (includes EBP)
Equipment	Includes cost of all CCG assets, based upon established charge out rates
Purchases/Expendables	Includes expendables such as office supplies and PPE
Travel	Includes meals and accommodation costs incurred by CCG staff accordance with TB travel directive.
Contractors	Includes the costs of all private sector contractor/goods and services.
Administration	Includes the cost of CCG administration.
Total Estimated Cost	

6.6 References

- CCG Ship Source and Marine Pollution Response Costing Principles and Documentation Standards DFO2004-6332
- Cost Recovery of Ship Source and Marine Pollution Response Directive # D-4010-2001-01
- Cost Recovery Related Policies, Memorandum dated October 26, 1998, File AWE 1001-5-2-1 (AWEA)

6.7 Third Party Claims

While monitoring or responding to an incident, Canadian Coast Guard will refer all inquiries regarding third party claims to the Polluter. In the case of a mystery spill, the Canadian Coast Guard will encourage claimants to submit a claim directly to the Ship Source Oil Pollution Fund.

Section 7 - PLAN MAINTENANCE AND CUSTODIANS

7.1 *Maintenance Process*

Responsibility
The *Regional Response Plan* of the *Canadian Coast Guard Marine Spills Response Plan* for Central & Arctic Region is the responsibility of:

Assistant Commissioner, Canadian Coast Guard
Central & Arctic Region
520 Exmouth Street
Sarnia, Ontario
N7T 8B1
fax (519) 383-1991

Revision Requests
All requests or suggestions for revision to this plan should be forwarded, in writing, to the above noted address and should include the following information:

- Originator (including return address and telephone number)
- Date
- Subject (i.e. request for revision)
- Suggested change (including section and page number references)
- Reason for revision

All formally received requests will be acknowledged in writing and assessed for inclusion into the plan. Upon approval the revision will be distributed accordingly.

Revision Record
Upon receiving a revision transmittal, recipients are requested to ensure that its number is next in sequence to the previous issue, process the amendments according to the transmittal instructions and complete the revision record in this section.

Should there be any discrepancies or questions, the recipient should contact the Canadian Coast Guard, Assistant Commissioner, Central & Arctic Region at the above address.

The onus is on the plan holder to maintain a current plan.

7.2 *Canadian Coast Guard Custodians*

This document is structured to reflect the fundamental phases of Environmental Response (ER) activities and hence reflects the co-operative nature of each

aspect of the Central and Arctic Region Environmental Response organization. In conjunction with this, each component has been assigned to a specific section within the branch (e.g. training is the responsibility of the Training Officer). The Assistant Commissioner – Canadian Coast Guard, Central and Arctic Region retains the overall responsibility for the document's implementation. The Emergency Plan Development Officer (EPDO) facilitates the physical management and co-ordination of this document.

These custodial relationships herein are designed to facilitate the annual review and maintenance of the *Regional Response Plan*.

Letter of Promulgation	Emergency Plan Development Officer
Record of Revision	Plan Holders
Section 1 – Introduction	Emergency Plan Development Officer
Section 2 - Agreements & Memoranda of Understanding	Emergency Plan Development Officer
Section 3 – Organization	Emergency Plan Development Officer
Section 4 – Preparedness 4.2 RMS	 Regional Training Officer
4.3 Planning	Emergency Plan Development Officer
4.4 Training	Regional Training Officer
4.5 Exercising	Regional Exercise Officer
4.6 Inventory Maintenance & Management	Regional Emergency Operations Officer
Section 5 – Response Operations	Regional Emergency Operations Officer
Section 6 – Claims & Cost Recovery	TBD
Section 7 - Plan Maintenance & Custodians	Emergency Plan Development Officer
Section 8 – Contacts	Emergency Plan Development Officer
Section 9 – References & Annexes	Responsibility for each annex is assigned in each Annex.

All unassigned sections shall be considered the responsibility of the Emergency Plan Development Officer unless otherwise indicated.

7.3 Plan Distribution

The *Regional Response Plan* shall be distributed to all holders of the *Canadian Coast Guard Marine Spills Response Plan*, in accordance with the Area of Responsibility set in Section 1 - Introduction. This includes the relevant Federal and Provincial Lead Agencies as described in the National Response Plan Section 1, sub-section 1.5; all Canadian Coast Guard Management; Facilities and Vessels; all Oil Handling Facilities and relevant certified Response Organizations by request and in accordance with Transport Canada-Marine

Safety, Compliance and Enforcement division. All subsequent revisions will be automatically distributed to these plan holders.

Any member of the general public wishing to obtain a copy may do so through the Fisheries and Oceans, Canadian Coast Guard, National Headquarters. These plan holders will not be advised of revisions.

Section 8 – CONTACTS

8.1 Pollution Reports for Canadian Coast Guard, Central & Arctic Region

To report a pollution emergency anywhere within Central & Arctic Region telephone the Canadian Coast Guard, Regional Operations Centre (ROC) toll free at:

1-800-265-0237

or report via

Marine Radio on VHF, Channel 16.

8.2 Other Lead Agencies that Maintain Spill Report Lines

- Ontario Ministry of the Environment - Spills Action Centre: 1-800-268-6060
- Territorial Spills Line – Arctic Alarm: 1-867-920-8130
- Manitoba Conservation: 1-204-944-4888
- Saskatchewan Environment - Saskatchewan Spill Centre: 1-800-667-7525
- Alberta Environment: 1-800-222-6514

8.3 Canadian Coast Guard, Environmental Response Branch (CCG/ER) Phone List – Regular Office Hours

Regional Office, Canadian Coast Guard **520 Exmouth Street** **Sarnia, ON N7T 8B1**	
Title	**Telephone**
Superintendent, Environmental Response	519-383-1954
Emergency Plan Development Officer	519-464-5126
Assistant Contingency Planning Officer	519-383-1953
Regional Exercise Officer	519-383-1978
Regional Emergency Operations Officer	519-383-1956
Environmental Training Officer	519-383-1957
Administrative Assistant	519-383-1951

Canadian Coast Guard Base **42037 McKenzie Highway** **Hay River, NT X0E 0R9**	
Title	**Telephone**
Senior Response Officer	867-874-5557
Response Specialist	867-874-5558
Response Specialist	867-874-5559

Canadian Coast Guard Base **PO Box 1000, 401 King Street** **Prescott, ON K0E 1T0**	
Title	**Telephone**
Senior Response Officer	613-925-2865 x 157
Response Specialist (2)	613-925-2865 x 262
Logistics and Statistics Officer	613-925-2865 x 126

Canadian Coast Guard Base **28 Waubeek Street** **Parry Sound, ON P2A 1B9**	
Title	**Telephone**
Senior Response Officer	705-746-2196 x 228
Response Specialist	705-746-2196 x 270
Response Specialist	705-746-2196 x 201

Section 9 – REFERENCES & ANNEXES

9.1 References

The following list includes those documents which supplement the Regional Response Plan.

Supplement	Custodian
Environmental Response Manual – Standard Operating Procedures and Directives	Canadian Coast Guard, Environmental Response, Headquarters
Response Management System User's Guide, version 3.0 (May 2006)	Canadian Coast Guard, Environmental Response, Headquarters
Environmental Response Superintendent's Manual	Superintendent, Environmental Response, Regional Office
Environmental Response Regional Health & Safety Plan	Environmental Response, Regional Emergency Operations Officer
National Exercise Program (NEP) Manual	Canadian Coast Guard, Environmental Response Headquarters
Inventory Control and Response Management System – TMA database	Regional Logistics and Statistics Officer, Environmental Response
DFO Crisis Communications Plan	DFO Corporate Services, Communications Branch

9.2 Annexes

The following Area Plans make up the Annexes to the Regional Chapter:

1) St. Lawrence River and Lake Francis
2) Lake Ontario
3) Lake Erie
4) St. Clair and Detroit River
5) Lake Huron, Georgian Bay and North Channel
6) St. Mary's River
7) Lake Superior
8) Lake of the Woods
9) Inland waters (South of 60°N Latitude)
10) Hudson and James Bay
11) Baffin Region
12) Keewatin Region
13) Kitikmeot Region
14) Great Slave Lake Region
15) Mackenzie River and Delta
16) Beaufort Sea and Amundsen Gulf

Appendix F – NT-NU Spill Report

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

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

REPORT LINE USE ONLY

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

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

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

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

REPORT LINE USE ONLY

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

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC

SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN

FILE STATUS ☐ OPEN ☐ CLOSED

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

Appendix G – Meliadine OHF Concordance Table

CONCORDANCE TABLE
MELIADINE GOLD
MINE
Oil Handling Facilities (OHF)

The content of the Oil Pollution Prevention Plan (OPPP) and the Oil Pollution emergency Plan (OPEP) must make reference and meet the regulatory requirements from the following sources :

- Canada Shipping Act, 2001 – Part 8
- Environmental Response Regulations (SOR/2019-252)
- Environmental Response Standards (TP 14909)
- Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69)

NOTE : The information contained in this document is for reference only. It is the responsibility of the OHF operator to inquire and become familiar with the provisions of the Act, and to ensure that the plans are compliant with applicable regulations and standards.

Canada Shipping Act, 2001 – Part 8

OHF Requirements

168 (1) Subject to the regulations, the operator of an oil handling facility of a class established by the regulations shall

(a) have an arrangement with a response organization in respect of any quantity of oil that is, at any time, involved in being loaded or unloaded to or from a vessel at the oil handling facility, to a prescribed maximum quantity;

(b) have on site a declaration in the form specified by the Minister that

(i) describes the manner in which the operator will comply with the regulations made under paragraph 182(1)(a),

(ii) confirms that the arrangement has been made, and

(iii) identifies every person who is authorized to implement the arrangement and the oil pollution emergency plan referred to in paragraph (d);

(c) have on site an up-to-date oil pollution prevention plan to prevent a discharge of oil during the loading or unloading of a vessel, which meets the requirements set out in the regulations;

(c.1) submit the up-to-date oil pollution prevention plan to the Minister within the time and in the circumstances set out in the regulations;

(d) have on site an up-to-date oil pollution emergency plan to respond to a discharge of oil during the loading or unloading of a vessel, which meets the requirements set out in the regulations;

(d.1) submit the up-to-date oil pollution emergency plan to the Minister within the time and in the circumstances set out in the regulations; and

(e) have the procedures, equipment and resources required by the regulations available for immediate use in the event of a discharge of oil during the loading or unloading of a vessel.

(2) [Repealed, 2014, c.29, s. 61]

Duty to take reasonable measures – oil handling facilities

(3) The operator of an oil handling facility referred to in subsection (1) shall take reasonable measures to implement

(a) the oil pollution prevention plan referred to in paragraph (1)(c); and

(b) in respect of an oil pollution incident, the oil pollution emergency plan referred to in paragraph (1)(d).

Update or revise plans

168.1 Despite any other provision of this Part or the regulations, the Minister may direct the operator of an oil handling facility to update or revise an oil pollution prevention plan or an oil pollution emergency plan and to submit the up-to-date or revised plan to the Minister within the time specified by the Minister.

Note: Exceptions to Section 168 of the Canada Shipping Act, 2001 can be found in the Environmental Response Regulations.

Exception – Arrangement with a Response Organization

Section 6 – Paragraph 168(1)(a) and subparagraphs 168(1)(b)(ii) and (iii) of the Act do not apply in respect of oil handling facilities that are located north of latitude 60° N.

Environmental Response Regulations (SOR/2019-252)

SECTION	REQUIREMENT	REFERENCE (page, section, etc.)
10(a)	**Oil Pollution Prevention Plan (OPPP)** **Content** The oil pollution prevention plan must contain the following: the position of the person who is responsible for supervising in person the loading or unloading of oil to or from a vessel;	Section 5.3, page 11
10(b)	the types and quantity of equipment for use in the loading or unloading of oil to or from a vessel and the measures to be taken in order to meet the manufacturer's specifications in respect of the maintenance and certification of that equipment;	Section 3.2.4, page 6; Section 5.3, pages 11-12
10(c)	the procedures to be followed by the oil handling facility's personnel before and during the loading or unloading of oil to or from a vessel;	Section 5.3, pages 11-12; Appendix C; Appendix D
10(d)	the procedures to be followed in order to meet the requirements of subsection 38(2) of the *Vessel Pollution and Dangerous Chemicals Regulations* and in order to reduce the rate of flow or pressure in a safe and efficient manner when the supervisor on board a vessel gives notice of the stopping of the loading or unloading of oil to or from the vessel to the person referred to in paragraph (a);	Section 5.3, pages 11-12; Section 8, page 22; Section 10, pages 32-34

10(e)	the measures to be taken in order to meet the requirements of section 33 of the *Vessel Pollution and Dangerous Chemicals Regulations* and, in the event of failure of the means of communication referred to in that section, in order to ensure that effective two-way communication between the person referred to in paragraph (a) and the supervisor on board the vessel is continuously maintained before and during the loading or unloading of oil to or from the vessel;	Section 8, page 22
10(f)	a description of the lighting to be provided in order to meet the requirements of section 34 of the *Vessel Pollution and Dangerous Chemicals Regulations*;	Section 5.3, page 12
10(g)	documentation that demonstrates that the transfer conduit at the oil handling facility meets the requirements of subsection 35(1) of the *Vessel Pollution and Dangerous Chemicals Regulations*;	Section 3.2.4, page 6;
10(h)	the measures to be taken in order to meet the requirements of subsection 35(3) of the *Vessel Pollution and Dangerous Chemicals Regulations*;	Section 3.2.4, page 6
10(i)	the procedures to be followed by the person referred to in paragraph (a) in order to meet the requirements of subsection 35(4) of the *Vessel Pollution and Dangerous Chemicals Regulations*;	Section 10, pages 32-34
10(j)	the procedures to be followed by the operator of the oil handling facility in order to prevent a discharge of oil;	Section 5.3, pages 11-12;
10(k)	a description of the training provided, or to be provided, to the oil handling facility's personnel who are engaged in the loading or unloading of oil respecting the procedures to be followed in order to prevent an oil pollution incident, including the frequency of the training; and	Section 12, pages 40-42
10(l)	the procedures to be followed for the review and updating of the plan in order to meet the requirements of section 12.	Section 2.1, page 2; Section 12, pages 40-42

SECTION	REQUIREMENT	REFERENCE (page, section, etc.)
11(1)(a)	**Oil Pollution Emergency Plan (OPEP)** **Content** The operator of an oil handling facility must demonstrate in its oil pollution emergency plan that the operator has the ability to meet the requirements relating to the procedures, equipment and resources referred to in section 13 by providing the following information: (a) the procedures to be followed in order to respond to an oil pollution incident;	Section 10, pages 32-34
11(1)(b)(i)	(b) in respect of each type of oil product that is loaded or unloaded to or from a vessel, an oil pollution scenario that (i) in the case of a facility of a class set out in the table to section 5 located at or south of latitude 60° N, describes the procedures to be followed to respond to a discharge of a quantity of that oil product of at least (A) 1 m^3, in the case of a class 1 facility, (B) 5 m^3, in the case of a class 2 facility, (C) 15 m^3, in the case of a class 3 facility, and (D) 50 m^3, in the case of a class 4 facility,	NA
11(1)(b)(ii)	(ii) in the case of a facility located north of latitude 60° N, describes the procedures to be followed to respond to a discharge of the total quantity of the oil product that could be loaded or unloaded to or from a vessel, up to a maximum of 10,000 tonnes,	Section 11.4, page 36
11(1)(b)(iii)	(iii) identifies the assumptions on which that scenario is based,	Section 11.4, page 36

11(1)(b)(iv)	(iv) identifies the factors that were taken into account when developing those assumptions, including: (A) the nature of the oil product,	Section 5.1, page 11
	(B) the types of vessels to or from which the oil product is loaded or unloaded,	Section 5.1 and 5.2, page 11
	(C) the tides and currents that exist at the facility,	Section 4.3.3, page 9
	(D) the meteorological conditions that exist at the facility,	Section 4.3.4 page 9
	(E) the surrounding areas of environmental sensitivities that would likely be affected by a discharge,	Section 4.3.5, pages 9-10
	(F) the measures to be taken to minimize the effects of a discharge, and	Section 5.3, pages 11-12
	(G) the time necessary to carry out a response to an oil pollution incident in accordance with these Regulations	Section 3.2.1, page 5
11(1)(c)	(c) the activities to be carried out in the event of an oil pollution incident, the order in which and the time within which those activities are to be carried out, and the name and the position of the persons responsible for carrying them out, taking into account the following priorities: (i) the safety of the facility's personnel,	Section 2.1, page 2 Section 9, p.27 Section 10, p.32
	(ii) the safety of the facility,	Section 2.1, page 2; Section 10, p.32
	(iii) the safety of the communities living adjacent to the facility,	Section 2.1, page 2 Section 10, p.32
	(iv) the prevention of fire and explosion,	Section 2.1, page 2 Section 10, p.32
	(v) the minimization of the effects of a discharge,	Section 2.1, page 2 Section 10, p.32
	(vi) the reporting of the oil pollution incident,	Section 2.1,page 2 Section 10, p.32
	(vii) the environmental impact of a discharge, and	Section 2.1, page 2 Section 10, p.32
	(viii) the measures to be taken for clean-up following the oil pollution incident, including with respect to areas of environmental sensitivities and surrounding ecosystems;	Section 2.1, page 2 Section 10, p.32
11(1)(d)	the types and quantity of equipment and resources referred to in subsection 13(2) that are available for immediate use at the location of the discharge;	Section 7, pages 16-21

11(1)(e)	the name of each person or organization and the location from which the equipment and resources will be obtained in the event of an oil pollution incident, and the manner in which the equipment and resources will be deployed at the location of the incident;	
11(1)(f)	the name and the position of the persons who are authorized and responsible for ensuring that the response to an oil pollution incident is immediate, effective and sustained;	Section 1, page 1 Section 6, pages 13-15 Section 9, p.27-31
11(1)(g)	the name or the position of each person who has received oil pollution incident response training or any other training in relation to an oil pollution incident;	Table 4-5-6
11(1)(h)	a description of the training provided, or to be provided, to the oil handling facility's personnel or other individuals in preparation for the responsibilities that they may be requested to undertake in response to an oil pollution incident;	Section 12.1 pages 40-41
11(1)(i)	an oil pollution incident exercise program established to evaluate the effectiveness of all aspects of the procedures, equipment and resources that are identified in the plan, including exercises to be coordinated with vessels engaged in the loading or unloading of oil, vessels used to respond to oil pollution incidents, response organizations, the Department of Transport and the Canadian Coast Guard;	Section 11, p.35
11(1)(j)	the measures to be taken by the operator, in accordance with applicable federal and provincial regulations relating to health and safety, to protect the health and safety of personnel and of other individuals who are involved in responding to an oil pollution incident at the operator's request;	Section 2.1, page 2 Section 10, p.32 Appendix C
11(1)(k)	the procedures to be followed for the review and updating of the plan in order to meet the requirements of section 12;	Section 2.1, page 2
11(1)(l)	the procedures to be followed by the operator in order to meet the requirements of section 39 of the *Vessel Pollution and Dangerous Chemicals Regulations*; and	Section 10, p.32 Section 11.4, p.36
11(1)(m)	the procedures to be followed by the operator to investigate any oil pollution incident in order to determine the causes and contributing factors and the actions that are needed to reduce the risk of reoccurrence.	Section 9.3, page 31
11(2)	**Other plans** The operator must ensure that the oil pollution emergency plan takes into account any contingency plan for its geographical area that may affect the facility's plan, including contingency plans that are issued by the Canadian Coast Guard or provincial or municipal	Section 10.1.2, page 33
11(3)	**Notification — exercise** The operator must submit a written description of any exercise referred to in paragraph (1)(i) to the Minister at least 30 days before the day on which it conducts the exercise.	Section 11, p.35

SECTION	REQUIREMENTS	REFERENCE (page, section, etc.)
12(1)	**Plan Reviews and Updates** **Annual review** The operator of an oil handling facility must review the oil pollution prevention plan and the oil pollution emergency plan annually and, if necessary, update the plans to ensure that they meet the requirements of section 10 or 11, as the case may be.	Section 2.1, page 2
12(2)	**Review — events** The operator of an oil handling facility must review the oil pollution prevention plan and the oil pollution emergency plan when any of the following events occur and, if necessary, update those plans within 90 days after the day on which the event occurred: (a) any change in the law or in environmental factors that could affect the loading or unloading of oil to or from a vessel;	Section 2.1, page 2
	(b) any change in personnel involved in the loading or unloading of oil to or from a vessel;	Section 2.1, page 2
	(c) the identification of a gap in either of the plans after an oil pollution incident or exercise; and	Section 2.1, page 21
	(d) any change in the business practices, policies or operational procedures of the facility that could affect the loading or unloading of oil to or from a vessel.	Section 2.1, page 2
12(3)	**Submission of updates to Minister** If the operator of an oil handling facility updates the oil pollution prevention plan or the oil pollution emergency plan, the operator must submit the up-to-date plan to the Minister no later than one year after the update.	Section 2.1, page 2
12(4)	**Record** The operator of an oil handling facility must keep a record of the date and the results of each review of the oil pollution prevention plan and the oil pollution emergency plan conducted under subsections (1) and (2), including any updates, and must maintain the record for three years after the day on which it is created.	Document Control, page vi

13(1)	**Procedures, Equipment and Resources** **Procedures** The procedures referred to in paragraph 168(1)(e) of the Act must include the following: (a) the immediate shut down of loading or unloading operations and their restart in a manner that would not interfere with the immediate, effective and sustained response to the discharge;	Section 10.4, p.34
	(b) the reporting of the discharge in accordance with section 133 of the *Vessel Pollution and Dangerous Chemicals Regulations*;	Section 10.2., page 33
	(c) the coordination of the oil handling facility's response operation with the activities of the Canadian Coast Guard and federal, provincial and other bodies responsible for, or involved in, the protection of the marine environment;	Section 10.1, pages 32-33
	(d) the taking into account by the operator of the oil handling facility of the priorities set out in paragraph 11(1)(c) during the entire response to the discharge;	Section 2.1, p.2 Section 10, p.32
	(e) the making available of at least one of the persons referred to in paragraph 11(1)(f) to the Department of Transport and the Canadian Coast Guard during the entire response to the discharge;	Section 1, page 1
	(f) the measures necessary to ensure that the operator of the oil handling facility is prepared to respond in the event of a discharge of oil of at least the applicable quantity set out in clauses 11(1)(b)(i)(A) to (D);	Section 3.2, p.5 Section 5.3, p.11 Section 7, p.16 Section 8, p.22 Section 9, p.27 Section 10, p.32 Section 11, p.35
	(g) the deployment of the equipment and resources referred to in subsection (2) at the location of the discharge within the time frames set out in that subsection; and	Section 3.1, page 5
	(h) the undertaking of an investigation of the discharge in order to determine the causes and contributing factors, and the actions that are needed to reduce the risk of reoccurrence.	Section 9.3, page 31
13(2)(a)	**Equipment and resources** The equipment and resources that the operator of the oil handling facility must have available for immediate use in accordance with paragraph 168(1)(e) of the Act are those (a) that are required to contain, control, recover and clean up a discharge of oil of at least the applicable quantity set out in clauses 11(1)(b)(i)(A) to (D); and	Section 7, pages 16-21
13(2)(b)	(b) that can be deployed, if it is possible to do so in a safe, effective and practicable manner, at the location of the discharge, (i) for the purposes of containing and controlling the oil, within one hour after the discovery of the discharge, and	Section 3.1, page 5

		(ii) for the purposes of recovering the oil and cleaning up, within six hours after the discovery of the discharge.	Section 3.1, page 5