

Appendix 32

Meadowbank Oil Pollution Emergency Plan Version 13



AGNICO EAGLE

**OIL HANDLING FACILITY
OIL POLLUTION EMERGENCY PLAN
AND
OIL POLLUTION PREVENTION PLAN**

**For
Meadowbank and Whale Tail Project Fuel Farm in Baker Lake**

EC ID number EC-00025772 P-50 Diesel fuel and EC ID number EC-00026142 for Jet-A

**April 2021
Version 13**

EXECUTIVE SUMMARY

This document presents the Oil Pollution Emergency Plan and Oil Pollution Prevention Plan for Agnico Eagle Mines Limited (Agnico) Meadowbank Division. This plan is pursuant to the Canada Shipping Act 2001; and all the subtending regulations.

Oil Pollution Emergency Plan (OPEP) designates lines of authority, responsibility, establishes proper reporting and details plans of action in the event of a spill. Oil Pollution Prevention Plan (OPPP) is designed to ensure that the necessary planning was undertaken to help prevent a spill. Both plan are complementary and are combined into one plan. This combined plan applies to the operational phase of the fuel transfer which takes place at Agnico Eagle Ltd.'s Baker Lake Marshaling Facilities and Oil Handling Facility located at latitude 64°18'36"N and longitude 95°58'04"W.

A hard copy of the OPEP and OP PP will be available at the Baker Lake Marshaling facility during the transfer operations.



ACRONYMS

Agnico	Agnico Eagle Mines Limited
ECC	Emergency Control Center
ERT	Emergency Response Team
ERP	Emergency Response Plan
Fuel	P50 Arctic Grade diesel fuel and/or Jet-A aviation fuel
IMO	International Maritime Organization
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
OHF	Oil Handling Facility
OPEP	Oil Pollution Emergency Plan
OPPP	Oil Pollution Prevention Plan
SCP	Spill Contingency Plan
SOPEP	Ship Oil Pollution Emergency Plan
SMP	Spill Management Plan
TCMSS	Transport Canada Marine Safety & Security
TEU	Twenty-foot equivalent unit



DISTRIBUTION LIST

Agnico - Environmental Superintendent
Agnico – Environment General Supervisor
Agnico – Environment Department
Agnico – General Mine Manager
Agnico – Health and Safety Superintendent
Agnico – Energy and Infrastructures Superintendent
Agnico – ERT Emergency Measures Councilor
Baker Lake – Baker Lake Hamlet Office
Baker Lake – Fire Department
Petro-NAV Inc. – Director of Operations
Transport Canada – Marine Pollution Officer
Canadian Coast Guard Environmental Response



DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
0	12/09/02	All	All	Comprehensive plan for Agnico's Baker Lake Fuel Farm Facilities
1	12-09-17		10, 12, 13	P10: Tide and Currents reference change; P12: Rephrasing of the last paragraph title; P13: in INITIAL SPILL RESPONSE PRIORITIES table into Section 2 RESPOND SAFELY, rewording to show only diesel fuel actions.
2	13-03-30	6 & App. D	10	Oil Handling Facility Declaration; 2013 Jet-A to start being stored at OHF
			12	Adequate lighting required during fuel transfer
		9	20 21	Item list on inside door of each Sea can. Internal Contacts Updated
		10 & App. C	23	Update to Agnico site spill training & Location of training records
		13	29	Major Failure At Helicopter Island
		14 & App. E	30	In-situ Burning
		16	32	New for 2013
3	January 2014	ALL		Comprehensive Review
4	July 2014	ALL		Comprehensive Review after Transport Canada Assessment
5	November 2014	ALL		Comprehensive Review following non-compliance letter received from Transport Canada
6	July 2015			Annual Comprehensive Review
		Sec 1	1	Update Declaration
		Fig 5	18	Update Pager numbers
		Table 5,6,7	26&27	Update Contact numbers
		Footnote 3	35	Contact date for JJ Brickett with CCG
		Table 8	44	Update Training Dates
7	May 2016	Sec 1	1	Update Declaration
		Fig 5	18	Update Pager number
		Tables 5,6,7	26-28	Update Contact numbers
		Table 8	45	Update Training Dates
		Appendix A		Update Contact numbers

		Appendix D		Update Meeting Minutes
8	May 2017	Sec 1	1	Update Declaration
		Fig 5	18	Update Pager number
		Tables 5,6,7	31-33	Update Contact numbers
		Section 10.2.1	40	Add details related to the Fisheries Act Regulation and Birds Migratory Convention
		Table 8	50	Update Training Dates
		Appendix B	55	Removed Appendix B Transfer Conduit Annual pressure Test as per TC Inspector's comments
9	May 2018	Section 1	1	Update Declaration
		Fig 5	18	Update Pager number
		Tables 5,6,7	31-33	Update Contact numbers
		Section 10.2.1	40	Add details related to the Fisheries Act Regulation and Birds Migratory Convention
		Table 8	50	Update Training Dates
		Appendix B	55	Removed Appendix B Transfer Conduit Annual pressure Test as per TC Inspector's comments
10	June 2019	Section 1	1	Update OHF Declaration
		Section 3.1	4	Update Diesel and Jet-A product transfer rate
		Section 4.1	6	Update General overview and site description
		Fig 2	8	Update Agnico's Baker Lake Bulk Fuel Storage Facility Site Layout
11	March 2020	All	All	Comprehensive update and included the operation of the Baker Lake Diesel Tank No. 7
12	July 2020	Section 1	1	OHF Declaration update
		Section 2.1	2	Add requirement for plan update
		Section 2.2	2	Update legislative requirement
		Section 3.1	5	Update max spill volume

		Section 3.2.2	5	Add detail regarding fuel recovery
		Section 5.2	17	Update fuel transfer info vs vessel
		Section 5.3	17	Update material use during transfer
		Section 5.4	18	Add photo 1 and 2
		Table 1 and 2	23-26	Update quantity
		Section 8	28	Update communication plan related to Code One
		Scenario 3	46	Update
13	April 2021	Section 11.4	42	Add clarification regarding the development of scenarios
	April 2021	Section 12.1	48	Add clarification training and ERT onsite
	April 2021	Concordance table	Appendix F	Revise references

Prepared By: *Meadowbank Environment Department*

Approved by: _____


Alexandre Lavallee
Environmental Superintendent - Interim

Table of Contents

SECTION 1.	Oil Handling Facility Declaration	1
SECTION 2.	General Introduction.....	2
2.1	Fundamental Principles.....	2
2.2	Legislative Requirements	2
2.3	Related Documents.....	3
2.4	Meadowbank Mine OPPP and OPEP.....	3
SECTION 3.	Planning Standards	5
3.1	Facility Category.....	5
3.2	General Planning Guidelines.....	5
3.2.1	Response Time Standards.....	5
3.2.2	On-Water Recovery.....	5
3.2.3	Dedicated Facility Spill Response Equipment	6
3.2.4	Transfer Conduit	6
3.2.5	MBK-ENV-0013: OHF / Ship to Shore Fuel Discharge Procedure.....	6
SECTION 4.	Baker Lake Marshalling Area and Fuel Storage Facility	7
4.1	General Overview and Site Description	7
4.2	Fuel Storage Facilities Infrastructure	8
4.2.1	P-50 Fuel Tanks	8
4.2.2	Jet-A Fuel.....	10
4.3	Baker Lake Shoreline and Marine Characteristics	11
4.3.1	Topography	11
4.3.2	Geology	11
4.3.3	Flora and Fauna.....	11
4.3.4	Subsurface Conditions	11
4.3.5	Water Quality.....	12
4.3.6	Bathymetric Data	12
4.3.7	Tides and Currents that Prevail at the Facility	12
4.3.8	Meteorological Conditions Prevailing at the Facility	12
4.3.9	Surrounding Area Environmental Sensitivities	12
SECTION 5.	Site Activities.....	15
5.1	Nature of the Oil Product.....	15
5.2	Bulk Transfer	17
5.3	Measures to Minimize a Diesel and Jet-A Pollution Incident	17



5.4	Portable Containment Pools	18
SECTION 6.	Meadowbank Response to Emergencies	21
6.1	Response Management Structure	21
6.2	Logistics and Planning	22
SECTION 7.	Equipment and PPE.....	23
7.1	OHF Response Equipment for spills	23
7.2	Additional Response Equipment.....	24
7.2.1	General Equipment	24
7.2.2	Spill Response Kits and Containers	25
7.3	PPE	26
7.3.1	PPE at OHF	26
7.3.2	Additional PPE for Spills	27
SECTION 8.	Communication.....	28
8.1.1	Communication with the Public.....	29
8.1.2	Hand Held Radio Communication.....	30
8.1.3	Contacts	30
SECTION 9.	Roles and Responsibilities.....	34
9.1.1	First Responder (Third Party Contractor (Intertek Personnel) and Spud Barge Supervisor) 34	
9.1.2	Supervisor (Spud Barge Supervisor).....	34
9.2	Roles & Responsibilities of the Emergency Control Group.....	34
9.2.1	Official In-Charge.....	34
9.2.2	General Superintendents	35
9.2.3	Incident Commander: A Trained Staff Member (ERT Coordinators or Supt.)	36
9.2.4	Emergency Response Team (ERT Team) Duties:.....	36
9.2.5	Environmental Superintendent/Designate Duties:.....	37
9.2.6	Health and Safety Superintendent/Designate Duties:.....	37
9.2.7	Energy and Infrastructures Superintendent/Designate Duties:	37
9.2.8	Human Resources Superintendent/Designate Duties:	37
9.2.9	Health Care Professional (Nurse/Medic):	38
9.2.10	Security Department:.....	38
9.3	Debriefing.....	38
SECTION 10.	General Spill Procedures	39
10.1	Coordination with Government Agencies.....	40

10.1.1	Coordination with Transport Canada Technical Service Environmental Response	40
10.1.2	Coordination with Canadian Coast Guard	40
10.1.3	Other Government Agencies	40
10.2	Reporting Requirements	40
10.2.1	Government of Nunavut Reporting Requirements	40
10.3	Treatment and Disposal	41
10.4	Resuming Unloading	41
SECTION 11.	Spill Scenarios and Response Strategies	42
11.1	Product Properties and Response Strategy	42
11.2	Pipeline safeguards	43
11.3	Wildlife	43
11.4	Scenarios	43
	Scenario 1:.....	44
	Scenario 2:.....	45
	Scenario 3:.....	46
SECTION 12.	Preventive Measures	48
12.1	Training	48
12.1.1	Meadowbank site Personnel	48
12.1.2	OHF Personnel Training	49
12.1.3	Boat Operators.....	50
SECTION 13.	Desgagnes Group	51
SECTION 14.	References	52

FIGURES

Figure 1 - Location of the Community of Baker Lake	7
Figure 2 – Agnico’s Baker Lake Bulk Fuel Storage Facility Site Layout.....	9
Figure 3 - Location of Community Freshwater Intake at Baker Lake	14
Figure 4 - Location of Helicopter Island	16
Figure 5 - Response Management System.....	21
Figure 6. Emergency Procedure	29

TABLES

Table 1 - Material available in the Spill Response Sea Can at Agnico’s OHF	23
Table 2 - PPE available at OHF	26
Table 3 - Agnico Radio Channels	30
Table 4 - Agnico Contact.....	30
Table 5 - Contractors / Local Contacts	31
Table 6 - External Contacts	32
Table 7 - Mutual Aid Contact.....	33

APPENDICES

APPENDIX A - SOPEP and Contact Info – Desgagnes Group	53
APPENDIX B - The Central and Arctic Regional Response Plan (2008).....	54
APPENDIX C - MSDS Jet-A and Diesel.....	55
APPENDIX D 1.1– Agnico Pre-discharge and Spill Response Sea Can checklists.....	56
APPENDIX D 1.2 – OHF Ship to Shore Fuel Discharge Procedure	577
APPENDIX D 1.3 – 2020 Mock Spill Minutes	588
APPENDIX E 1.1– Desgagnes Ship General Checklist.....	59
APPENDIX E 1.2- Desgagnes Ship To shore Checklist.....	60
APPENDIX E 1.3– Desgagnes Cargo Pre Arrival.....	61
APPENDIX F - Concordance Table.....	62

SECTION 1. OIL HANDLING FACILITY DECLARATION

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

DECLARATION OF OIL HANDLING FACILITY NORTH OF 60 DEGREES NORTH LATITUDE

¶

Pursuant to paragraph 168(1) of the *Canada Shipping Act 2001* (CSA 2001), I, Alexandre Lavallee declare to comply 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, respecting the circumstances in which operators of oil handling facilities shall report discharges or anticipated discharges of pollutants, 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. ¶

(Name of the operator of the oil handling facility)

The persons listed below are authorized to implement the oil pollution emergency plan: ¶

NAME	POSITION	COMPANY	ADDRESS	PHONE	EMAIL
Alexandre Lavallee	Environmental Superintendent-- Interim	Agnico-Eagle Mines Ltd.	P.O. Box 540, Baker Lake, Nunavut, X0C 0A0	(819)860-0804	Alexandre.lavallee@agnicoeagle.com
Eric Haley	Environmental Coordinator			(819)-759-3555 ext-4606744	eric.haley@agnicoeagle.com
Tom Thomson	Environmental Coordinator			(819)-759-3555 ext-4606744	tom.thomson@agnicoeagle.com
Markus Uchtenhagen	Health & Safety Superintendent			(819)-759-3555 ext-4606720	markus.uchtenhagen@agnicoeagle.com
Guillaume Gemme	E & I Superintendent			(819)-759-3555 ext-4606632	guillaume.gemme@agnicoeagle.com
Steven Tremblay	E & I General Supervisor			(819)-759-3555 ext-4606648	steven.tremblay@agnicoeagle.com
Philippe Beaudoin	Emergency Measures Counsellor			(819)-759-3555 ext-4606809	philippe.beaudoin@agnicoeagle.com
Richard Jackson	Emergency Measures Counsellor			(819)-759-3555 ext-4606809	rjackson@agnicoeagle.com

¶



(Signed by the operator of the oil handling facility or its representative)

April 16, 2021

(Date)

¶

¶



SECTION 2. GENERAL INTRODUCTION

The Oil Pollution Emergency Plan (OPEP) is to set in motion the necessary actions to stop or minimize the loss of fuel resulting from a mishap at Agnico Eagle Mines Limited's Baker Lake Fuel Farm Oil Handling Facility located in Baker Lake, Nunavut during the ship to shore fuel transfer. The Oil Pollution Prevention Plan (OPPP) is designed to ensure that the necessary planning was undertaken to help prevent a spill. Both plans are complementary and are combined into one plan. Additionally, it provides direction to Agnico personnel and/or contractors at the laydown and tank farm areas, and to Agnico'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 are to minimize potential health and safety hazards, environmental damage and cleanup costs.

2.1 Fundamental Principles

The following is submitted for compliance to the Canada Shipping Act 2001 and all the subtending regulations and to outline the appropriate spill response protocol during fuel transfer operations at the Baker Lake OHF. A hard copy of the OPEP/OPPP will be located on site for reference and review prior to transfer operations. This OPEP/OPPP will be reviewed annually and updates will be provided to 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 Baker Lake;
4. Prevention of fire and explosion;
5. Minimize of the oil pollution incident;
6. Notify and reporting of the oil pollution incident to associated Governing bodies;
7. 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's Baker Lake Fuel Oil Handling Facility. All requirements found in the Canada *Shipping Act, 2001*, ss. 168 are laid out in the Meadowbank Mine site OHF Concordance Table which is provided in Appendix F.

The OPEP/OPPP complies with the requirements for procedures, equipment and resources as set out in the *Canada Shipping Act* (s.s. 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 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);
- 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 Meadowbank mine that provided input to the Oil Pollution Emergency Plan and Oil Pollution Prevention Plan include the following:

1. Spill Contingency Plan;
2. Emergency Response Plan; and
3. Shipboard Oil Pollution Emergency Plan¹.

The cornerstones of contingency planning for Agnico are the Spill Contingency Plan and the OPPP/OPEP. These, coupled with the Emergency Response 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.

This plan 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 110 kilometers from the Meadowbank mine site in the north to their infrastructure in the south and the 64 kilometers between Meadowbank mine site and the Whale Tail Project. The OPEP strictly covers the transfers of fuel from ship to OHF. Product Transfer Area Assessment document found in Appendix M of the Sill Contingency Plan also detailed the assessment done for the ship to shore transfer along with prevention action to be taken.

2.4 Meadowbank Mine OPPP and OPEP

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

This plan specifically centres on the activities in ship-to-shore transfer of fuel from a small tanker delivering fuel to Agnico's Baker Lake Fuel Tank Facility constructed in Baker Lake. On site personnel at the Facility are expected to respond to spill incidents (generally smaller than 1 m³) that can be contained and cleaned up without assistance, while the Emergency Response Team will respond to larger spills.

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. Desgagnes Group, the shipping company, is responsible for this Plan.

Fuel is being delivered to Agnico's Baker Lake Fuel Farm by Petro-Nav Inc. a Division of Desgagnes. Fuel is stored within the existing tank farm owned and operated by Agnico. The Shipboard Oil Pollution Emergency Plan (SOPEP) is the responsibility of the shipping company. The outline of the SOPEP prepared by Desgagnes can be found in Appendix A.

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 typically between 3,500 m³ to 3,800 m³. This plan describes the procedures in place to respond to a spill up to 3,800 m³. To do this, the OHF will have the equipment and resources to respond to a 3,800 m³ 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 and contractor personnel at Baker Lake Fuel Farm have appropriate training to respond to spills, if it is safe to do so. The material onsite can be deployed within one hour to contain a spill, unless deployment within one hour will be unsafe. Generally, for spill greater than 1m³, the OPEP and the Emergency Response Plan (ERP) will be activated and the Emergency Response Team (ERT) located at Meadowbank mine site will come in Baker Lake to help. Realistically, the ERT can be on site within 125 minutes (or less) ready to help for the clean-up activity. Material from the Meadowbank Mine site, if required, will be brought to the Baker Lake OHF within 125 minutes to finalize the containment (if not complete) and recovered of the oil pollution incident.

3.2.2 On-Water Recovery

Agnico will have a registered boat at the Baker Lake barge area that is ready to be deployed in the case of an emergency situation. It will have all required components for an industrial use vessel. All personnel involved in a response situation will need to have a pleasure craft operator's certification.

If additional water crafts are required to help with the containment of a spill from the OHF, local resources such as Peters Expediting Ltd. and Baker Lake Contracting & Supplies (BLCS) can be used. 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. In the absence of strong winds the fuel will likely flow towards the discharge of the lake. Measures will be taken to block and concentrate the fuel slick at the lake discharge



using booms where it will subsequently be recovered using a portable skimmer, vacuum, or sorbent materials.

3.2.3 Dedicated Facility Spill Response Equipment

Agnico has three (3) sea cans with spill response equipment at the Baker Lake shore within Agnico's Marshalling area which includes maritime 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 will be 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. See Appendix D – 1.1 for the checklist inspection sheet that can be found in the sea can.

3.2.4 Transfer Conduit

The transfer conduit or hose that is used to transfer fuel from Petro-Nav to the Agnico Baker Lake Fuel Farm OHF will be pressure tested annually by Petro-Nav according to the regulation prior it being placed into service. A copy of the annual pressure test will be made available to TCMSS on request. The transfer conduit will always have a bursting pressure of not less than 4 times its maximum design pressure 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 MBK-ENV-0013: OHF / Ship to Shore Fuel Discharge Procedure

Agnico 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 D – 1.2.

SECTION 4. BAKER LAKE MARSHALLING AREA AND FUEL STORAGE FACILITY

4.1 General Overview and Site Description

Agnico's Oil Handling Facility (OHF) is located in the area of Baker Lake at latitude 64°18'22.778" N and longitude 95°57'33.990" W. The location shown on Figure 1 provides more detail. The Fuel Tank Facility consists of seven - 10 million litres diesel fuel² (10,000 m³) storage tanks all holding P50 grade diesel, and 18 tanks holding 1.8 million litres of Jet-A fuel (Figure 2). The Facility is located adjacent to Agnico's Marshalling area, approximately 250 meters from the shore of Baker Lake at high tide. Power is provided by a generator for the fuel pump module located next to the tank farm.

Figure 1 - Location of the Community of Baker Lake



² 1000 litres = 1 m³ of fuel. Cubic meters are used throughout this document.

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 have been field-erected and built to API-650 standards with each bermed area holding two tanks. This area is capable of containing 110% of the volume of one 10,000 m³ storage tank. Each impermeable lined and bermed cell has the following:

- A granular base for the tank completed with an impermeable LLDPE liner system and granular dikes;
- Two – 10,000 m³ tanks 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 Oil Handling Facility (OHF) is constructed and operated in accordance with Transport Canada Arctic Waters Oil Transfer Guidelines (TP 10783E) and Environmental Response Standards (TP 14909). A fuel dispensing pad area completed with a dispensing unit is 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.

Figure 2 – Agnico's Baker Lake Bulk Fuel Storage Facility Site Layout



Figure 2-1 - Agnico's Baker Lake Oil Handling Facility – Ship to Shore Transfer Area



4.2.2 Jet-A Fuel

The Jet-A fuel tanks are contained within an impermeable lined and bermed area. The steel fuel tanks have been field-erected and built to API-650 standards with the bermed area holding eighteen tanks. This area is capable of containing >110% of the volume of one 100,000L storage tank. The impermeable lined and bermed cell has the following:

- A granular base for the tank completed with an impermeable bituminous liner system and granular dikes;
- Eighteen (18) – 100,000L tanks completed 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; and
- Piping for unloading and loading.

The Jet-A Fuel 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)”.

4.3 Baker Lake Shoreline and Marine Characteristics

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

4.3.1 Topography

The bulk fuel storage area is located east of the Hamlet of Baker Lake, approximately 350 m north of Baker Lake. The OHF sits on a low terrace parallel with the shoreline of the lake. There is a gradual slope (5 to 10% grade) toward Baker Lake with an approximate elevation change of 35 m from the OHF to the Baker Lake shoreline. The Baker Lake shoreline is gently sloping, well-drained and is lined with marine gravels, sands and boulders.

4.3.2 Geology

The regional surficial geology is characterized by sandy till, bedrock outcrops, felsenmeer (ice-shattered bedrock) and shallow lakes (Golder, 2007). The most common soil type in this region is glacial till. Marine beach deposits are found along the north shore of Baker Lake.

The soil near the bulk fuel storage facility is comprised of silts, sands, gravels, cobble and boulders and frost-susceptible glacial till overlying weathered bedrock (Golder, 2007). The soil thickness is typically less than 1.4 m with permafrost or bedrock encountered at less than 2 m. Approximately 60% of the surface area surrounding the bulk fuel storage facility is comprised of bedrock outcrop.

4.3.3 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, ptarmigan and songbirds are inhabitants in 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 Baker Lake.

4.3.4 Subsurface Conditions

Test pits excavated in 2005 near the Bulk Fuel Storage Facility and between the tanks and the shoreline indicate a saturated top layer (0.2 m) of organic material (primarily green moss) (Golder, 2005; 2007). A layer of grey to black medium sand is present up to 0.7 m thickness throughout the area, below which a saturated, grey brown, sand and silt layer is found.

Bedrock is exposed at shallow depths throughout the site in locations where topsoil or till soils are present (Golder, 2005). Bedrock is encountered at a maximum depth of 1.4 m. As predicted by the soil conditions,

seepage flows in test pits indicate high site drainage (*Baker Lake Bulk Fuel Storage Facility Environmental Performance Monitoring Plan Version 5; January 2020*).

4.3.5 Water Quality

Baker Lake water quality closely resembles distilled water as many conventional water chemistry parameters are at or below detection limits (BAER, 2005). The water column is generally well mixed and the water chemistry homogenous. During the open water season there is limited vertical stratification in temperature and dissolved oxygen, with observed higher salinity in the bottom strata.

4.3.6 Bathymetric Data

As required by Water License 2AM-MEA1530 Schedule B, Item 6: *The bathymetric survey(s) conducted prior to each year of shipping at the Baker Lake Marshaling Facility*. The result of this annual bathymetry can be provided if needed.

4.3.7 Tides and Currents that Prevail at the Facility

There is a general southward current in Hudson Bay at Chesterfield Inlet of about 19 km/day (CCG 2008). Tides are 4.6 meters with strong cross-currents at Chesterfield Inlet; usually flowing south-west at about 1.85 km/hr.

4.3.8 Meteorological Conditions Prevailing at the Facility

Monthly meteorological data has been collected from 1971 to 2000 from the Baker Lake “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 20.4 km/hr.

4.3.9 Surrounding Area Environmental Sensitivities

The community of Baker Lake is a hamlet in the Kivalliq Region, in Nunavut on mainland Canada. Located 320 km inland from the west coast of the Hudson Bay, it is near the nation's geographical centre, and is notable for being the Canadian Arctic's sole inland community. The hamlet is located at the mouth of the Thelon River on the shore of Baker Lake.

The freshwater provided to the community is taken in Baker Lake. The freshwater intake is located approximately 3.4 km from the Meadowbank OHF. See Figure 3 below for the exact location. In case of a spill during fuel transfer, preventive action will be taken to avoid any contamination in close proximity of the water intake and cause health and safety problems to the community:

- 1) As part of the spill procedure, Agnico will make the community of Baker Lake aware of any spill to ensure measures can be taken to ensure safety of the community by contacting Mayor / Hamlet counsel and Fire department;
- 2) As part of the spill procedure, boom and absorbents pads will be deployed to confined and limit the progression of the spill into the water;
- 3) Booms will be deployed to capture the spill;
- 4) If spill cannot be captured prior to spreading towards the freshwater intake, booms will be deployed around the freshwater pump and regular inspection will be done to see if there are visible sheen;

- 5) As a precaution and depending of the spill size, Agnico will work with the Baker Lake Hamlet Counsel to provide a notice to the community of Bake Lake to stop the consumption of the freshwater during the time spill is recovered and until a test on water is conducted. During this time Agnico will provide potable water to the community³. As soon as the spill will be recovered and it's determined that the freshwater intake and distribution system is not contaminated the consumption of freshwater will resume.

³ The Meadowbank project keeps a supply of 120 twenty litre bottles of drinking water in supply at all times in case of emergency. As well the water treatment plant is capable of producing >200m³ of water a day and the current usage for the mine site is ~110m³. Thus if required the Meadowbank mine can produce drinking water for the community for an emergency cease in the consumption of potable water due to a spill at the Baker Lake Marshalling Facility



Figure 3 - Location of Community Freshwater Intake at Baker Lake
Blue dot represent the Baker Lake freshwater intake



SECTION 5. SITE ACTIVITIES

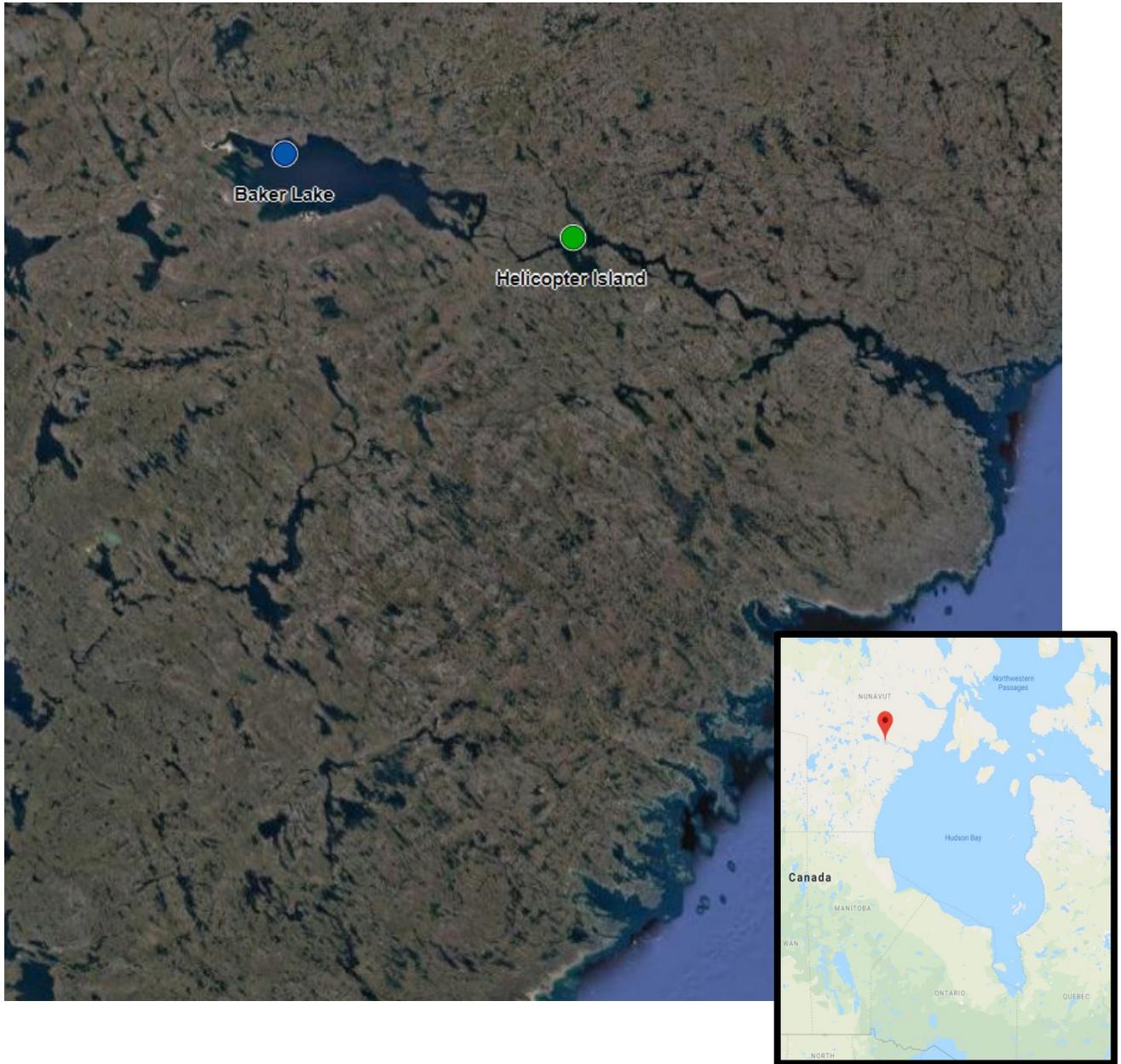
5.1 Nature of the Oil Product

The main fuel stored at the Agnico's Baker Lake Fuel Farm will be P50 diesel and Jet-A. You can find, in Appendix C, the MSDS for Diesel and Jet-A. All other fuels such as gasoline and possibly other grades of diesel will be purchased in drums or 1m³ totes and brought to the mine site for storage into the Meadowbank Fuel Storage Facility, or purchased and brought to site from a contractor in Baker Lake.

Petro-Nav Inc, a division of the Desgagnes Group, is contracted by Agnico to supply and deliver diesel fuel and Jet-A to Agnico's OHF facilities in Baker Lake. The large tanker delivering the fuel will be double hulled, Motor Tank type ship, will have segregated ballast compartments and would be able to carry up to 50,000 m³ of diesel and Jet-A fuel collectively. Ballast will not be required during the inward voyage to Baker Lake by the smaller ships. However, ballast will be picked up while on anchor outside the access passage after offloading the diesel and Jet-A fuel for its outward journey. A total of three (3) large tankers loads of fuel will be required to transport the fuel to Helicopter Island arriving in sequence, one in July, one in August and one in September. Three small delivery tankers will make a total of 22 voyages from Helicopter Island to Baker Lake in order to fill the seven diesel tanks in the tank farm, cumulatively holding 70,000 m³ and one (1) tanker load to fill the 18 Jet-A tank, cumulative holding 1,800 m³.



Figure 4 - Location of Helicopter Island



5.2 Bulk Transfer

It is expected that the large tankers delivering diesel fuel and Jet-A will anchor in the same general location as the dry cargo vessels, shown on Figure 4. Ship-to-ship transfer of fuel will occur at this location from the larger tanker to a smaller tanker that can navigate the access passage. The carrying capacity of the small tanker will be either 7,500 m³, 10,000 m³ or 15,000 m³. However, due to restricted depth of the river between Helicopter Island and Baker Lake, only 3,500 to 3,800 m³ can be carried. The small tanker will anchor adjacent to Agnico's spud barge. From there, transfer hoses (Conduit) are connected to a shore-based pipeline for transfer of P-50 diesel fuel to the diesel tank farm. For Jet-A fuel separate hoses will be laid out from the vessel to the Jet-A storage containment. These hoses or conduit will carry the Jet-A fuel from the vessel to the Jet-A tanks.

Ballast will not be required for the inward voyage of the small tanker as it arrives at Baker Lake loaded with diesel fuel and Jet-A. After transferring the diesel fuel or Jet-A fuel to the tank farm, the small tanker will take on ballast in its segregated ballast compartments before sailing out to Helicopter Island to pick up another load of fuel from the large tanker anchored outside the access passage. Ballast will be dispelled as ship-to-ship transfer of diesel or Jet-A occurs and the small tanker is loaded. This sequence of events will be repeated until the large tanker is empty or the tank farm is full. One small tanker will remain at the spud barge as a pumper ship while the two (2) other smaller tankers shuttle product from Helicopter Island to Baker Lake. Product transfer from shuttle ship to pumper ship is done by ship-to-ship transfer.

Due consideration will be given to prevailing and expected wind, weather and tide conditions when undertaking ship-to-ship and ship-to-shore fuel transfers. The large tanker anchored near Helicopter Island and the small tanker anchored near Baker Lake will be clear of land and traffic routes, and in open water of a depth exceeding the draught of the vessel(s). For ship-to-ship transfers, the ships will be secured alongside or anchored.

The small tanker will discharge at a rate of 200 m³/hr for diesel fuel and 100 m³/hr for Jet-A taking approximately one (1) day to fill. Communications between the shore and the small tanker will be maintained throughout to ensure the safe transfer of the fuels and to avoid the overfilling of the tanks. The ship-to-shore transfer to be used will be similar to that used at communities throughout Nunavut.

5.3 Measures to Minimize a Diesel and Jet-A Pollution Incident

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

The transfer of the fuels will use sound, well-rehearsed practices, include 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 will be in charge of the tanker fuel transfer equipment, while an onshore team will be in charge of the land-based transfer equipment. Agnico will have at least two (2) trained personnel on the land to observe for any leak detection: a third part contractor (Intertek) and the Baker Lake Supervisor. The role of the third part contractor will be to apply procedure and oversee operation during the fuel transfer. To do this, the third part contractor will need to come on site at least one (1) day before the first day of transfer to receive the appropriate training given by the Environmental Department. Fire-fighting, spill response equipment and supplies will be located on the tanker and onshore near to the transfer point as required by Transport Canada. This will include readily available absorbent material at the flexible hose connections on deck and onshore to quickly address minor spills at predictable minor spill locations. Additionally, Agnico has placed a sea can with spill response supplies (including boat)

and equipment at Agnico's Baker Lake Fuel Farm area where it can quickly be accessed in the event of a spill.

Six-inch (15 cm) steel piping, 266 m long, able to accommodate a flow rate of approximately 200 m³/hr lead down to the shore from the diesel tank farm. Two (2) shipper certified transfer hoses, 4 inches and 178 m long, are connected to the shore permanent based pipeline manifold for the transfer of diesel fuel to the diesel tank farm (Photo 1). For Jet-A fuel, separate shipper certified hoses are laid out from the vessel to the Jet-A manifold located onshore in the Jet-A Secondary Containment (Photo 2). Hoses are connected to the manifold using a dry break coupling. This area is capable of containing >110% of the volume of one 100,000L storage tank. A total of 582 m of 4" certified hoses are required to reach the Jet-A transfer area. The Jet-A transfer rate is 100 m³/hr. Other measures to be taken to minimize and prevent spills include and must be followed by the on land responsible:

- Complete checklist before / during transfer for the on-land responsible (Appendix E);
- Complete checklist, provide by Desgagnés, with vessel captain before transfer begin (Appendix E);
- Complete inspection / inventory of spill response sea can before transfer;
- Supervisor of the transfer operation on board the vessel has reported readiness for the transfer operation to begin;
- During the transfer, regular monitoring will be undertaken for detection of incipient spills and leaks between the tanker and the tank farm;
- Radio test before transfer and after that each hour 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;
- Permanent watcher at the fuel manifold to detect any leak;
- The onshore area and ship deck will be well light as fuel transfers could continue around the clock;
- Minimization of land drainage containing spilled diesel or Jet-A to limit the amount reaching the marine environment;
- 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 annual).

During the ship-to-shore transfer, Agnico will have competent personnel on location at all times to monitor the fuel transfer and maintain contact with the tanker's crew. Containment boom will be placed in Baker Lake by the shipping company as a mitigation measure. 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 booms will be deployed to minimize migration of a spill throughout Baker Lake. Adequate lighting will be put in place during all transfers, to allow for proper inspections of transfer locations around the clock. The lighting system intensity will be 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.

See *Appendix D 1.2: MBK-ENV-0013: OHF / Ship to Shore Fuel Discharge Procedure*.

5.4 Portable Containment Pools

At the connection of the ship's conduit to the OHF manifold a portable containment pool will be erected and in place during the transfer of product. This pool is capable of holding ~250L 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 will be in place under each joint for the conduit used to fill the Fuel tanks. These pop-up pools 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.



Photo 1. Diesel Transfer - Connection between shipper transfer hoses and Agnico permanent pipeline



Photo 2. Jet-A Transfer - Connection between shipper transfer hoses and Agnico permanent pipeline

SECTION 6. MEADOWBANK RESPONSE TO EMERGENCIES

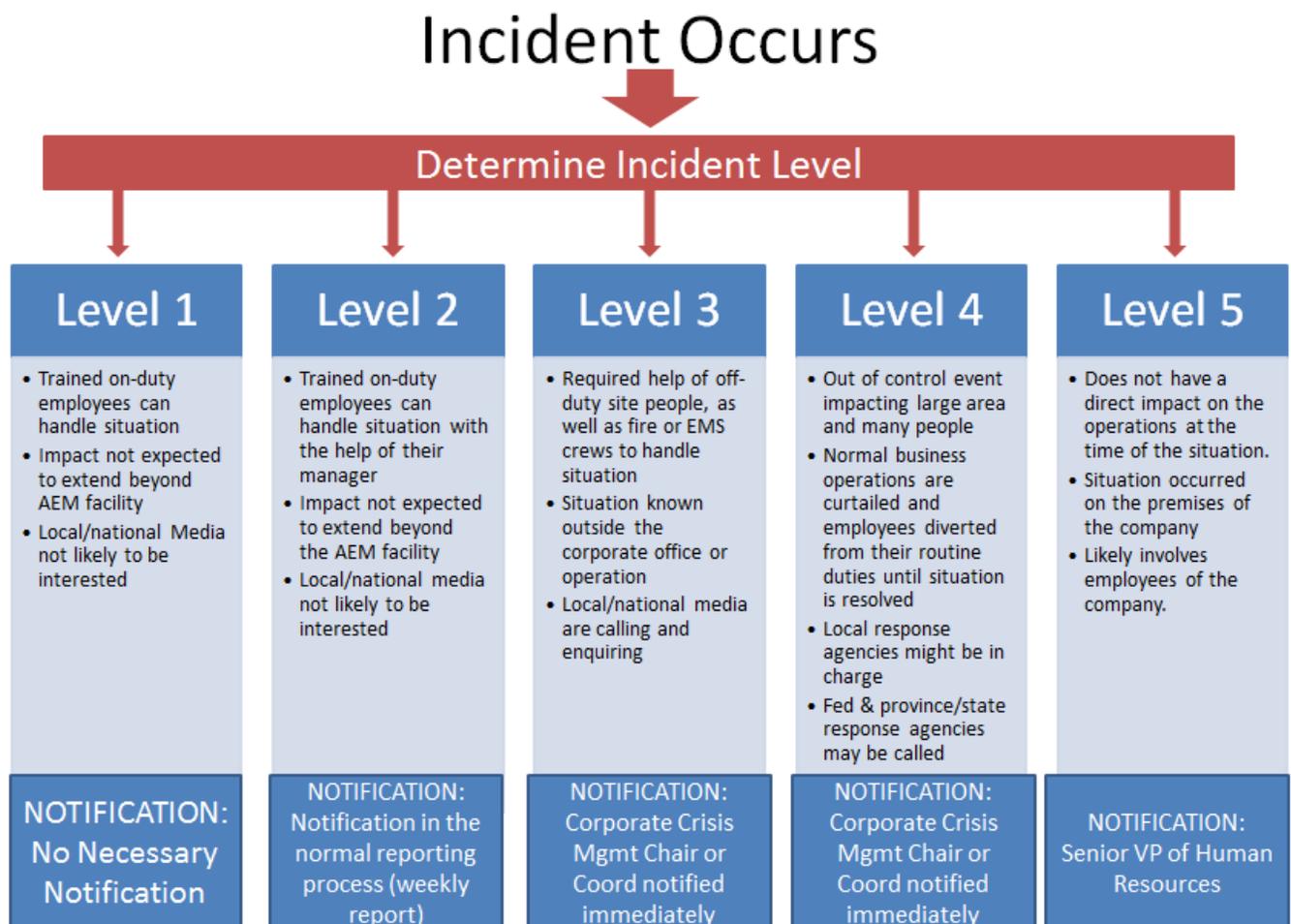
Oil handling facilities located north of latitude 60°N need to describe procedures to be followed to respond to a discharge of the total quantity of oil product that could be loaded or unloaded to or from a vessel, up to a maximum of 10,000 tonnes. This plan describes the procedures in place to respond to a spill up to 3,800 m³. To do this, the OHF will have the equipment and resources to respond to a 3,800 m³ spill.

6.1 Response Management Structure

Agnico has an Emergency Response Team (ERT) at the Meadowbank Mine trained and responsible with the Environmental Department for controlling spills at the Agnico's Baker Lake laydown and tank farm, and for assisting with medical and other emergencies that may occur at the mine site or the OHF.

Figure 5 depicts the Response Management System.

Figure 5 - Response Management System



6.2 Logistics and Planning

The Emergency Measures Counsellor (EMC) will ensure that site drawings and equipment lists are posted conspicuously in key locations throughout the site so that important information is always readily available. This will include 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 and directions on its proper use; and
- Location of first aid stations and muster areas.

The Incident Commander, EMC, and Health and Safety Superintendent will know where, throughout the project site, all of this information is posted and where emergency equipment is stored. These individuals will also be 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 Baker Lake Fuel Farm Oil Handling Facility. Any and 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

The following equipment (Table 1) is available right at the OHF at any given time in a sea can designated for **Environmental Emergency** and can be deployed on scene within one hour, if it's safe to do, to contain and control the spill. Agnico can deploy this material within one hour.

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

Quantity	Equipment/tool name
3	Empty drums (sealed)
2	Mini Berm 36"x 36"
2	4 Drums Berm 4'x 8'
4	Tarp 20'x 30'
4	Tarp 30'x 50'
20	Oil Spill Absorbent Pads
10	Universal Absorbent Boom 5"x 10' (For Hydro-soluble Chemical)
10	Universal Absorbent Boom 8"x 10' (For Hydro-soluble Chemical)
10	Petroleum base Absorbent Boom 5"x 10' (for Petroleum product)
8	Maritime Barrier (Baffle)
5	ABS pipe: 10' long x 4" diameter
2	Cell-U-Sorb (Absorbent)
2	Amerisorb Peat moss (Absorbent)
2	Oil Gator Absorbent
1	Plug Patties
4	Quatrex bags
2	Fork Lift Crate
4	Hand Shovel
1	Crow Bar Chisel
1	Ice Breaker Chisel
1	Sledge hammer
15	Rod bar 4'
1	½ drum containment
1	100 feet of rope
1	Knife to cut rope
1	Boat with motor, gasoline jerry can and accessories (sea can #321225)

7.2 Additional Response Equipment

All equipment previously mention is available for use during any emergency situation. 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 recover and clean-up of the spill.

7.2.1 General Equipment

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

7.2.1.1 Mobile Equipment

Mobile Equipment available to Agnico, that will be used for spill contingency include:

- Graders-4
- Cranes-6
- Snowmobiles-3
- Vacuum Truck-1
- Loaders-14
- Backhoe-10
- Bulldozer-8
- Forklift & Hysters-16
- Water Trucks-2
- Winch Trucks-2
- Pickup Trucks-70
- Generator Sets-20
- Fire Truck-1
- Boats-4
- Fuel Trucks-2
- Bobcat-2
- Haul Trucks-25
- Snow Cat-1

All the previous listed equipment can be found on the Meadowbank mine site. Wheeled equipment can be at the OHF in Baker Lake in 3-6 hours. Tracked equipment would have to be loaded and transported which would take 5-6 hours.

7.2.1.2 Containment System

Temporary containment systems are also available on site and include:

- Absorbent Booms - 130 kits; 4 booms per Kit; each boom 8"x10'
- 122 Universal booms; each boom 5"x10'
- Open top Drums x 80@200L
- Tanks – 2 x 100,000L tanks
- Tailings Pond – capable of holding contaminated fluids >1,000 m³ capacity
- Spill absorbent material packages/pads - Quantity changes depending on demand on the Meadowbank site

7.2.1.3 Emergency Transportation

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

- Aircraft (fixed wing or helicopter)
- 4-wheel drive vehicles >70
- Snowmobiles x 3
- Boats and motor x 4

- Sherp x 1

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 on site (including heavy equipment) contains an emergency spill kit.

7.2.2.2 Emergency Trailer

Agnico also have an Environmental Emergency Trailer which is easily accessible and mobile. The trailer is located on site east of the Environmental Office at the Meadowbank Mine Site. This trailer contains the following items:

- Pump Elastec
- Pump accessories
- Vacuum ends
- 45 gallons top
- Tubing 2 inches diameter
- Tubing 3 or 4 inches diameter
- Diesel Fuel jerry can (place on a miniberm)
- Spill kit accessory (red box)
- Drums opener
- Wescot (to open empty drum screw)
- Empty drums
- 2 drums berm
- 4 drums berm 4x8
- Tarp 20x30
- Tarp 30x50
- Oil white spill pads
- Universal boom 5x10
- Universal boom 8x10
- ABS pipe: 10' (4")
- ABS pipe: 10' (6")
- Cell U-Sorb
- Sphagsorb
- 3 Size of Wedge wood
- Plug pattie
- Quattrex bags
- Hand shovel
- Ice chisel
- Sledge hammer
- Rod bar (4')



7.2.2.3 **AWAR Sea cans**

Along the AWAR there are 9 environmental emergency sea cans. These sea cans are strategically placed along the road at water crossings. Each environmental emergency sea can contains the following material:

- Empty drums (Sealed)
- Mini berm 36"x36" x4'
- 4 drum spill berm 4x8
- Tarp 20'x30'
- Tarp 30'x50'
- Oil white spill pads
- Universal boom 5"x10' (Chemical)
- Universal boom 8"x10' (Chemical)
- Oil only booms 5"x10' (Hydro-carbons)
- Maritime barrier (Baffle)
- ABS pipe: 10' (4")
- Cell U-Sorb
- Amerisorb peat moss
- Oil gator absorbent
- Plug pattie
- Quattrex bags
- Fork lift crate (pallets)
- Long handle round point shovel
- Chisel point crow bar 16 lbs 57"
- Ice chisel
- Sledge hammer 12 lbs 36"
- Rod bar (4')

7.3 **PPE**

7.3.1 **PPE at OHF**

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

Table 2 - PPE available at OHF

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

This is adequate PPE intended for six (6) persons. Additional PPE will be available from the Meadowbank mine site.

7.3.2 Additional PPE for Spills

Personal Protective Equipment is stored in bulk quantities at the Meadowbank Warehouse. Quantities of each can be found on site using the JD Edwards system. In addition, the community of Baker Lake 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 Baker Lake.

SECTION 8. COMMUNICATION

The primary basis for communication will be the phone system; back-up communication will be available via satellite phone. For on-site communication, hand-held radios will be 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 will be available to provide continuous, uninterrupted operation either at fixed facilities or at emergency sites.

Key site personnel will be accessible at all times by either portable radios, radios in vehicles, or office radios. The Health Care Professional will carry a hand-held radio and will be available at all times. Security personnel will 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 mine site and associated areas will be cut and all external contact will take place solely through the Emergency Control Center at the Meadowbank Site.

During fuel transfer operation, the vessel master and the operator of the OHF will always have a two-way communication on a continuing basis. This two-way communication will be 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 6911.

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 6911

When a code 1 is called over the radio, please respect the “Radio Silence” 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
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

by the ERT. Radio Silence on working channel must be observed until advised otherwise by the Incident Commander or ERT Team Captain.

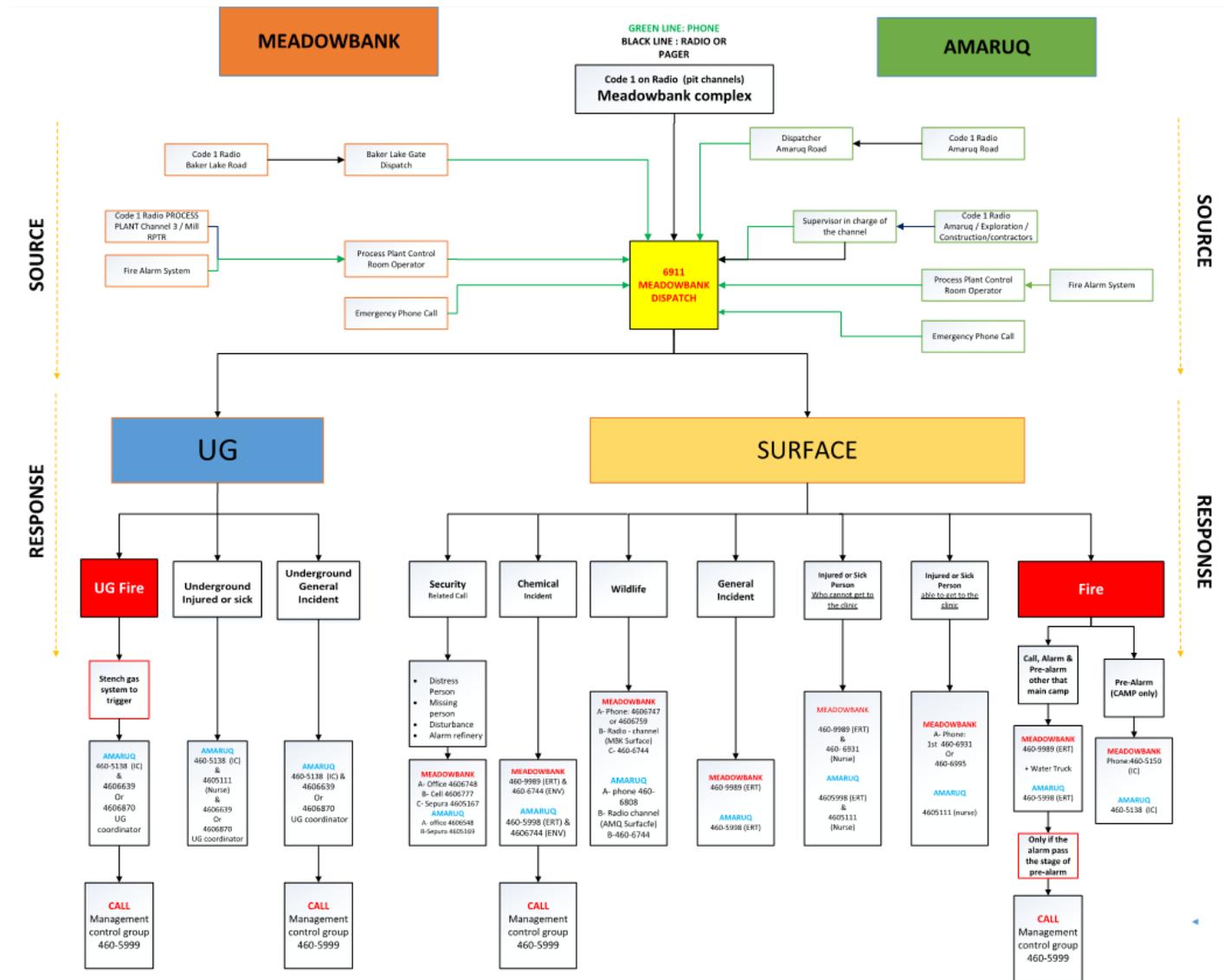


Figure 6. Emergency Procedure

8.1.1 Communication with the Public

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

In the case that the communities of Baker Lake 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 regarding the situation. In addition, if safe to do so, a radio notification should be immediately broadcast on the Baker Lake Radio station.

8.1.2 Hand Held Radio Communication

The Sepura radios used for hand held radio communication on the Meadowbank mine site, the All Weather Private Road, OHF, and associated facilities are as follows in Table 3.

Table 3 - Agnico Radio Channels

Health & Safety	460-5172
Information Technology	460-5003
Engineering	460-5268 / 460-5268
Geology	460-5222 / 460-5224
Mining Dept.	460-5197
Environment	460-5120
Process Plant	460-5273
Energy and Infrastructure	460-5275 / 460-5274
Camp	460-5127
Human Resources	460-5280 / 460-5281
Maintenance	460-5299
Logistic and Warehouses	460-5207

8.1.3 Contacts

Internal contact information is contained in Table 4 for all Agnico 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. Agnico also have a mutual agreement with other mining companies in the north to assist our site in case of a major emergency, the contact information are detailed in Table 7.

Table 4 - Agnico Contact

Title	Name	Telephone No.
Sr. Vice President, Environment and Sustainable Development	Carol Plummer	416.644.2056
Vice President of Environment and Critical Infrastructure	Michel Julien	416.947.1212 ext. 3738 Cell: 514.244.5876
Director, Environment Management	Pascal Lavoie	819.759.3700 ext. 4105822 Cell: 819.277.0045
Senior Corporate Director, Communications, Social and Public Affairs, Communications	Dale Coffin	416.847.8669 Cell: 647.274.4154
Meadowbank General Mine Manager	Alexandre Cauchon	819.759.3555 ext. 4606896 Cell: 819.651.2216 Radio: 460-5269

H&S Superintendent	Markus Uchtenhagen	819.759.3555 ext.4606720 Cell: 819.856.8715 Radio: 460-5172
Incident Commander	Philippe Beaudoin/Richard Jackson	819.759.3555 ext.4606809 Cell.450.847.4214 Radio: 460-5128
Environmental Superintendent - Interim	Alexandra Lavallee	Cell: 819.860.0804 Radio: 460-5120
Environmental Coordinator	Eric Haley or Tom Thomson	819.759.3555 ext. 4606744 Radio: 460-5120
Environmental Department	Environmental Technicians	819.759.3555 ext.4606747/4606759 Radio: 460-5120
On-site Medics	On-site Nurses	819.759.3555 ext.4606734/4606751
Site Security	On-site Security	(867) 793.4610 ext. 4606748

Table 5 - Contractors / Local Contacts

Title	Telephone No.	Contact in Emergency for:
Nolinor Aviation Services	Regular Number (450) 476.0018 (888) 505.7025	Flight services for additional crew, or additional supplies
First Air	Regular Number 1.800.267.1247 (867) 669.6694	Flight services for additional crew, or additional supplies
Calm Air	1.800.839.2256 Emergency (204) 677.5013 (204) 677.5019	Flight services for additional crew, or additional supplies
Dyno Nobel Explosives Ltd.	(819) 825.5441	Heavy Equipment, Man power, Emergency Blasting
Desgagnes Group (Shipping)	(450) 635.0833	Fuel Hauler
Baker Lake Contracting & Supplies	(867) 793.2831 (867) 793.1766	Man power, equipment, trades personnel i.e. pipefitter, plumber, electrical
Peter's Expediting	(867) 793.2703 Cell (867) 793.1615	Equipment, man power, Ground transportation services
Arctic Fuel Services	(867) 793.2311 Office (867) 793.2301 Supervisor	Fuel hauling, trucking, man power.

Table 6 - External Contacts

Organization/Authority	Telephone Number
NT-NU 24-Hour Spill Report Line	(867) 920-8130 spills@gov.nt.ca
Workers Safety and Compensation Commission	(877) 661-0792 (Emergency) or (800) 661-0792
Kivalliq Inuit Association	(867) 645-5725 (867)645-2810 (reporting line)
Nunavut Water Board	(867) 360-6338
CIRNAC Inspector	Jakob Voisey (867) 645-2089
Fisheries and Ocean Canada (DFO) – Nunavut Regional Office	(867) 979-8000
Government of Nunavut – Department of Environment	(867) 975-7700
Kivalliq Health Services – Baker Lake	(867) 793-2816 or (867) 793-2817 <i>Dial 0</i>
Baker Lake Hamlet Office	(867) 793-2874
Baker Lake Fire Emergency	(867) 793-2900
RCMP Regular Hour RCMP 24 Hour Emergency Number	(867) 793-0123 (867) 793-1111
Canadian Coast Guard (in the event of a spill to the marine environment)	(800) 265-0237
Superintendent Environmental Response	(519) 383-1954 (519) 381-6186 (cell)
Transport Canada – Tech services Stephen Sherburne Philip Levesque	(780) 495-6325 (204) 984-5786 Cell : 204-801-6951

**All above phone numbers are current as of March 2021*

Table 7 - Mutual Aid Contact

Mutual Aid	Telephone Number
Diavik Diamond mines Inc	(867) 669-6500 ext. 5903 Phone number is monitored by Security Control 24 Hours a day
Agnico Eagle Mines Limited (Nunavut Operations)	<u>Meliadine</u> (819) 759-3555 ext. 4603977 <u>Hope Bay</u> (819) 759-3555 ext 4606832 General Manager - Eric Steinmetzer
De Beers Canada – Gahcho Hué	(416) 645-1695 ext. 6699 Phone number is monitored by Security Control 24 Hours a day
Dominion Diamonds Mines Ekati	(867) 880-2201 or (867) 880-4444 Both phone numbers are answered and monitored by Security Control 24 Hours a day
GMRP	24-hour mine number (Security) (867) 446-2647

SECTION 9. ROLES AND RESPONSIBILITIES

9.1.1 First Responder (Third Party Contractor (Intertek Personnel) and Spud Barge Supervisor)

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 to prevent and minimize spill (See Section 5.3)
- In case of spill to land, ice or water, contact the Baker Lake Gatehouse 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.

9.1.2 Supervisor (Spud Barge 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

- Contact the Baker Lake Gatehouse; contact 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 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 equipment 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

- General Services, 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 for 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;
- Ensure that the ERT Members of his crew have responded to the “Code One” emergency;
- 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 and Infrastructures Superintendent/Designate Duties:

The following are the responsibilities of the Site Services Superintendent/Designate;

- Ensure that all his employees are accounted for;
- Ensure that all ERT Member on his Crew, respond to the “Code One” emergency;
- If the “Emergency” is 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 Superintendent/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 employees 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 Department:

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

- Ensure that access points to the emergency are properly guarded;
- Notify the Baker Lake 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 (ensure to reduce the rate of flow and pressure in a safe and efficient manner) *
 - c. Don appropriate PPE
 - d. STOP the spill if possible
 - e. Call Code One if major spill or out of control
- 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 Baker Lake 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 or Jet-A 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 5m³
- 6. Notice and Report the Spill**
 - a. Spill need to be reported to Transport Canada, Coast Guard 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**

**manifold valves and tank valves at the OHF are not closed until relevant pumps are stopped, if the closing of the valves would cause dangerous over-pressurization of the pumping system*

10.1 Coordination with Government Agencies

10.1.1 Coordination with Transport Canada Technical Service Environmental Response

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

TC will also be contacted annually prior to the deposition 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, the coordination with Canadian Coast Guard (CCG)⁴ 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 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 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's Baker Lake Fuel Tank Facility constructed in Baker Lake. Also Agnico will inquire if there is any update to "*The Central and Arctic Regional Response Plan (2008)*."

Agnico's Environmental Group 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 B for reference. The plan will be reviewed to ensure that the OPEP and the actions of Agnico's OHF meet all requirements listed for an OHF.

10.1.3 Other Government Agencies

Agnico will contact all government agencies associated with the Meadowbank Gold Project 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), Nunavut Water Board (NWB), Environment and Climate Change Canada (ECCC) and Kivalliq Inuit Association (KIA).

10.2 Reporting Requirements

10.2.1 Government of Nunavut Reporting Requirements

As per the Canada Shipping Act spills to the marine environment will be reported to the Transport Canada Technical Service Environmental Response and Canadian Coast Guard (contact numbers in Table 6). Marine spills will be reported in accordance with Transport Canada Vessel Pollution and Dangerous Chemicals Regulations Section 133 (SOR-2012-69). Others to receive the spill report include the Kivalliq Inuit Association, Hamlet of Rankin Inlet, Fisheries and Oceans Canada, Canadian Coast Guard, Crown-Indigenous Relations and Northern Affairs Canada and Environment and Climate Change Canada. Incidents that require media communications will be the responsibility of Agnico General Mine Manager or Public Affairs Corporate Director.

⁴ CCG: 1-800-265-0237

To ensure compliance with Section 36(3) and 38(5) of the *Fisheries Act* and Section 5(1) of the *Migratory Birds Convention 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).

To ensure compliance with the Environmental Emergency Regulations (E2) all spills that are deemed to be an environmental emergency by using professional judgement, as per Section 18 of the regulations, are to be reported electronically via the SWIM reporting system in accordance with Section 20 of the regulations.

Agnico 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 (regardless of quantity), 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 Meadowbank Environment Department.

10.3 Treatment and Disposal

All diesel or Jet-A fuel recovered through the spill response and any contaminated material will be taken to the Meadowbank mine 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 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. In 2020, an exercise program scenario was developed as a prevention protocol for the OHF operation. Safety, including use of personal protective equipment around water, and spill response training were part of this training. This exercise program evaluated the effectiveness of all the aspects of the procedure, equipment and resources that are identified in the OPEP. A summary of the 2020 exercise is provided in Appendix D - 1.3. An exercise will be conducted this year and the summary will be provided in next year's revision of the OPEP. Written description of the annual exercise 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, the Department of Transport and the Canadian Coast Guard will be provided to the Inspector at least 30 days before the day on which the exercise will be conducted.

11.1 Product Properties and Response Strategy

Jet fuel, Jet-A, Jet-A1, or kerosene is a type of aviation fuel designed for use in aircraft powered by gas-turbine engines. It is colourless to straw-coloured in appearance.

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 Baker Lake, the wind is largely from the NW to N.

Predicted Evaporation Rate of Spilled Diesel

$$\text{Weight percent Evaporation} = (5.8 + 0.045T) \sqrt{t}$$

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*

In relation to Jet-A Fuel we will use the same evaporation rate as diesel as per Journal of Petroleum Science Research states; "*Diesel fuel and similar oils, such as jet fuel, kerosene and the like, evaporate as a square root of time. The reasons for this are simply that diesel fuel and such like have a narrower range of compounds which evaporating at similar rates, yield rates which together sum as a square root.*"⁵

⁵ Journal of Petroleum Science Research (JPSR) Volume 2 Issue 3, July 2013 - *Modeling Oil and Petroleum Evaporation* by Merv F. Fingas

As a result of the properties of diesel and Jet-A and the environmental conditions that predominate at Baker Lake, the spill response will need to aim to stop the spilled product from spreading across Baker Lake. This could include activating the Shipboard Oil Pollution Emergency Plan. The tanker would have response equipment on board and a fully trained crew in spill response. This, coupled with a shore based response under the OPEP, would ensure sufficient resources are available to control and recover as much diesel and Jet-A fuel as feasible.

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 will be performed before the diesel transfer to confirm the system is free of leaks; and
- Both the crew on the tanker and Agnico's shore-based personnel will be fully trained in spill response and spill recovery.

11.3 Wildlife

During a spill event, Agnico 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 will track any mortality and report these numbers to the GN and ECCC in case of migratory bird mortality.

11.4 Scenarios

The scenarios outlined below were developed in accordance with the Environmental Response Regulations Section 11 (1) (b). Refer to Sections 4.3 and 5 of this report for the assumptions on which the scenarios were based.

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 1,000 L of diesel or Jet-A fuel;
2. A major failure between the ship and the flange of the OHF, the floating pipeline, resulting in a spill greater than 1,000 L but smaller than 5,000L of diesel or Jet-A fuel; and
3. Spill greater than 5,000 L up to 3,800,000 litres.

In most instances Agnico 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 Emergency Response Team that is stationed at the Meadowbank site located 110 kilometers away. The ERT can be at Baker Lake within 125 minutes to take charge of the spill response. Agnico will make every effort to have its equipment and resources deployed within 6 hours of an incident.

Diesel and Jet-A spills will be responded to in the same way. Review of the CANUTEC Emergency Response Guidebook designates the spill response to both products as the same.⁶

Scenario 1: Loss between the ship and the flange of the OHF, the floating pipeline, resulting in spill smaller than 1,000L of diesel or Jet-A fuel.

Appropriate Actions	Resources
<ol style="list-style-type: none"> 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 Baker Lake 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 Meadowbank site. 	<ol style="list-style-type: none"> a. Crew on the tanker trained in spill response. b. Agnico'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 Agnico's Fuel Farm and Marshalling area. e. Save-alls (Pop-up pools) 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.

⁶ 2012 Emergency Response Guidebook



Scenario 2: Loss between the ship and the flange of the OHF, the floating pipeline, resulting in spill greater than 1,000L but smaller than 5,000L of diesel or Jet-A fuel.

Appropriate Actions	Resources
<ol style="list-style-type: none"> 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 Baker Lake 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. 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 Meadowbank site. 	<ol style="list-style-type: none"> a. Crew on the small tanker trained in marine spill response. b. Crew from the large tanker anchored outside the access passage. c. Agnico'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 sea can locate at Agnico's Marshalling area. g. Additional booms to place outside the containment boom. h. Additional boats can be transported from the Meadowbank 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 Meadowbank site as laid out in the Meadowbank Emergency Response Plan.

Scenario 3: A spill >5,000 litres up to 3,800,000 litres

In the case of an **Extreme** spill, Agnico follow the below actions listed to complete the best containment and clean up possible. Spill response supplies at the OHF (including all responses equipment and resources from Meadowbank, emergency trailer, emergency sea can along the AWAR) will need to be use to control and cleaned up. Tanker delivering fuel also has on board equipment that can be share with Aginco in case of extreme spill. However, at this point Agnico could require external assistance with the clean-up.

Appropriate Actions	Resources
<ol style="list-style-type: none"> 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 Baker Lake community. 3. Make sure that risk of fire or explosion are minimize. 4. Call Code One and contact person found on OHF Declaration to initiate the OPEP. 5. Request for supplemental spill response material as detailed in Section 7 of the OPEP 6. Minimize the oil pollution incident by containing the spilled fuel to spreading within the marine environment, if it's safe to do. 7. Notify CCG, Transport Canada, local and regulatory authorities, and request for assistance if needed. 8. Containment boom is manned to prevent the escape of fuel outside the boom. 9. If necessary, place a diversion boom outside the containment boom to stop the diesel from getting onto the beach 10. Spread absorbent material on the spill to capture it 11. For larger amounts of spilled materials on water, use absorbent booms to collect the spilled fuel 12. 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. 13. If diesel reaches the beach, excavate the contaminated beach material and take it to 	<ol style="list-style-type: none"> a. Crew on the small tanker trained in marine spill response. b. Crew from the large tanker anchored outside the access passage. c. Agnico's shore-based personnel trained in spill response and recovery. d. Emergency Response Team trained for 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 sea can locate at Agnico's Marshalling area. g. Additional booms to place outside the containment boom. h. Additional boats can be transported from the Meadowbank 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 Meadowbank site as laid out in the Meadowbank Emergency Response Plan.



the Landfarm area at the Meadowbank site.	
---	--

The Canadian Coast Guard (CCG) will be made aware each year prior the fuel transfer, there is a possibility that under direction of CCG that there spill depot supplies located in Baker Lake may be used.

SECTION 12. PREVENTIVE MEASURES

Agnico recognises 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 and Jet-A fuel. The tankers carry a Ship Oil Pollution Emergency Plan (SOPEP) 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 will include comprehensive spill response exercise to practice the use of spill response equipment, including the use of booms and oil water separator.

The OPEP/OPPP will be updated annually based on the results of spill exercises, changes to the infrastructure at Agnico's Fuel Handling Facilities, changes to procedures and other variables. The updated OPEP/OPPP will be distributed to the Agnico Emergency Response Team, Transport Canada, the Kivalliq Inuit Association, the Municipality of Baker Lake 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 Meadowbank site Personnel

A designated Emergency Response Team (ERT) consisting of on-site personnel is established at Agnico's Meadowbank Mine Site. Agnico will ensure that the ERT is trained and staffed in sufficient number so that the ERT is present at all times. All members of the team will be trained and familiar with emergency and

spill response resources, including their location and access, the Spill Contingency Plan, the Oil Pollution Emergency Plan and appropriate emergency spill response methodologies. The ERT will have up to 60 members, each of whom will train approximately 8 hours per month. At all times there are 3 ERT teams with 6 members on site and ready to respond. ERT members are from multiple departments on site including the environmental and energy and infrastructure departments.

The training will include 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;
- Personal protective equipment and clothing;
- Marine shoreline recovery operations; and
- The likely causes and possible effects of spills.

Every employee at the Meadowbank project will receive spill and waste management induction during their initial site orientation, so they are able to respond to small spills and raise the alarm if a larger response is required. ERT members will 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.

The Environmental Department, mainly the environment technician, will regularly provide tool-box sessions to give information on spill response and reporting procedures.

Basic spill response training will be completed in 2021 by all Agnico employees and contractors working on the Meadowbank project as part of the induction which is mandatory for all personnel coming to the Meadowbank site.

In February 2020, two technicians from the Environmental Department followed the Marine Spill Response Operation Course (MSROC) given by the Canadian Coast Guard (CCG).

12.1.2 OHF Personnel Training

Prior to the first discharge of fuel from the vessel to the OHF a mandatory training will take place. This will be a review with all the personnel responsible for the shore-based portion of the fuel transfer, including the third party contractor and the Baker Lake supervisor, the current OPEP/OPPP and make them aware of the procedures to follow in case of a spill before the first fuel barge arrived.

A meeting with all Departments of Agnico involved with fuel transfer is held annually. The OPEP/OPPP, prior to and during transfer checklists are reviewed. The meeting minutes for the 2021 meeting held prior to shipping season will be included in the next OPEP update.

12.1.3 Boat Operators

All people involved in the supervision during operation and / or on the spill response will complete the training course for the pleasure craft operator. Records of pleasure craft operator certification will be retained by the Meadowbank Training department.

All concerned persons working for Agnico Eagle Mines Ltd. must possess a pleasure craft operator card and provide proof of this certification prior to operating any boat relating to the Meadowbank project which includes the Baker Lake Marshalling facility. This includes emergency responders.



SECTION 13. DESGAGNES GROUP

In Appendix A you will find the contact information for Desgagnes during the barge season. This contact information will be used again in the 2021 season; no changes are required for this year. This will be reviewed with Desgagnes on an annual basis.

SECTION 14. REFERENCES

Canadian Coast Guard, Central & Arctic Region, 2008. *Regional Response Plan*.

Journal of Petroleum Science Research (JPSR) Volume 2 Issue 3, July 2013 - Modeling Oil and Petroleum Evaporation by Merv F. Fingas

Marine Insight, 2012. What is Ship Oil Pollution Emergency Plan (SOPEP)?

<http://www.marineinsight.com/misc/maritime-law/what-is-ship-oil-pollution-emergency-plan-sopep/#ixzz21B2YvDTW> <http://www.marineinsight.com/misc/maritime-law/what-is-ship-oil-pollution-emergency-plan-sopep/#ixzz21B1dDGL5>

Moller, T.H. & Santner, R.S. 1997. *Oil Spill Preparedness and Response: the Role of Industry*, 1997 International Oil Spill Conference, Technical Report IOSC-005.

National Oceanic and Atmospheric Administration

<http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/in-situ-burning.html>

Transport Canada, Canada Shipping Act, 2001

Transport Canada, Environmental Response Regulations (SOR/2019-252)

Transport Canada, Environmental Response Standards Regulations (TP 14909)

Transport Canada, Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69)

Transport Canada, TP-10783, 1997. *Arctic Waters Oil Transfer Guidelines*.

Transport Canada Guideline, TP-10783E, 1997. *Arctic Waters Oil Transfer Guidelines*, Prairie and Northern Region, Marine (AMNS - OTT).

Transport Canada, TP-13585, 2008. *Environmental Prevention and Response National Preparedness Plan*.

APPENDIX A- SOPEP AND CONTACT INFO – DESGAGNES GROUP



**Transport
Desgagnés Inc.**

21, rue du Marché-Champlain
Québec (Québec) G1K 8Z8
Canada

**Téléphone : (418) 692-1000
Télécopieur : (418) 692-6004
info@desgagnes.com**

M/T Dara Desgagnés

Shipboard Marine Pollution Emergency Plan

For Oil and Noxious Liquid Substances

As defined by MARPOL 73/78, Annex I, Regulation 37 and annex II, Regulation 1

Prepared by Transport Desgagnés Inc.

October 31, 201



Distribution List

M/T Dara Desgagnés (1)
M/T Esta Desgagnés (1)
M/T Jana Desgagnés (1)
Transport Desgagnés Inc. Emergency Room (1)
Transport Canada, Marine Safety (1)

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN

In accordance with Regulation 37 of Annex I and Regulation 17 of Annex II of MARPOL 73/ 78

SHIP'S IDENTIFICATION

GL-Register-Number	33862
Name of Ship	DARA DESGAGNES
Distinctive Number or Letters (Call Sign)	VCBW
IMO-Number	9040089
Type of Ship	Chemical Tanker
Port of Registry	Quebec
Gross Tonnage	6262
Flag	CANADA

Owner / Managers: see „Ship Interest Contacts“

GL 	Approved
as being in compliance with MARPOL 73/78 Annex II Reg. 17 and Annex I Reg. 37 (former Reg.16 and Reg. 26) authorised by the Government of Canada	
EdM	
Hamburg	2013-01-07
	Ref.-No. 13-001410



Shipboard Marine Pollution Emergency Plan

Table of Contents

	Foreword	ii
	Summary Flowchart	iii
	Introduction	iv
	Regulatory Requirements	v
	Safety and Environmental Policy	vi
	List of Vessel Management Contacts	vii
	Plan Approval	viii
	Record of Changes	ix
Section 1	Generalities	1
	1.1 Concept of Plan	1
	1.2 Company Policy	2
	1.3 Administration and Updating	3
	1.4 Distribution List	3
Section 2	Reporting Requirements	4
	2.1 When to Report	5
	2.2 Information Required	6
	2.3 Whom to contact	9
Section 3	Steps to Control Discharge	14
	3.1 Operational Spills	15
	3.2 Spill Resulting from Casualties	18
Section 4	National and Local Coordination	39
Section 5	Additional Information	41
	5.1 Plan Review Procedures	41
	5.2 Revision of Plan	41
	5.3 On Board Spill Equipment	42
	5.4 Evidence required from the vessel	45
Appendix 1	List of Coastal State Contacts	
Appendix 2	List of National Operational Contacts Points	
Appendix 3	List of Ship Interest Contacts	
Appendix 4	Oil Pollution Prevention Team	
Appendix 5	Operational Spills Checklist	
Appendix 6	Contingency Documents	
Appendix 7	Spill Kit Inventory	
Appendix 8	Procedure and Piping Arrangement for Oil Spill Air Pump	



Shipboard Marine Pollution Emergency Plan

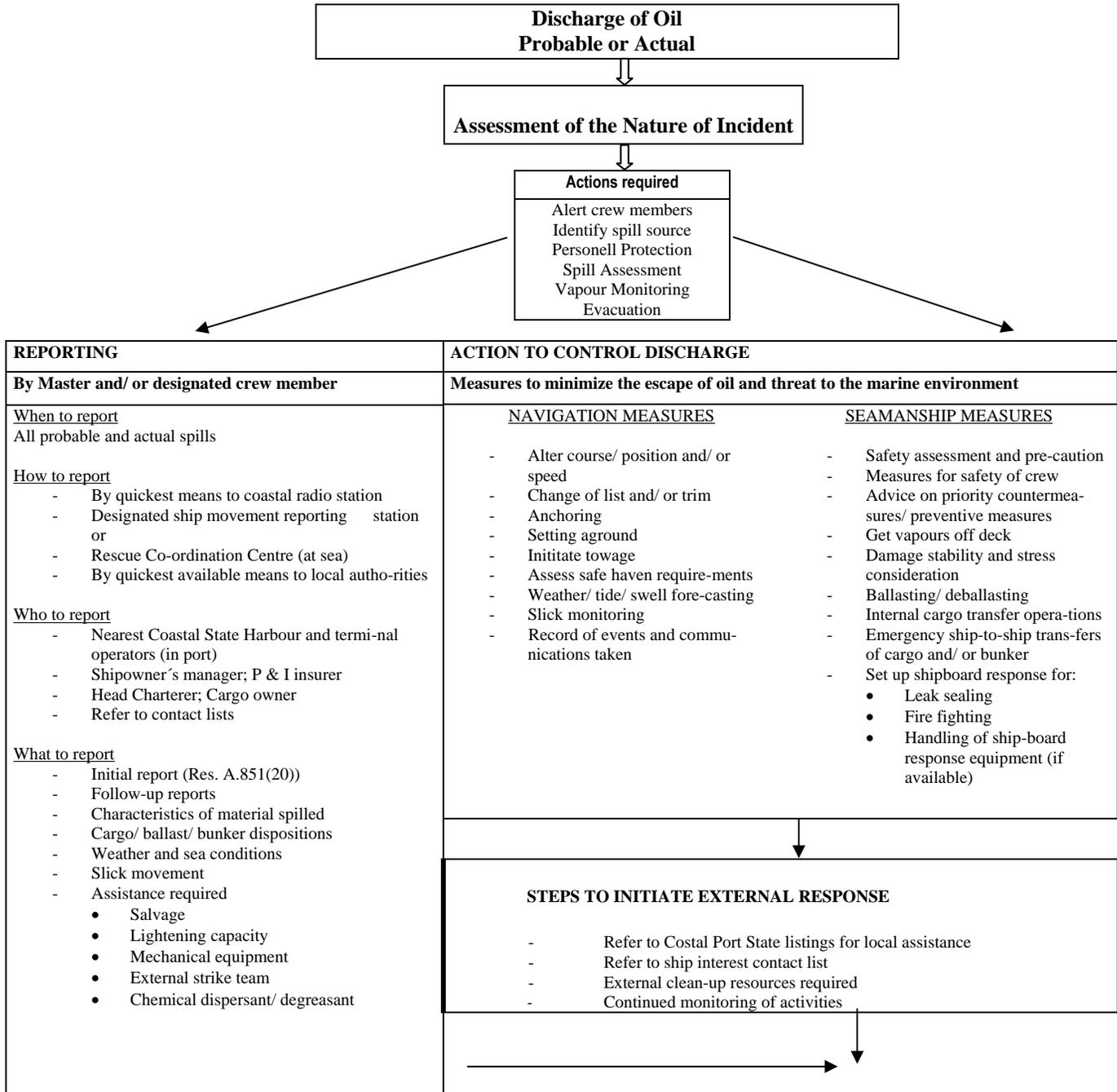
Foreword

1. This Plan is available 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.
- 1.2 Effective planning ensures that the necessary actions are taken in a structured, logical and timely manner.
- 1.3 The primary objectives of this Plan are to :
 - prevent pollution;
 - stop or minimize outflow when a damage to the ship or its requirements occurs;
 - stop or minimize outflow when a operational spill occurs in excess of the quantity or instantaneous rate permitted under the present Convention.
- 1.4 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 pollution incident;
 - Coastal State contacts (Focal Points) and Port Contact Lists to be contacted in the event of any pollution incident;
 - response actions to reduce or control the discharge of substances following an incident;
 - co-ordination with national and local Authorities in combating a pollution.
- 1.5 In summary, the Plan will serve to promote a practised response when the ship's personnel is faced with a spill.
- 1.6 Although the Plan is designed as a ship-specific tool it must also be considered as an additional instrument and as a link to shore-based plans. With this the Plans allows an efficient co-ordination between the ship and shore-based Authorities/ Organizations in mitigating the effects of any pollution incident.
- 1.7 The Plan includes a summary flowchart (see under iii) to guide the Master through reporting and acting procedures required during an oil pollution incident response.
- 1.8 The Plan is likely to be a document used on board by the Master and officers of the ship and must therefore be available in the working language used by them.



Shipboard Marine Pollution Emergency Plan

Summary Flowchart





Shipboard Marine Pollution Emergency Plan

Introduction

1. This Plan is written in accordance with the requirements of the Canadian Regulations for the Prevention of Pollution from ships and for Dangerous Chemicals SOR/2012-69, 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 relating thereto. As recommended by IMO this plan is a combination of a SOPEP and a Shipboard Marine Pollution Emergency Plan for noxious liquid substances.
2. The purpose of the Plan is to provide guidance to the master and officers on board the ship with respect to the steps to be taken when an oil and/or noxious liquid substance pollution incident has occurred or is likely to occur.
3. The Plan contains all information and operational instructions required by the Guidelines. The appendices contain names, telephone, telex numbers, etc., of all contacts referenced in the Plan, as well as other reference material.
4. This plan has been approved by the Classification Society for the Administration and, except as provided below, no alteration or revision shall be made to any part of it without the prior approval of the Classification Society for the Administration.
5. Changes to Section 5 and the appendices will not be required to be approved by the Classification Society for the Administration. The appendices will be maintained up to date by TRANSPORT DESGAGNÉS INC.



Shipboard Marine Pollution Emergency Plan

Regulatory Requirements

The Canadian Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals SOR/2012-69 and Regulation of Annex I of MARPOL 73/78 require every oil tanker of 150 gross tons and above, and every vessel other than an oil tanker of 400 gross tons and above, to have a shipboard emergency plan with four elements:

- 1) Procedures for reporting oil pollution incidents;
- 2) A listing of authorities to be notified;
- 3) A detailed description of actions to be taken by a vessel's crew to reduce or control an oil discharge; and
- 4) Procedures for co-ordinating onboard activities with national and local authorities.

This Shipboard Marine Pollution Emergency Plan meets the MARPOL requirements.

The plan required by Regulation 37 of Annex I and Regulation 17 of Annex II of MARPOL 73/78 will **not** fully meet the US regulations under the Oil Pollution Act of 1990 (OPA 90). However, OPA 90 regulations only pertain to tankers and other vessels that carry oil either as primary or secondary cargo.

They do not apply to dry cargo vessels such as freighters, containerships, Ro/Ro, etc. While there is no requirement to do so, operators of these vessels are encouraged to develop Vessel Response Plans (VRP) in the unlikely event of a pollution incident as the result of bunker transfer operations or other incidents involving fuel. The OPA 90 VRP for this vessel meets the intent of OPA 90 for operations in US navigable waters.

Under OPA 90 each state is allowed to develop more stringent regulations for spill prevention and spill response activities. As such, some states also require owners and operators of dry bulk vessels to develop and maintain Vessel Response Plans. One state also requires owners and operators of tank and dry cargo vessels to develop and maintain Spill Prevention Plans.

US WATERS NAVIGATION

Then In case of navigation in US waters Masters and Officers must refer to the US VRP Prepared by Hudson Marine for the company and follow the instructions available in case of an emergency situation in US waters.



Shipboard Marine Pollution Emergency Plan

Safety and Environmental Policy

POLICY STATEMENT

It is the policy of the Company to provide healthy and safe working conditions, and to maintain a safe pollution-free operating practice that complies with national and international regulations and relevant standards and guidelines.

Company objectives are to:

- provide for safe practices in ship operation and a safe working environment;
- establish safeguards against all identified risks; and
- Continuously improve the safety management skills of personnel ashore and aboard ship, including preparing for emergencies related both to safety and environmental protection.

The objectives will be achieved by:

- maintaining high standards of safety consciousness, personal discipline and individual accountability by adherence to a comprehensive and documented system of training;
- actively promoting employee participation in measures aimed at improving safety and protecting the environment;
- keeping all personnel fully informed of any known or potential hazards that may affect themselves, their colleagues, the ship or the environment by transmittal of pertinent documentation;
- ensuring adherence at all times to the documented operating procedures by a system of internal verification of procedures and activities; and
- continuously reviewing all mandatory rules, regulations industry codes and guidelines that are relevant to specific vessel types and trades.

All employees are expected to comply with Safety and Pollution Prevention Regulations and Procedures at all times, and to take the necessary precautions to protect themselves, their colleagues, the ship, its cargo and the environment.



Shipboard Marine Pollution Emergency Plan

Plan Approval M/T *Dara Desgagnés*

Original Plan Approved by:	Date:	Document No.
Official Stamps:		

Revised Plan Approved by:	Date:	Revision No.
Official Stamps:		

Revised Plan Approved by:	Date:	Revision No.
Official Stamps:		

Revised Plan Approved by:	Date:	Revision No.
Official Stamps:		



Shipboard Marine Pollution Emergency Plan

Section 1 — Generalities

This Shipboard Marine Pollution Emergency Plan should be used for response to oil/noxious liquid substances (NLS) spill incidents and other vessel casualties that occur in any part of the world that is located *outside* of the navigable waters of the United States, including the Exclusive Economic Zone (EEZ, or 200 Mile Limit).

While within the navigable waters of the United States, including the Exclusive Economic Zone (EEZ, or 200 Mile Limit), use the OPA 90 Vessel Response Plan (VRP) , which is prepared in accordance with the Oil Pollution Act of 1990 (OPA 90), the requirements of Title 33 Code of Federal Regulations (CFR) Part 155, and the requirements of each state, and approved by the U.S. Coast Guard.

1.1. CONCEPT OF PLAN

This Shipboard Marine Pollution Emergency Plan is intended to provide the Master and his crew, as well as shore-based personnel, with the necessary information on how to deal with oil/NLS spills and threats of oil/NLS spills, and other vessel casualties, anywhere in the world, except in the navigable waters of the United States. *(See OPA 90 Vessel Response Plan (VRP) for similar information while in U.S. waters.)* It is also intended to guide personnel in taking the necessary actions to stop or minimise the discharge through:

- Response procedures;
- Reporting procedures;
- Contact points;
- Co-ordination with national authorities; and
- Training and drills.

Where possible, this Plan makes use of flow charts and checklists to guide the Master through the various actions and decisions that will be required in an incident response. Flow charts and checklists provide a visible, and logically sequenced, form of information, thus reducing the chance of oversight or error during the early stages of dealing with an emergency situation.

Personnel with key functions on board and ashore must be familiar with the plan. For any plan to be effective, it has to be reviewed and updated regularly, and it has to be tested in drills and regular practices. Exercises in implementation of the plan as part of the shipboard mitigation procedures must be held at regular intervals. In the same way, exercises in the communications procedures are necessary in order to verify that the shore-side plans are also working properly.

It is recognised that no plan can foresee the many circumstances and combinations of events that may arise with respect to a particular incident. It is accepted that the Master and officers of the vessel will exercise prudent judgement, assess risk factors, and make decisions under emergency conditions on the basis of incomplete information. The guidance contained herein is always subject to events beyond the control of the parties named.

1.2. COMPANY POLICY

Quality is an integrated part of the Transport Desgagnés Inc.'s business idea and operating philosophy. Quality reflects the approach to all aspects of conduct and policy in ship owning, ship operation, and ship management. Quality means Safety, Punctuality, and Efficiency in securing the requirements of our customers. The final measure of quality is customer satisfaction.

In pursuing the objectives, Transport Desgagnés Inc. has outlined the following main policies to be known and observed by all personnel:

- Maximum safety for personnel, environment, ship and cargo in all operational activities shall always be the overriding consideration;
- Strict observation of relevant regulations shall always be the rule;
- Maximum emphasis shall be put on proper and careful planning of operations as insufficient planning and preparation is the most frequent reason for operational irregularities; and
- Transport Desgagnés Inc.'s management expertise and market knowledge shall be fully utilized in the structuring and management of vessel operations and crew training.

Transport Desgagnés Inc.'s Quality and Safety Management System has been established to enable the company's management to implement the above objectives in a consistent manner. In this context, Quality and Safety Management becomes an important means of achieving the objectives.

All Company personnel will adhere to this policy and will correct, or identify to appropriate supervisory levels, situations that will run counter to this policy.

This Shipboard Marine Pollution Emergency Plan is describing in details the procedures to be followed in any oil/NLS spill incident or threats of spills.

1.3. ADMINISTRATION AND UPDATING

This Shipboard Marine Pollution Emergency Plan should be reviewed by the company annually, and as needed in light of changes in local law or regulation, contact names and numbers, and company policy. In addition, this Plan should be reviewed and evaluated after every drill, exercise, and spill, and where lessons learned requires changes.

The Quality, Safety, Security and Environment Department is responsible for revising the Plan.

The Master should submit to the company any additional or updated information involving the vessel, the shipboard personnel, and on-board equipment. In addition, the Master and his officers are encouraged to submit proposals for changes to the Plan.

1.4. DISTRIBUTION LIST

The Shipboard Marine Pollution Emergency Plan is distributed as follows:

RECIPIENTS	NUMBER OF COPIES	LOCATION
M/T <i>Dara Desgagnés</i>	1	Master's office
M/T <i>Esta Desgagnés</i>	1	Master's office
M/T <i>Jana Desgagnés</i>	1	Master's office
Transport Desgagnés Inc.	1	Transport Desgagnés Emergency Room
Flag State Administration	1	Transports Canada, Marine Safety



Shipboard Marine Pollution Emergency Plan

Section 2 — Reporting Requirements

GENERAL

- A. The Canadian “Pollutant Discharge Reporting Regulations”, SOR 95-351 and, Article 8 and Protocol I of MARPOL 73/78, require that the nearest coastal state should be notified of actual or probable discharges of oil/NLS to the sea. The intent of the requirement is to ensure that coastal states are informed without delay of any incident giving rise to pollution, of the marine environment, as well as the need for assistance and salvage measures, so that appropriate action may be taken.
- B. The reporting requirements of this section comply with those of regulation 37 Annex I and 17 Annex II of MARPOL 73/ 78.
- C. 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. Transport Canada’s Publication – *Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful substances, and Marine Pollutants* (TP 9834) gives detailed reporting procedures when the incident occurs in Canadian waters or fishing zones.
- D. The intent of these requirements are 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 assistance and salvage measures, so that appropriate action may be taken.
- E. Without interfering with shipowners' 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 Case of Pollution by Substances other than Oil, 1973.

2.1 WHEN TO REPORT

All oil/NLS discharge in excess of the quantity permitted by laws and regulations must be reported.

2.1.1 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 vessel.
- from damage to the vessel's equipment.
- for the purpose of securing the safety of a ship or saving life at sea.
- during the operation of the vessel in excess of the quantity or instantaneous rate permitted under the present Convention.
- During the operation of the ship, a discharge of oil/NLS in excess of the quantities permitted by the Canadian Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals SOR/2007-86, and the Arctic Shipping Pollution Prevention Regulations, e.g.:
 - 0 PPM Arctic waters
 - 5 PPM Inland waters
 - 15 PPM Outside inland waters

Reports to coastal states should be in the style given in Section 2.2.

2.1.2 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.

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

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

are carefully considered by the Master – taking into account the nature of the damage failure or break- down 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 most likely.

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 threat of pollution has passed.

2.1.3 FOLLOW UP REPORTS

Once the vessel has transmitted an initial report, further reports should be sent at regular intervals to keep those concerned informed of developments.

Follow up reports to coastal states should always be in the style given in Section 2.2, and should include information about every significant change in the vessel's condition, the rate of the release and spread of oil/NLS, weather conditions, and details of agencies notified and clean-up activities.

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 Maritime 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".

The intent of the Resolution 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 salvage measures, so that appropriate action may be taken.

Nothing in this chapter relieves the Master in using sound judgement 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 Resolution A. 851 (20).

Especially, the format of the initial report as well as supplementary of follow-up reports should conform to the guidance contained in Res. A. 851 (20).

All reporting whether initial or follow-up, should follow IMO's reporting format as outlined below and should contain the following information

LABEL	FUNCTION	EXPLANATION
A	Ship	Name, call sign and nationality
B	Date and time (UTC) of event	A 6-digit group giving day of month (first two digits), hours & minutes (last four digits)
C	Position	A 4-digit group giving latitude in degrees and minutes suffixed with N or S, and a 5-digit group giving longitude in degrees and minutes suffixed with E or W
or:		
D	Position	True bearing (first 3 digits) and distance (state distance) in nautical miles from clearly identified landmark (state landmark)
E	True course	A 3-digit group
F	Speed at time of incident	In knots and tenths of knots as a 3-digit group
L	Route information	Details of intended track
M	Radio communications	Full details of radio stations (names) and frequencies being guarded
N	Time (UTC) of next report	A 6-digit group as under BB above
P	Cargo on board: can be included in "RR" as relevant	Type(s) and quantity(ies) of cargo/ bunker on board and brief details of any harmful substances and gases that could endanger persons or the environment, pollution category, manufacturer, etc.
Q	Defects, damage or deficiencies or other limitations	Brief details of conditions of the ship as relevant; ability to transfer cargo/ ballast/ bunker fuel
R	Description of pollution or possible overboard discharge	Brief details of pollution; this should include the type(s) of oil or NLS, an estimate of the quantity discharged, whether the discharge is continuing, the cause of the discharge and, if possible, an estimate of the surface area of the spill and the movement and area

S	Weather conditions	Brief details of weather and sea conditions prevailing including wind force and direction and relevant swell details
T	Ship's representative and/ or owner	Name, address, telex and telephone number of the ship's owner and representative (charterer, manager or operator of the ship or their agents)
U	Ship's size and type	Details of length, breadth and type of ship as well as draught
X	Miscellaneous and additional information	Any other information including relevant details such as brief details of incident, need for outside assistance, action being taken to limit further discharge; details of any personnel injuries sustained, details of P & I Club and local correspondent.

Note: See blank form at the end of this section.

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.

The following additional information should be sent to TRANSPORT DESGAGNÉS INC. either at the same time as the initial report or as soon as possible thereafter:

- Number of casualties;
- Further details of damage is still sustained;
- Whether damage is still sustained;
- Assessment of fire risk and precautions taken;
- Damage to other ships or property;
- Disposition of cargo on board and quantities involved;
- Time (UTC) assistance was requested and time (UTC) assistance expected to start;
- Name of salvor and type of salvage agreement;
- Whether further assistance is required;

- Priority requirements for spare parts and other materials;
- Details of outside parties advised or aware of the incident;
- Any other important information.

After transmission of the information contained in an initial report, as much as possible of the information essential for the safeguarding of life and the protection of the ship and the marine environment should be reported to the coastal state, owner and/or operator, in order to keep them informed of the situation as the incident develops. This information should include items P, Q, R, S and W, as appropriate.

Blank forms are available at the end of section as well as in the Master's office.

2.3 WHOM TO CONTACT

The Master is responsible for reporting any incident involving an actual or probable discharge of oil or NLS.

Nothing in this chapter relieves the Master from using sound judgement to make sure that any incident is reported as quickly as possible in the prevailing situation.

2.3.1 COASTAL STATE CONTACTS

In order to expedite response and minimize damage from a pollution incident, it is essential that appropriate coastal states are notified without delay. This process is begun with the Initial Report. Guidelines for compiling reports are provided in Section 2.2.

The report should be transmitted in one of the following manner:

1. If the incident occurs in Canadian waters or fishing zone, the report shall be made with the highest possible priority and using the quickest means available, to a pollution prevention officer.
2. If the vessel is in area governed by Vessel Traffic Services (VTS) Standards, the report should, where expedient, be routed through that system. If area not covered by VTS but covered by Coast Guard radio station system, the report should, where expedient, be routed through the latter system.
3. If the incident occurs outside Canadian waters and fishing zones, the report should be made to the nearest coastal state through an appropriate coast station, preceded by the safety signal (if the incident affects the safety of the navigation), or by the urgency signal (if the incident affects the safety of the ship or persons);

4. On appropriate frequencies in the band 405-525 kHz, 1605-2850 kHz or 156-174 MHz;
5. If the ship is not within reach of an MF or VHF coast radio station, to the most appropriate HF coast radio station or on the maritime satellite communication system.
6. When the ship is within or near an area where a ship movement reporting system has been established, to the designated radio station of that system.

This Plan includes, in APPENDIX 1, a list of agencies or officials of administration responsible for the receipt, transmission and processing of urgent reports of incidents involving harmful substances including oil or noxious liquid, E.G., ships to coastal state.

2.3.2 PORT CONTACTS

Notification of local agencies will speed response. However, the variety of trades in which ships engage may make it impractical to list local agencies in the Plan. Where this is feasible, the Master should obtain details concerning local reporting procedures upon arriving in port.

Nevertheless, a list of Coastal State Contacts is available in Appendix 1 as required by article 8 of MARPOL 73/78 and a list of National Operational Contacts is available in Appendix 2.

If an oil/NLS spill occurs, whatever the cause, it is the Master's duty to immediately activate the vessel's Oil/NLS Pollution Team, and report the incident. Precise details of whom to notify locally should be obtained on arrival, but the following is a guide:

- a) Local Authority (Coast Guard/Government);
- b) Owners/Owners' Managers;
- c) Owners Local Representatives / Spill Manager;
- d) Terminal / Loading Master;
- e) Local State (Environmental) Authority and, if time permits;
- f) Local Fire Department (in case of explosion and/or fire);
- g) Agent;
- h) Port Authority;
- i) The vessel's local P&I representative (P&I Club List of Correspondents is filed in the Master's office);
- j) Charterer; and
- k) Clean-up Contractor.

If a change in the ship's range of trade or a change in the addresses of persons/ Authorities of the ports/ terminals served regularly takes place the Master or any other person aboard delegated by the Master is required to issue a new list.

2.3.3 SHIP INTEREST CONTACTS

The Plan provides details of all those parties with an interest in the ship who should be advised in the event of an incident. While reporting an incident to other interests, it should be remembered that in the event of a serious incident, the ship's personnel may be fully engaged in saving life and taking steps to control and minimise the effects of the casualty. They should therefore not be hampered by having non-essential communications requirements imposed upon them. Thus, Transport Desgagnés Inc. officials should ensure these communications are made.

The Plan clearly specifies who will be responsible for informing the various interested parties such as cargo owners insurers and salvage interests. It is also essential that both the ship's plan and the company's corporate plan are coordinated to guarantee that all parties having an interest are advised and that duplication of reports is avoided.

A list of ship interest contacts is detailed in Appendix 3, which also indicates the order of priority for notifying those concerned. Out-of-hours contacts are included.

Precise details of whom to notify will vary from company to company, but the following is a guide:

- Head Office;
- Charterer;
- Classification Society; and
- P & I Club.

All further reports and copies of messages sent to coastal states and/or port authorities should be sent to the company. If required, the company's office will be staffed as soon as possible after receipt of an initial report.

Once the initial report has been made, the company's corporate plan (Office Contingency Plan) will ensure that other interests such as Flag State authorities, P & I Club, Classification Society, and others, are notified and kept up to date on the incident.

These updating reports are a vital necessity to ensure appropriate measures are being taken whilst unnecessary risks and expenses are avoided.

The master or owner of a ship must report, without delay, any discharge or anticipated discharge of a pollutant to a Pollution Prevention Officer (PPO). These initial reports should be made to any Marine Communications and Traffic Services (MCTS) on the frequencies listed in the publication, Radio Aids to Marine Navigation (RAMN) - DFO 5470 (Great Lakes and Atlantic) and DFO 5471 (Pacific).

In addition to the above process for reporting spills from a ship to PPO's through the Marine Communications and Traffic Services (MCTS), the Coast Guard maintains a 24-hour Duty Manager alerting process which can be contacted at the numbers listed below.

Canadian Coast Guard
Safety & Rescue Environmental Response Systems Marine Programs
Department of Fisheries and Oceans
200 Kent Street,
Ottawa, Ontario, K1A 0E6
Pager: +1 613 751 0605 (24 hours)
Fax: +1 613 998 0434 Note: This number is operational on a 24-hr basis but is only monitored during business hours.
E-mail: erhqsr@dfo-mpo.gc.ca
Languages understood: ENGLISH/FRENCH

Enquiries regarding pollution preparedness and response should be directed to:

Manager, Environmental Response
Canadian Coast Guard
Safety & Rescue Environmental Response Systems Marine Programs
Department of Fisheries and Oceans
200 Kent Street, 5th Floor
Ottawa, Ontario K1A 0E6

Phone: +1 613 990 7011
Fax: +1 613 996 8902
E-mail: melhuish@dfo-mpo.gc.ca
Languages understood: ENGLISH/FRENCH

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

Director, Ships & Operations Standards
Transport Canada

Tower C, Place de Ville
330 Sparks Street, 11th floor
Ottawa, Ontario K1A 0N8

Phone: +1 613 991 3131

Fax: +1 613 993 8196

E-mail: dayrh@tc.gc.ca

Languages understood: ENGLISH/FRENCH

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN

Initial Notification

A	(Ship name, call sign, flag)
B	(Date and time of event, UTC) <div style="display: flex; justify-content: space-around; margin-top: 5px;"> _____ D _____ D _____ H _____ H _____ M </div> M
C	(Position: Lat, Long.) or (Bearing x dist Landmark)
D	(dd mm) _____ N/S (ddd mm) _____ E/W _____ ddd N miles
E	(Course) _____ (Speed) _____
F	_____ d _____ d _____ d _____ kn _____ kn 1/10 kn
L	(Intended track)
M	(Radio station guarded)
N	(Date and time of next report, UTC) <div style="display: flex; justify-content: space-around; margin-top: 5px;"> _____ D _____ D _____ H _____ H _____ M </div> M
O	(Type and quantity of cargo / bunker on board) Draught
P	_____ fwd _____ aft
Q	(Brief details of defects / deficiencies / damage)
R	(Brief details of pollution, including estimate of quantity lost)
S	Wind dir. _____ (ddd) Swell dir. _____ (ddd) Speed _____ (beaufort) Height _____ (m)
T	(Contact details of ship's owner operator, agents) Transport Desgagnés Inc. Tel: (418) 692-1000 21 Marché-Champlain Street Fax: (418) 692-6044 Québec, Québec G1K 8Z8 E-Mail: info@desgagnes.com Agent: _____
U	(Ship size and type) Length: _____ Breadth: _____ Tonnage: _____
V	(Add'l information) Details of incident: _____ _____
W	Need for outside assistance: _____ Action to be taken: _____ Number of crew and details of injury: _____ Details of P & I club and correspondent: _____ _____ Others: _____

The alphabetical reference letters in the above format are from the guidelines for reporting incidents involving dangerous goods, harmful substances and /or marine pollutants. The letters do not follow the complete alphabetical sequence as certain letters are used to designate information required for other standard reporting formats, e.g., those used to transmit route information.



Shipboard Marine Pollution Emergency Plan

Section 3 — Steps to Control Discharge

Whenever an oil/NLS spill occurs, it is the duty of the person finding the spill to inform immediately the Master of responsible officer, who should call out the vessel's Oil/NLS Pollution prevention team (see Appendix 4). Remember that an oil/NLS spill may create a fire or explosion hazard, requiring safety precautions to be observed.

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 the 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 liquid substances the Master has to refer to the "Characteristics of Liquid Chemicals Proposed for Marine Transport in Bulk" (Data Sheets) provided onboard for any NLS cargo. Considerations have to be made to any danger resulting from discharge of such substances, i.e. mixing with water, air and other materials/substances.

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

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

3.1 OPERATIONAL SPILLS

3.1.1 OPERATIONAL SPILL PREVENTION

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.

Before bunker or cargo handling commences, 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.

3.1.2 PIPELINE LEAKAGE DURING CARGO AND BUNKER TRANSFER

Measures to implement immediately:

- Stop all cargo and bunkering operations and close manifold valve;
- Sound general alarm bell; notify situation by public address system;
- Initiate emergency response procedures;
- Inform terminal/bunkering personnel of incident

Further measures:

If a leakage occurs from a pipeline, valve, hose or metal arm, operations through that connection should be stopped immediately until the cause has been as contained and the defect remedied.

The defective pipe section should be isolated. Affected sections should be drained down to an available empty or slack tank.

If there is any possibility of released vapours entering an engine room or the accommodation intake, appropriate preventive steps must be taken quickly.

If a leakage occurs from a hydraulic pipeline, operations should be stopped immediately.

Initiate clean-up procedures.

The removed substances and the used clean-up material should be retained on board until it can be discharged to a reception facility.

Inform in line with Section 2 all parties interested about Pipeline Leakage and the actions taken so far.

Refer to checklist in Appendix 5.

3.1.3 TANK OVERFLOW DURING LOADING OR BUNKERING

If there is a tank overflow all bunker/cargo operations should be stopped immediately and should not be restarted until the fault has been rectified and all hazards from the released substances have been eliminated.

If there is any possibility of released vapours entering an engine room or the accommodation intake, appropriate preventive steps must be taken quickly.

As far as the substance permits in view of the material compatibility of tanks/pipes, shift liquid from the tank overflowed to an available empty or slack tank or prepare pump(s) or transfer the excess ashore.

Initiate clean-up procedures.

The removed substances and the used clean-up material should be retained on board until it can be discharged to a reception facility.

Inform in line with Section 2 all parties interested about Tank Overflow and actions taken so far.

AFTER DEALING WITH AN OIL/NLS SPILL, ONCE CLEANUP OPERATIONS ARE COMPLETED, REQUEST PERMISSION TO RESUME OPERATIONS FROM PROPER AUTHORITIES.

Refer to checklist in Appendix 5.

3.1.4 HULL LEAKAGE

Signs leading to the suspicion of hull fractures:

- Excessive list;
- Oil/NLS in water around the vessel.

Measures to implement:

- Stop all cargo and bunkering operations and close manifold valve;
- Sound general alarm bell; notify situation by public address system;
- Initiate emergency response procedures;
- Inform terminal/bunkering personnel of incident

Further measures:

- Use the Oil/NLS Pollution Prevention team in an attempt to locate the source of leakage;
- Consider whether to stop air intake into accommodation and non-essential air intake in engine room.

When the source of leakage is identified:

- Reduce the hydrostatic head of leaking cargo/bunker tank by transferring in an empty or slack tank;
- Consider changing trim/list condition to use seawater as equalising or exceeding bunker tank hydrostatic pressure;
- Consider possibility of pumping water in ballast tank to change effect of hydrostatic pressure;
- Consider possibility of pumping water into leaking cargo/bunker tank to create a water cushion to prevent further oil/NLS loss;

- If the leakage is located below the waterline, call in divers for further investigation.

If it is not possible specifically to identify the tank:

- The level of oil/NLS in the vicinity of the suspected area should be lowered. Remember to consider the effect of hull stresses and stability of the vessel.

AFTER DEALING WITH AN OIL/NLS SPILL, ONCE CLEANUP OPERATIONS ARE COMPLETED, REQUEST PERMISSION TO RESUME OPERATIONS FROM PROPER AUTHORITIES.

Refer to checklist in Appendix 5.

3.1.5 SPILLS CAUSED BY EQUIPMENT IN MACHINERY SPACES

If operational spills are caused by a failure of equipment in machinery spaces any further operations of this equipment should be stopped immediately or measures are to be taken to avoid a spill.

Such equipment may be:

- Oily-water separating equipment or oil filtering equipment to oil bilge water from the engine room bilges
- Valves in pipes connecting ballast/ bilge/cargo systems
- Cooling pipes in cooler systems
- Gearing of bow thrusters
- Stern tubes

3.2 SPILL RESULTING FROM CASUALTIES

Priority actions

In responding to a casualty, the master's priority will be to ensure the safety of personnel and the ship and to take action to prevent escalation of the incident. In casualties involving spills, immediate consideration should be given to measures aimed at preventing fire, personnel exposure to toxic vapours, and explosion, such as altering course so that the ship is upwind of the spilled cargo, shutting down non-essential air intakes, etc. If the ship is aground, and cannot therefore manoeuvre, all possible sources of ignition should be eliminated and action should be taken to prevent toxic vapours or flammable vapours entering accommodation and engine-room spaces. When it is possible to manoeuvre, the master, in conjunction with the appropriate shore authorities, may consider moving his ship to a more suitable location in order, for example, to facilitate emergency repair work

or lightening operations, or to reduce the threat posed to any particularly sensitive shoreline areas. Such manoeuvring may be subject to coastal State jurisdiction

Prior to considering remedial action, the master will need to obtain detailed information on the damage sustained by his ship. A visual inspection should be carried out and all cargo tanks, bunker tanks, and other compartments should be sounded. Due regard should be paid to the indiscriminate opening of ullage plugs or sighting ports, especially when the ship is aground, as loss of buoyancy could result.

Having assessed the damage sustained by the ship, the master will be in a position to decide what action should be taken to prevent or minimize further discharge. When bottom damage is sustained, hydrostatic balance will be achieved (depending on physical properties) fairly rapidly, especially if the damage is severe, in which case the time available for preventive action will often be limited. When significant side damage is sustained in the way of fuel/lubrication and/or cargo tanks, bunkers or cargo will be released fairly rapidly until hydrostatic balance is achieved and the rate of release will then reduce and be governed by the rate at which bunkers or cargo is displaced by water flowing in under the bunkers or cargo. When the damage is fairly limited and restricted, for example, to one or two compartments, consideration may be given to transferring the substance involved internally from damaged to intact tanks. When considering the transfer of oil or noxious liquid substances from a damaged tank to an intact tank, the master should consider:

1. the extent of the damage;
2. hydrostatic balance;
3. the ship's ability to transfer cargo; and
4. the physical properties of the substance(s) (for ships certified to carry NLSs) involved such as:
 - solubility;
 - density;
 - water reactivity
 - solidification; and
 - compatibility.

Great care in casualty response must be taken to consider stability and strength when taking actions to mitigate the spillage of oil or noxious liquid substance or to free the ship if aground. The Plan provides the master with detailed guidance to ensure that these aspects are properly considered. Nothing in this section shall be construed as creating a requirement for damage stability plans or calculations beyond those required by relevant international conventions.

Internal transfers should be undertaken only with a full appreciation of the likely impact on the ship's overall longitudinal strength and stability. When the damage sustained is

extensive, the impact of internal transfers on stress and stability may be impossible for the ship to assess. Contact may have to be made with the owner or operator or other entity in order that information can be provided so that damage stability and damage longitudinal strength assessments may be made. These could be made within the head office technical departments. In other cases, classification societies or independent organizations may need to be contacted. Additionally, in the case of ships certified to carry NLSs, consideration as to the compatibility of all substances involved such as cargoes, bunkers, tanks, coatings, piping, etc., must also be considered before such an operation is undertaken.

Mitigating Activities

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

3.2.1 LIGHTERING / SHIP-TO-SHIP TRANSFER

If a ship becomes disabled or stranded, it may be necessary to transfer all or part of her cargo/bunker to another ship. In the case of tankers, reference should be made, to the *Ship-to-Ship Transfer Manual* available onboard and approved by the Classification Society.

In Ship-to-Ship transfer operations involving a specialized 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. In all cases each master remains responsible for the safety of his own ship, its crew, cargo/bunker and equipment and should not permit their 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. In addition, the Master should take note of supplemented instructions issued by the Company.

The operation will be greatly expedited if the ship to be lightened makes the following preparations where possible:

- a) Establish contact with the lightening ship and makes a detailed plan of the proposed operation including the designation of a communication channel. Fixed or portable hand-held radio telephones may be usefully employed;
- b) Lay out mooring lines, heaving lines, messengers, stoppers, fenders, etc. If no large fenders are available, mooring ropes and any other soft material should be strung over the ship's side in strategic positions;
- c) Prepare the cargo manifold and have reducers ready available to facilitate the connection of a wide range of hoses (from 200mm to 400mm) on both sides of the ship. In most cases the lightening ship will prefer to berth with her port side to the disabled ship's starboard side, if this is practicable;
- d) Top-up derricks or cranes to assist in hose connection. Also have messenger ropes, lifting tackles, etc. available;
- e) Have the anchors cleared ready for use, if in waters where use may be possible;
- f) Brief the officers and crew on the operation, with particular reference to the safety aspects and complete the appropriate safety check list if possible.

Cargo transfer:

If the disabled ship has power and its cargo piping system is intact, transfer should be made in the usual way.

If the ship's pipelines are not intact, approved portable submersible pumps with power packs should be obtained. The power for submersible pumps may be electric, air or hydraulic. When using submersible pumps, the tanks being emptied of cargo may be counter-flooded with water in order to reduce the head. This may also assist in preventing pollution.

3.2.2 GROUNDING OR STRANDING

The GENERAL ALARM must be sounded immediately for the personnel to muster at their designated positions.

If the vessel is aground and therefore cannot manoeuvre, all possible sources of ignition must be eliminated and action taken to prevent flammable vapours from entering the engine room spaces or the accommodation.

The Master's next priority should be to ensure that he as soon as possible receives detailed information on the damage that the vessel has sustained, in order to find out what remedial action needs to be taken to ensure the safety of the vessel and its crew.

- A visual inspection should be carried out.
- All cargo and bunker tanks to be sounded (ullage)
- All other compartments which have contact with the sea should be sounded to ensure that they are intact.
- Soundings of cargo tanks are to be compared with last soundings to check for possible leaks.
- Any list shall be noted and included in the report for assistance.

Also consider:

- Danger to the vessel's complement if the vessel should slide off grounding site.
- Danger of vessel being broken down by heavy seas or swells.
- Health hazards to the vessel's complement and surrounding population due to release of hazardous substances is dangerous concentrations.
- That fire may start due to released flammable substances due to uncontrolled ignition sources.
- Furthermore, the vessel's Master must take into account the following considerations:
- Is the vessel constantly being struck in the seaway?
- Is the vessel exposed to torsion?
- Sounding to be taken around the vessel to establish the vessel's position on the bottom.
- Are there strong tidal currents in the grounding area?

- May the vessel drift further up on the shore, due to high tides, wind and waves?

3.2.2.1 PREVENTION OF FIRE AND EXPLOSION

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

3.2.2.2 EXTENSION OF HULL DAMAGE

First, a visual inspection should be carried out.

Check for visible oil along hull or in wake of the ship during day time. At night a stick with white cloth (or sheet of sorbent) around it may be lowered into the water alongside the ship to check for oil leakages.

All ballast/ bunker tanks to be sounded (ullage).

All other compartments which may have contact with the sea should be sounded to ensure that they are intact.

Soundings of ballast/cargo/bunkers tanks are to be compared with last soundings to check for possible leaks.

Sounding to be taken around the ship establish the ship's position on the grounding area.

When the ship is aground, due regards should be given to the indiscriminate opening of ullage plugs, sighting ports etc. as loss of buoyancy could be the result of such actions.

Any list of the ship shall be noted and included in the report for assistance.

3.2.2.3 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 of bunkers/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 tank(s) hermetically to ensure that hydrostatic pressure in tanks remains intact during tidal changes

- 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 tank(s) to reduce additional loss of substances.

3.2.2.4 REFLOATING BY OWN MEANS

The Master should also 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 manoeuvring problems upon leaving the dangerous area by own means
- 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.

3.2.2.5 SECURING THE SHIP

The risk of further damage to the ship is greater in an attempt to refloat the ship by own means, than in remaining aground until professional assistance has been obtained, the ship's Master should try to secure the ship as much as possible by:

- Trying to prevent the ship from moving from its present position
- By dropping anchors (adequate water depth and anchor ground provided)
- By taking ballast into empty tanks, if possible
- Trying to reduce longitudinal strain on hull by transferring ballast or bunkers internally
- Reducing fire risk by removing all sources of ignition.

Inform in line with Section 2 all parties interested about the Grounding and the actions taken so far.

3.2.3 TOUCHING BOTTOM

Should the vessel experience unusual shaking or vibrations of the hull, unexplained movements or changes in engine revolutions, it may be suspected that the vessel has touched bottom. Procedures should be initiated to ensure that vessel is intact and that there is no oil/NLS leakage.

- If vessel has pilot on board, ask for possible explanation.
- Stop engine immediately, and observe any unexpected speed reduction.
- Consult vessel's charts for area and check depth information.
- Observe accurate position by bearings of fixed points.
- Check for visible oil/NLS along hull or in wake of vessel during day time. At night a stick with white cloth (or sheet of sorbent) around it may be lowered into the water alongside the vessel to check for oil/NLS leakage.
- Take soundings of all tanks, cargo/bunkers and other compartments (ballast tanks etc) to ensure that the vessel has not sustained any damage.
- Isolate penetrated tank by closing the tank hermetically. Very important when large differences in tides occur.

If the vessel is aground, follow instructions provided in 3.2.2

3.2.4 COLLISION

Should the ship be involved in a collision with another ship, the Master should as soon as possible identify the extent of damage to his own vessel.

When a collision occurs, the GENERAL ALARM should be sounded immediately for the personnel to muster at their designated Muster Stations.

The following check list should assist the Master in assessing the situation:

- Are any tanks penetrated above or below the waterline?
- If ships are dead in the water and interlocked, what is most prudent, to stay interlocked or separate?

- Is there any spill at present – small or large? Will a separation of the interlocked ships create a larger spill than if the ships stay interlocked?
- If there is a spill, will the separation of the ships cause sparks that can ignite the spilled material or other flammable substances leaked out from the ships?
- Are the ships creating a greater danger to other traffic in the area if they are interlocked than if separated?
- Is there a danger to either ship of sinking after being separated?
- If the ships are separated, how is the manoeuvrability of the own ship?

Shut down all non-essential air intakes.

Isolate damaged/ penetrated tank(s) by hermetically closing the tank(s), if possible.

When it is possible to manoeuvre, 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.

Inform in line with Section 2 all parties interested about the collision and the actions taken so far.

3.2.5 FIRE AND EXPLOSION

When a fire and/or explosion occur, the FIRE ALARM must be sounded immediately for the personnel to muster at their designated positions.

Chemical fires produce additional hazards and great care is necessary when fighting them. The data sheets of all chemical cargoes must be carefully studied before and during carriage, so that all personnel are familiar with their properties.

- Water may react with some chemicals with the following results:
 - Productions of flammable solutions;
 - Production of toxic vapours;
 - Re-ignition due to low auto-ignition temperature;
 - Production of heat and increased amounts of flammable gases.
- Chemicals soluble in water will destroy normal foam.
- Some chemicals produce toxic vapours when heated. While burning a chemical transformation may produce highly toxic vapours of a different chemical composition.
- Some chemicals that are heavier than water can be blanketed with water if the jet stream is applied slowly and carefully.
- All personnel are to wear breathing apparatus ready for immediate use should toxic vapours or fumes be produced.
- The Emergency Team should always wear breathing apparatus at fire practices.
- The Emergency Team should supplement any fixed fire fighting system with foam or water sprays, if appropriate.
- Small fires in scuppers or around decks should be fought with appropriate portable extinguishers.
- Any sealed space in which a fixed fire fighting system has been used should be entered only after thorough ventilation and testing of the atmosphere.

Should an explosion and a fire occur on board; the vessel's Emergency Teams will under the leadership of the Chief Officer initiate the necessary steps to bring the situation under control.

Such steps shall be:

- Find out immediately where the fire/explosion has taken place.
- Try to determine the extent of damage, and if anyone of the complement is injured or dead.
- Deploy the members of the vessel's Emergency Teams to the positions deemed best for fighting the fire.
- Use all available means to fight the fire such as:
 - Water w/spray nozzles
 - Water cannons (monitors)
 - Foam cannons (monitors)
 - CO2
- Try to contain the fire and prevent it from spreading to other parts of the vessel.

The occurrence shall be reported to the local authorities, informing them about the situation and if the fire cannot be controlled by the complement, request outside assistance as per section 4.

In case of fire and explosion the following priorities exist when the Damage control measures are initiated:

- Rescue lives.
- Limiting the damage to vessel and cargo.
- Preventing environmental pollution.

When alerting the local authority and firefighting contractors, report as per IMO-format (Section 2), but most important give:

- Name of vessel and nationality.
- Location.
- Type of incident and cargo on board.
- If anyone is injured or missing.
- Any oil/NLS spill or threat of spill.

3.2.6 HULL FAILURE

Should the ship lose one or more shellplatings, develop major cracks, or suffer severe damage to the hull, the Master should immediately sound the GENERAL ALARM to call the crew members to their Muster Stations, and inform them of the situation, and prepare lifeboats for launching if necessary.

The Master should then assess the situation, and confer with his senior officers.

The Master should obtain the latest weather forecast and assess its impact on the present situation.

Furthermore, the following questions should be considered and should be asked:

- Is the ship in any immediate danger of sinking or capsizing?

If YES:

- Send distress message
- Immediately abandon the ship

If NO, initiate damage control measures as found necessary by considering the following points:

- Can the vessel manoeuvre on its own?
- Has the ship lost buoyancy?
- If the ship has a list due to loss of ballast, cargo/ bunker or buoyancy, is it necessary and possible to rearrange the bunker or ballast by internal transfer operation in order to bring the ship to an even keel?
- Is it necessary to dump cargo in order to maintain stability without changing the stress situation?

- Can this operation wait till another ship/ barge can receive that cargo?
- Is there any abnormal change in the ship's stability and stress situation?
- Can the change in the ship's stability and stress situation be monitored and calculated on board? If not, the Master should seek assistance.
- Does the ship need assistance or escort to nearest port of refuge or repair port?
- Might it be prudent to salve part of the crew members in case the situation should worsen, or is it necessary to abandon the ship totally?

Inform in line with Section 2 all parties interested about the Hull Failure and the actions taken so far.

3.2.7 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 the excessive list, and take steps to rectify the situation and to stabilize the ship's condition:

- Check reason(s) 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 openings;
- Secure vent pipes to avoid ingress of water;
- If bunkering: Change to corrective tanks for rectifying the situation;
- If ballasting/ deballasting: 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 2;
- If the ship's crew is in jeopardy, prepare lifeboats for launching, and notify as per Section 2.

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

3.2.8 EQUIPMENT FAILURE

If the main engine stops or steering gear fails, the bridge watch shall immediately:

- Call Master and Chief Engineer.
- If vessel is considered to be in immediate danger, prepare for dropping an anchor.

When the Master comes to the bridge, his first priority shall be to assess the situation and get a complete picture of the situation, and base his further action based on:

- Position of the vessel relative to shore, shallows or installations.
- Weather and drift (speed and direction).
- Estimated time to get engine or steering gear back into operations.

Action should be taken according to worst case scenario development of the situation.

Main engine failure:

The main engine instruction book failure search list should be used to locate the failure. If the engine cannot be repaired within the permissible time given by the Master, emergency operation of the main engine should be considered on the Master's order.

Steering gear failure:

For location of the steering gear failure, the ICS "STEERING GEAR GUIDANCE ON TEST ROUTINES AND CHECK LISTS" can be used in addition to the steering gear instruction book.

3.2.9 DANGEROUS REACTIONS OF CARGO (for vessels certified to carry NLSs)

In case of spillage of NLS cargo on deck, in the water or incidental mixture with other cargo through internal tank leakage consider dangerous reactions of such mixture. Promptly consult the Data Sheet available for the cargo shipped onboard about possible hazards and necessary precautions/actions to be taken according to the information provided.

Take necessary actions for the safety of the crew for the case of (possible) contamination with the spilled material or its vapours.

3.2.10 DANGEROUS CARGO RELEASE (for vessels certified to carry NLSs)

When a dangerous cargo release is detected, the vessel's emergency team must, under the leadership of the chief officer initiate the necessary steps to bring the situation under control.

Such steps should be:

If at sea or at berth

- First to Raise the alarm

The leaking product must be identified as soon as possible so that potential hazards to the vessel, crew and the environment can be determined by checking with the Material Safety Data Sheet for the substance involved. Particular concern is to be given to flammability and toxicity of vapours.

Engine room personnel should be instructed to switch ventilation to the re-circulation mode and to close air intakes. All non-essential water intakes should be closed after having determined which ones must remain open.

As soon as a source of leakage has been determined, steps to minimise/stop leakage are to be established. This may include discharging, internal cargo transferring and adjusting list and trim.

Radio warnings should be broadcast.

Spills, and probable spills, must be reported immediately to the company and to the authorities in accordance with the rules and regulations.

If at Terminal

- Stop cargo transfer, if any, and raise the alarm.

Ensure that ventilation is switched to the re-circulation mode and that all air intakes are closed. All non-essential water intakes should be closed after having determined which ones must remain open.

Be ready to leave berth without assistance in case of an emergency. Consideration should be given as to lifeboat use in case of vessel evacuation.

3.2.11 LOSS OF TANK ENVIRONMENTAL CONTROL (for vessels certified to carry NLSs)

Consider any hazards arising out of loss of environmental control in view of possible explosion dangers by contacting the Data Sheets of the cargo concerned.

Avoid any intake of air into the uncontrolled spaces to avoid a dangerous mixture to be built up within the respective space.

3.2.12 CARGO CONTAMINATION YIELDING A HAZARDOUS CONDITION (for vessels certified to carry NLSs)

Normally proper cargo stowage should have reduced this eventuality to a minimum.

Measures to be implemented immediately:

- Sound emergency alarm.
- Turn ship off wind.
- Shut accommodations ventilation.
- Eliminate all sources of ignition.
- With the help of M.S.D.S. (reactivity) try to evaluate the type of reaction you can expect.
- Records events and communications.

Personnel Safety:

- Refer to Emergency Procedure for Ship Carrying Dangerous Goods (Ems). If personnel to work in vicinity of noxious substance, they must be protected by required equipment.
- Check cargo(es) against IBC code chapter 17 column "n" if letter E is present, respiratory equipment is necessary for escape purposes. Advices crew by Public Address (P.A.) accordingly.

Further measures:

- Monitor toxic vapours.
- Assess the extend of reaction.
- Initiate mitigation of hazardous cargo contamination release if practicable (if limited quantity on deck, consider washing overboard with copious amount of water).

3.2.13 HAZARDOUS VAPOUR RELEASE (for vessels certified to carry NLSs)

Measure to be implemented immediately:

- Sound Emergency Alarm.
- Shut accommodations ventilation.
- Eliminate all sources of ignition.
- Turn vessel off wind.
- With the help of M.S.D.S. assess if fire, explosion or toxic vapours risk are present.
- Assess cause of vapour release.
- Record events and communications.

Personnel Safety

- Refer to Emergency Procedures for Ship Carrying Dangerous Goods (EmS). If personnel to work in vicinity of noxious substance, they must be protected by required equipment.
- Check cargo(es) against IBC code chapter 17 column “n” if letter E is present, respiratory equipment is necessary for escape purposes. Advices crew by Public Address (P.A.) accordingly.

Further measures:

- Monitor toxic vapours.
- Initiate mitigation of hazardous vapour release if practicable
- A very isolated source of hazardous vapour can be directed away with the air draft of an open, high pressure, fog nozzle.

When a spill on board creates toxic, corrosive or flammable vapours, the master should consider manoeuvring the vessel to the extent that, in his judgment, spill and weather conditions permit, so that vapours move away from vessel accommodation and operation spaces.

Entry into spaces with suspected gas leaks should always be with a self-contained breathing apparatus (SCBA) and protective clothing, monitoring equipment and under supervision by a responsible vessel’s officer. Gases that are inert and normally considered to be non-flammable and non-toxic may cause an oxygen deficient atmosphere in compartment spaces. Other gases have narcotic effects while others change composition and produce highly poisonous gas when in contact with fire.

Ventilation to remove leaking of gases may not always be effective, particularly with heavier-than-air gases that settle and accumulate in low spaces. When dealing with flammable vapours and gases, ignition sources (naked lights, electric tools, etc.) should be prohibited.

3.3 OTHER CONSIDERATIONS

3.3.1 STRESS AND STABILITY – GENERAL CONSIDERATIONS

- a. Great care must be taken when taking actions to mitigate the spillage of oil or free the ship if aground.
- b. Internal transfers should only be undertaken when the overall impact on stress and stability has been calculated.
- c. When damage is extensive, the impact of internal transfers on stress and stability may be impossible for the Master to assess. Contact should be made with the technical manager for the necessary calculations to be carried out.
- d. Information required by the Technical Manager will include:
 - 1) Intact Ship's condition.
 - 2) Damage - location and extent.
 - 3) Condition of ship- draft- cargo fuel loss or change in amount and disposition
 - 4) Local Conditions- tide- wind- sea state- weather forecast If the ship has sustained extensive structural damage consideration may be given to transfer all or part of the cargo /bunkers to another ship. This should not be undertaken without a full assessment of the impact this will have on the stability and stress of the ship at all stages of the transfer The ship to ship transfer operations should be co-ordinated with the appropriate local authority. Current cargo, bunker and ballast information, including quantities and specifications, is available in the ships office.

3.3.2 MITIGATING ACTIVITIES

If safety of both the ship and the personnel has been addressed the Master shall care for 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 safe disposal

- Within leakproof containers of all onboard until proper delivery ashore with due consideration to possible fire risk.
- Decontamination of personnel after finishing the cleanup process.
- Disposal of removed oil and clean-up material.
- Isolation procedures.



Shipboard Marine Pollution Emergency Plan

Section 4 — National and Local Coordination

Quick efficient co-ordination between the ship and Coastal States or other parties involved becomes vital in mitigating the effects of any pollution incident.

As the identities and roles of various national and local Authorities involved vary widely from state to state and even from port to port, the Master should take note of these particularities, as far as possible. In this context the Master should call upon the owner's representatives in the state/ port of question to receive the relevant information.

Prior to undertaking mitigation actions – especially in cases of an actual discharge due to casualties in the territorial waters of a Coastal State – the Master should contact the Coastal State for authorization of his action.

The Master should co-ordinate all his activities with the Coastal State.

The Master should call the Coastal State for allowance to use chemical agents for response to pollution on the sea. Without authorization of the Authorities of the appropriate Coastal State no chemical agents should be used.

Where no responsibility for discharge response by a Coastal State is noticed the Master should take all the necessary steps as deemed appropriate to minimize the escape of oil or NLS.

With respect of the accident happened the Master should take measures as stated in Section 2 and Section 3 of this Plan.

a) **Canada**

Canadian Coast Guard Pollution Prevention Officer in the area that the vessel is in; Contact of a PPO can be made via any CGRS or VTS.

Operation Centre, H.O.

Phone: (613) 990-5600 – 24 hrs/day

Fax: (613) 995-4700

TLX: 0053 3128

East Coast, ECAREG VTS Centre, Dartmouth, N.S. (1-800-565-1633)

Or via any Coast Guard radio station.

Phone: (902) 426-5664/5

TLX: 019-22625 or 019-22510, Cable: ECAREG Canada

West Coast, WESTREG via any Coast Guard radio station

Phone: (604) 661-6011

TKX: 043-52586, Cable: WESTREG Canada

Arctic, NORDREG or via any Coast Guard radio station.

Phone: (819) 979-5724

TLX: 063-15529, Cable: NORDREG Canada

b) United States

U.S. Coast Guard Captain of the Port in the area that the vessel is in and National Response Centre (1-800-424-8802) as required by federal regulations. Telex: 892427

Failure to notify the National Response Centre in addition to the local Coast Guard is punishable by a fine up to \$10,000 or one year in prison. It is important that both the Coast Guard and the National response Centre be notified at the toll free number whenever a spill occurs in U.S. waters.

See Vessel Response Plan Procedures

c) International Port / Waters

Appropriate equivalent government body for that particular country the vessel is in (see Appendix 1).



Shipboard Marine Pollution Emergency Plan

Section 5 — Additional Information

5.1 PLAN REVIEW PROCEDURES

This plan can only be changed and/or updated by the Quality, Safety, Security and Environment Management Team.

All comments, corrections and suggestions shall be directed to the above department through the gsse@desgagnés.com email address. All users of the plan have the responsibility of pointing out changes that affect the validity and/or use of the plan.

Major changes on the plan shall be made as soon as possible.

Any change or update which requires a page change shall be entered in the “Record of changes”.

All approved changes shall be sent, without delay to the registered copy holders, as follows:

- Owners Emergency Response Room
- Vessel;
- Canadian Coast Guard, Marine Safety.

5.2 REVISION OF PLAN

The plan must be kept updated at all times which means that if any changes occur during the operation and which may affect this document, it must be corrected and recorded and all parties concerned must be advised.

5.3 ON BOARD SPILL EQUIPMENT

5.3.1 INVENTORY

To get the inventory and the storage location for all spill kit materials, consult appendix 7.

If your Vessel is also equipped with an Emergency Air Pump, please consult appendix 8 to familiarize with the Procedure and Piping Arrangement for Oil Spill Air Pump.

5.3.2 PLANNED VERIFICATIONS & MAINTENANCE SCHEDULE

1. Prevention equipment

1.1 Tank lids, checks

- Tank lids sit squarely on coatings
- Packing is in good condition
- Cleats have sufficient movement
- Ullage ports are tight
- Packing of ullage ports in good condition
- Drain valve closed and plug fitted on manifold drip trays

1.2 Deck pipelines (cargo, bunker, thermal oil and hydraulic)

- General condition of deck lines, no apparent leakage
- State of temporary repairs, if any; head office informed of situation
- Check expansion joints for signs of leakage
- All manifolds and unused hoses blanked and fully bolted
- Sample/pressure cocks fitted tightly, no leakage

1.3 Hull plating check

- Assessment condition of hull for signs of damage or possible weak spots, notify Head office of areas of concern.

1.4 Miscellaneous

- Proper opening/closing of pressure/vacuum valves on tanks
- Proper operations of Wessoe gauges

2. Containment equipment

Check:

- Drip trays are sound with no obvious cracks or holes
- Save-alls around bunker tanks are sound and drain plugs fitted
- Condition of scupper plugs
- Proper operation of diaphragm pumps
- Sufficient inventory on board at all times

3. Spillage equipment

Check:

- Oil dispersant and solvent available. USE AS DIRECTED ONLY
- Foam & dry powder fixed extinguishing systems are operational and ready for immediate use
- Company's Oil/NLS Response Plan has been brought to attention of all involved parties
- All communication methods have been proved satisfactory

4. Equipment

Check:

- All components of bilge oily separator work satisfactorily
- A sign is in place in vicinity of overboard discharge relating to use of valves and the need for them to be sealed in port
- All components of the ballast discharge monitoring system works satisfactorily
- Oil/Water interface detector is in good working order and readily available.

WARNING:

THE MASTER SHOULD ENSURE THAT BEFORE ANY DISPERSANTS OR DETERGENTS ARE USED, LOCAL AUTHORISATION IS OBTAINED AS INDISCRIMINATE USE OF SUCH MATERIALS MAY BE HARMFUL TO ENVIRONMENT.

5.4 EVIDENCE REQUIRED FROM THE VESSEL

(Text extract from The Nautical Institute's The Master Role in Collecting Evidence, 1989)

"In order to defend claims of oil/NLS pollution and to prevent future spills, owners and their insurers will require a detailed account of how the spill occurred, the steps taken to prevent the spill, and the efforts made to minimise damage. Such an account should be supported by the items of evidence listed below, and the Master should ensure that such information and documents are retained and available. This information includes the following:

1. Log books in which the following information should be recorded:
 - a) Use of such equipment as scupper plugs and drip trays,
 - b) Carrying out of oil/NLS spills drills
 - c) The procedures followed during transfer of oil/NLS within the vessel
 - d) Evidence of previous oil/NLS pollution in berth or port area
2. Engine Room logs in which the following information should be recorded:
 - a) Bunkering procedures
 - b) Members of the crew in charge of bunkering operations
 - c) Methods of effecting emergency stops
 - d) Times and results of inspections of equipment used in cargo and bunkering operations, and
 - e) Rates and sounding / ullages during loading and discharging operations
3. A copy of the bunkerer's instruction or delivery note containing an acceptable loading rate.
4. Records of stocks of cleaning materials such as sprayers and absorbent material
5. Samples of any oil/NLS that has been discharged from the vessel
6. Video films of the extent of the film (if possible)
7. A record of the quantity of pollutant
8. If the pollution was caused by broken equipment on board the vessel, the broken parts should be preserved
9. Accounts of the events from all the members of the crew involved in the incident
10. Oil record book
11. Cargo loading / discharge plan

12. Owners / charterer's instructions
13. Tank and pipeline diagrams
14. Sounding pipe and ullage plug diagram
15. Vessel's Contingency plan
16. All relevant telexes, cables and other correspondence

In addition of the information listed above, the Master should ensure that a record is made of the following information:

1. The operation being carried out at the time of the spill and the grades of oil/NLS involved
2. The type of oil/NLS which went over the side
3. The quantity of pollutant on deck, and the quantity which went over the side
4. Actions taken to report the spill
5. Action taken to commence cleaning operations
6. The state of the tide at the time of the spill
7. The extent of the pollution, the extent of the area which the spill covered and whether it affected other vessels or properties
8. The weather condition at the time of spill
9. The identity of any vessels in the vicinity when the oil/NLS spill occurred
10. The date, time when, and place where the spill occurred
11. Details of the action taken on board to contain and clean up the pollutant
12. Details of the action taken on shore to contain and clean up the pollutant
13. The type and industrial name of the oil dispersant or any other chemical used



Shipboard Marine Pollution Emergency Plan

Appendix 1 List of Coastal State Contacts

37

Regulation 26 of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) (Shipboard Oil Pollution Emergency Plan), entered into force on April 4, 1993. The Shipboard Marine Oil Pollution Emergency Plan should include as an appendix the list of agencies or officials of administrations responsible for receiving and processing reports as developed and updated by the Organisation in compliance with Article 8 of MARPOL 73/78.

The attached list contains contact details for coastal states known at the time of publication. This list has three sources of information: 1) the Provisions Concerning the Reporting of Incidents Involving Harmful Substances under MARPOL 73/78 (the IMO Publication); 2) responses to the IMO Shipboard Marine Pollution Preparedness, Response and Co-operation Information System (OPRC Questionnaire); and 3) the International Tanker Owner Pollution Federation (ITOPF). It is recognised that the list may not be complete.

The information has been provided in response to the OPRC Questionnaire, as well as directly by Member States with amendments to the list. Additions and / or amendments to the list will continue to be provided by the International Maritime Organisation (IMO).

Coast stations and their frequencies are given in the ITU List of Coast Stations, and also in appropriate national publications, e.g. Admiralty List of Radio Signals Vol 1.



Shipboard Marine Pollution Emergency Plan

Appendix 2 List of National Operational Contact Points

This information enables compliance with Regulation ~~26~~³⁷ of Annex 1 of MARPOL 73/78 which, inter alia, requires that shipboard marine pollution emergency plans (SMPEP) shall contain a list of authorities or persons to be contacted in the event of an oil pollution incident.



Shipboard Marine Pollution Emergency Plan

Appendix 3 List of Ship Interest Contacts



Liste des contacts en cas d'urgence Emergency Contact List

ARMATEUR ET OPÉRATEUR	TRANSPORT DESGAGNES INC.
------------------------------	---------------------------------

OWNER & OPERATOR	TRANSPORT DESGAGNES INC.
-----------------------------	---------------------------------

SIÈGE SOCIAL	
Adresse :	21, rue du Marché-Champlain Québec (Québec) Canada G1K 8Z8
Téléphone :	(418) 692-1000
Télécopieur :	(418) 692-6044
Courriel :	info@desgagnes.com
Site Internet :	www.desgagnes.com

HEAD OFFICE	
Address:	21 Marché-Champlain Street Quebec, Québec, Canada G1K 8Z8
Telephone:	(418) 692-1000
Fax:	(418) 692-6044
E-mail:	info@desgagnes.com
Website:	www.desgagnes.com

SALLE D'INTERVENTION D'URGENCE	
Téléphone :	(418) 692-5525
Télécopieur :	(418) 692-5443
Courriel :	emergency@desgagnes.com

EMERGENCY RESPONSE ROOM	
Telephone:	(418) 692-5525
Fax:	(418) 692-5443
E-mail:	emergency@desgagnes.com

CONTACT 1 :	Surintendant du navire
--------------------	-------------------------------

CONTACT 1:	Vessel Superintendent
-------------------	------------------------------

Pour les navires :	Dara, Esta et Jana Desgagnés
	Daniel Colan
Cellulaire :	(506) 533 5025
Courriel	daniel.colan@rigelcanada.com
Ou :	Officier en devoir
	(506) 533-9000

For vessels:	Dara, Esta, and Jana Desgagnés
	Daniel Colan
Cellular:	(506) 533 5025
E-mail	daniel.colan@rigelcanada.com
Or:	Officer on Duty
	(506) 533-9000

Pour les navires :	Acadia, Sedna et Maria Desgagnés
	Eugen Milasan
Cellulaire :	(418) 929-4961
Cellulaire 2 :	(514) 473-6076
Courriel :	eugen.milasan@desgagnes.com

For vessels:	Acadia, Sedna and Maria Desgagnés
	Eugen Milasan
Cellular:	(418) 929-4961
Cellular 2:	(514) 473-6076
E-mail:	eugen.milasan@desgagnes.com

Pour le navire :	Mia et Paul A. Desgagnés
	Olivier Garon
Cellulaire :	(418)-953-8293
Courriel :	olivier.garon@desgagnes.com

For vessel:	Mia and Paul A. Desgagnés
	Olivier Garon
Cellular:	(418)-953-8293
E-mail:	olivier.garon@desgagnes.com

Pour le navire :	Zélada Desgagnés
	Zélada Desgagnés
Cellulaire :	(418) 563-7573
Domicile :	(418) 635-2803
Courriel :	zelada.desgagnes@desgagnes.com

For vessel:	Zélada Desgagnés
	Zélada Desgagnés
Cellular:	(418) 563-7573
Home:	(418) 635-2803
E-mail:	zelada.desgagnes@desgagnes.com

Pour les navires :	Nordik Express, Bella, Claude A. Miena et Nordika Desgagnés
	Éric Desrochers
Cellulaire :	(418) 569-3597
Domicile :	(418) 683-3849
Courriel :	eric.desrochers@desgagnes.com

For vessels:	Nordik Express, Bella, Claude A. Miena and Nordika Desgagnés
	Éric Desrochers
Cellular:	(418) 569-3597
Home:	(418) 683-3849
E-mail:	eric.desrochers@desgagnes.com

Pour les navires :	Damia, Rosaire A. et Sarah Desgagnés
	Sylvain Tremblay
Cellulaire :	(418) 571-0429
Domicile :	(418) 889-8917
Courriel :	sylvain.tremblay@desgagnes.com

For vessels:	Damia, Rosaire A. and Sarah Desgagnés
	Sylvain Tremblay
Cellular:	(418) 571-0429
Home:	(418) 889-8917
E-mail:	sylvain.tremblay@desgagnes.com

Pour les navires :	Espada et Laurentia Desgagnés
	Philip John
Cellulaire :	(418) 802-7977
Courriel :	philip.john@desgagnes.com

For vessels:	Espada and Laurentia Desgagnés
	Philip John
Cellular:	(418) 802-7977
E-mail:	philip.john@desgagnes.com

Pour les navires :	Argentia, Taïga Desgagnés et HHL New York
	Jeremy Girard
Cellulaire :	(418) 573-7608
Courriel :	jeremy.girard@desgagnes.com

For vessels:	Argentia, Taïga Desgagnés and HHL New York
	Jeremy Girard
Cellular:	(418) 573-7608
E-mail:	jeremy.girard@desgagnes.com

CONTACT 2 :	André Marmen Directeur des opérations
Cellulaire :	(418) 931-9340
Domicile :	(418) 908-0955
Courriel :	andre.marmen@desgagnes.com

CONTACT 2:	André Marmen Operations Manager
Cellular:	(418) 931-9340
Home:	(418) 908-0955
E-mail:	andre.marmen@desgagnes.com

CONTACT 3 :	David Fox, PDT - Navires Citernes Surintendant – Navigation
Cellulaire :	(418) 805-1384
Courriel :	david.fox@desgagnes.com

CONTACT 3:	David Fox, DPA - Tanker Vessels Superintendent – Navigation
Cellular:	(418) 805-1384
E-mail:	david.fox@desgagnes.com

CONTACT 3 :	Marc Desgagnés, PDT - Navires Cargo OSC - Tous les navires de la Flotte Directeur QSSE
Cellulaire :	(418) 569-6537
Domicile :	(418) 406-1059
Courriel :	marc.desgagnes@desgagnes.com

CONTACT 3:	Marc Desgagnés, DPA - Cargo Vessels CSO – All Fleet Vessels QSSE Manager
Cellular:	(418) 569-6537
Home :	(418) 406-1059
E-mail:	marc.desgagnes@desgagnes.com

CONTACT 3 :	Daniel Colan OSC – Dara, Esta et Jana Desgagnés
Cellulaire :	(506) 533 5025
Courriel :	daniel.colan@rigelcanada.com

CONTACT 3:	Daniel Colan, CSO – Dara, Esta and Jana Desgagnés
Cellular:	(506) 533 5025
E-mail:	daniel.colan@rigelcanada.com

CONTACT 4 :	Claude Dumais Vice-président – Opérations et projets spéciaux, Groupe Desgagnés (Chef d'intervention d'urgence)
Cellulaire :	(418) 952-6486
Courriel :	claudio.dumais@desgagnes.com
CONTACT 5 :	Serge Le Guellec Président-directeur général (TDI)
Cellulaire :	(581) 888-8920
Courriel :	serge.leguellec@desgagnes.com

CONTACT 4:	<i>Claude Dumais Vice-President – Operations and Special Projects, Groupe Desgagnés (Incident Commander)</i>
<i>Cellular:</i>	<i>(418) 952-6486</i>
<i>E-mail:</i>	<i>claudio.dumais@desgagnes.com</i>
CONTACT 5:	<i>Serge Le Guellec President and General Manager</i>
<i>Cellular:</i>	<i>(581) 888-8920</i>
<i>E-mail:</i>	<i>serge.leguellec@desgagnes.com</i>



Communications avec les bureaux

Communications with offices

Coordonnées des compagnies

Companies' Contact Information

Nom Name	Statut Status	Contact Contact	Adresse Address	Numéros Numbers
Groupe Desgagnés inc.	Société mère <i>Parent company</i>	Louis-Marie Beaulieu	21, rue du Marché-Champlain Québec (Québec) G1K 8Z8	Siège social Head Office  (418) 692-1000  (418) 692-6044 info@desgagnés.com Salle d'intervention d'urgence Emergency Response Room  (418) 692-5525  (418) 692-5443 emergency@desgagnés.com
Transport Desgagnés Inc.	Armateur et exploitant <i>Shipowner and ship operator</i>	Serge Le Guellec	Même que ci-dessus <i>Same as above</i>	Mêmes que ci-dessus <i>Same as above</i>
Desgagnés Marine Cargo Inc.	Fournisseur d'équipage (navires de charge) <i>Crewing (general cargo ships)</i>	Pascal Lévesques	Même que ci-dessus <i>Same as above</i>	Mêmes que ci-dessus <i>Same as above</i>
Desgagnés Marine Petro Inc.	Fournisseur d'équipage (navires-citernes) <i>Crewing (tankers)</i>	Pascal Lévesques	Même que ci-dessus <i>Same as above</i>	Mêmes que ci-dessus <i>Same as above</i>
Navigation Desgagnés inc.	Affréteur (navires de charge) <i>Charterer (general cargo ships)</i>	Alexandre Beauchamp Parent	Même que ci-dessus <i>Same as above</i>	Mêmes que ci-dessus <i>Same as above</i>
Petro-Nav Inc.	Affréteur (navires-citernes) <i>Charterer (tankers)</i>	Christopher King	Bureau 601 204, rue Saint-Sacrement Montréal (Québec) H2Y 1W8	 (514) 843-8800  (514) 843-9195 info@petro.nav.desgagnés.com

Nom Name	Statut Status	Contact Contact	Adresse Address	Numéros Numbers
Desgagnés Transarctik Inc.	Affréteur (navires de charges) Arctique <i>Charterer (general cargo ships) Artic</i>	Dominic Desgagnés	6565, boul. Hébert, bur. 201 Sainte-Catherine (Québec) J5C 1B5	☎ (450) 635-0833 📠 (450) 635-5126 info@transactik.desgagnes.com
Marlow Navigation	Fournisseur d'équipage à l'international (navires de charge) <i>International Crewing (general cargo Ship)</i>	Mike Naradko	13, Alexandrias Street P.O. Box 54077 CY-3720 Limassol Cyprus	☎ +357 25882588 📠 +357 25882599 marlow@marlow.com.cy



INSCRIPTION DES NAVIRES AUPRÈS DES ORGANISMES D'INTERVENTION (RESPONSE ORGANIZATIONS) AU CANADA

NAVIRE	ECRC (SIMEC) Grands Lacs, Saint-Laurent, Côte Est		ALERT St. John, NB		PTMS Port Hawkesbury, NS		WCMRC Côte Ouest	
	N° de contrat	Echéance	N° de contrat	Echéance	N° de contrat	Echéance	N° de contrat	Echéance
<i>Acadia Desgagnés</i>	C001-00416	31.12.17	C001-00416	31.12.17	C001-00416	31.12.17		N/A
<i>Argentia Desgagnés</i>								
<i>Bella Desgagnés</i>								
<i>Claude A. Desgagnés</i>								
<i>Nordik Express</i>								
<i>Rosaire A. Desgagnés</i>								
<i>Sedna Desgagnés</i>								
<i>Zélada Desgagnés</i>								
<i>Nordika Desgagnés</i>								
<i>Miena Desgagnés</i>	TBC		TBC		TBC			N/A
<i>HHL New York</i>	TBC		TBC		TBC			N/A
<i>Maria Desgagnés</i>	C002-00002	31.12.17	C002-00002	31.12.17	C002-00002	31.12.17		N/A N/A
<i>Sarah Desgagnés</i>								
<i>Damia Desgagnés</i>								
<i>Mia Desgagnés</i>								
<i>Paul A. Desgagnés</i>	TBC		TBC		TBC			N/A
<i>Espada Desgagnés</i>	C002-05959	19.11.17	C002-05959	19.11.17	C002-05959	19.11.17		N/A
<i>Laurentia Desgagnés</i>	C002-05315	07.05.17	C002-05315	07.05.17	C002-05315	07.05.17		N/A
<i>Taïga Desgagnés</i>	C001-21354	16.04.18	C001-21354	16.04.18	C001-21354	16.04.18		N/A

COORDONNÉES DES ORGANISMES D'INTERVENTION

Organismes d'intervention	ECRC / SIMEC	ALERT	PTMS	WCMRC
	<p>Eastern Canada Response Corporation Ltd. Société d'intervention maritime de l'Est du Canada Itée</p> <p>275 Slater Street, Suite 1201 Ottawa (Ontario) K1P 5H9 Tél. : (613) 230-7369 Télex : (613) 230-7344</p> <p>Mr. Paul Pouliotte, poste 304 Ms. Ann Therrien, poste 308 atherrien@ecrc.ca</p> <p>URGENCE 24 H (613) 930-9690</p>	<p>Atlantic Emergency Response Team</p> <p>P.O. Box 2353 Saint John (New Brunswick) E2L 3V6 Tél. : (506) 632-4499 Télex : (506) 632-4450</p> <p>Mrs. Andrea Melanson</p> <p>URGENCE 24 H (506) 632-4499</p>	<p>Point Tupper Marine Services Ltd.</p> <p>P.O. Box 316 Port Hastings (Nova Scotia) B0E 2T0 Tél. : (902) 625-3611 ou 625-1846 Télex : (902) 625-1556 ou 625-3098</p> <p>Capt. Ed Kehoe, Response Manager Cell. : (902) 227-7696 Télex : (902) 558-2572</p> <p>URGENCE 24 H (902) 625-1711</p>	<p>Renseignements disponibles auprès de la Chamber of Shipping of British Columbia aux numéros ci-dessous : Tél. : (604) 681-2351 Télex : (604) 681-4364</p> <p>Burrard Clean operations division</p> <p>URGENCE 24 H (604) 294-9116</p>
Zones d'intervention	<p>Le réseau canadien des Grands Lacs et les canaux les reliant dans la province de l'Ontario incluant le lac Supérieur, la rivière St. Mary, le lac Huron, la rivière St. Clair, le lac St. Clair, la rivière Detroit, le lac Érié, le lac Ontario; le fleuve St-Laurent, le lac Winnipeg, la rivière Athabasca de Fort McMurray au lac Athabasca, et le lac Athabasca.</p> <p>Les eaux de la Baie James, de la Baie d'Hudson et de la Baie d'Ungava; les eaux de la province de Québec (incluant le St-Laurent) et les eaux des provinces atlantiques (excluant les eaux au nord de la latitude 60° Nord et les régions couvertes par ALERT et PTMSL).</p>	<p>Les eaux canadiennes comprises entre la frontière Ouest constituée d'un arc d'un rayon de 50 milles nautiques du point 45°08'03" N, 66°17'12" W et la frontière Est constituée d'un arc d'un rayon de 50 milles nautiques du phare de Cape Spencer.</p>	<p>Les eaux canadiennes à l'intérieur d'un rayon de 50 milles nautiques à partir du phare de Bearhead, 45°33' N, 61°17' W, excluant le nord du détroit de Canso dans St. Georges Bay, les eaux des lacs Bras D'or, des canaux St. Andrew, St. Patrick, Great Bras D'or et les autres eaux intérieures de l'île du Cap Breton.</p>	<p>Les eaux bordant la province de la Colombie-Britannique, les eaux internes de cette province, et excluant les eaux au nord du 60° parallèle de latitude.</p>



Numéros importants en cas d'urgence au Canada Important numbers in case of emergency in Canada

Catégorie Category	Nom et adresse Name and Address	Numéros Numbers	Contacts / Remarques Contacts / Remarks
Hot Lines	Shell	☎ 24hrs (713) 241-2532	Department Stasco
	Valero	☎ 1-800-964-2210 ☎ 1-210-736-2210	
	Suncor	(905) 399-9954	Masiz Rahman
		Marshal Dunbar ☎ (905) 804-3449 ☎ cell. : (647) 459-2671	Contact 1 Suncor DPP
		Francine Dagenais ☎ (905) 804-7153 ☎ cell.: (417) 200-9140	Contact 1 Suncor CPP
		Marshal Dunbar en interim ☎ (905) 804-3449 ☎ cell. : (647) 459-2671	Contact 1 Suncor Lub
		A. Haq ☎ (905) 804-7150 ☎ Cell.: (905) 320-6541	Contact 2 All products
		24hours / 7 days ☎ (403) 296-3000	Contact 3 All products
		Jason He ☎ (403) 237-3498 ☎ cell.: (403) 813-8158	Contact 1
	Emergency line ☎ (703) 217-6121	Contact 2	
	Irving	☎ (506) 333-9379	Eric Olsen
	Kildair	Steven Packwood ☎ (450) 746-0994 ext 322 ☎ (450) 746-0999 ✉ tracy@kildair.com ✉ kildair@kildair.com	
		Hydro Quebec CAM Operator ☎ (418) 986-7299 ext 7230	Kildair – Cap-aux-Meules
	La fédération des coopératives du nouveau Québec (FCNQ)	Jean-Luc Mallette ☎ (514) 457-9371 ext 356 ☎ (514) 457-4626	Directeur Principal/ Senior Manager Services Pétroliers/ Petroleum Services

Ports <i>Ports</i>	Port de Montréal	Urgence Marine ☎ (514) 640-3138 📠 (514) 640-4509	Real Ricard Jr. Chargé de projet Ship Maintenance Expert ☎ cell. (514) 829-6908 Stephen Chouinard Directeur des opérations Director of Operations ☎ cell. (514) 821-7347
		Capitainerie ☎ Général (514) 283-7011 ☎ Urgence (514) 283-6911	
	Port de Québec	Capitainerie ☎ (418) 648-3556	24hrs sur la voie VHF 77
	Port-Cartier	☎ (418) 766-8753	Quai Arcelor Mittal ☎ (418) 766-2000 Ext 2400, 2485 ou 2439
	Trois-Rivières	☎ (819) 378-2887	
	Port de Sept-Îles	☎ (418) 968-1231	Shawn Grant Harbour Master ☎ (418) 961-1229
Rio Tinto Alcan (Port Alfred)	☎ (418) 544-3311		
Fournisseurs <i>Suppliers</i>	Expédition quais et écluses 1621, rue Gladstone Montréal, QC H4E 1C6	☎ (514) 932-9959 📠 (514) 932-2331	Jacques Chiasson
	Seagulf Marine Industries Inc. Bureau de Montréal 815, rue Mill Montréal, QC H3C 1Y5	☎ (514) 935-6933 📠 (514) 935-3665	Robert Zeagman ☎ dom. (514) 672-5202
	Seagulf Marine Industries Inc. Bureau de Halifax Burnside Industrial Park 38 Payzant Avenue Dartmouth, NS B3B 1Z6	☎ (902) 481-1661 📠 (902) 481-8548	
	Seagulf Marine Industries Inc. Bureau de St Catharines 113 Cushman Road, Unit 16-17 St-Catharines, ON L2M 6S9	☎ (905) 688-2661	

Remorqueurs Tugs	Groupe Océan 105 Abraham-Matin, Bureau 500 Québec, (QC), G1K 8N1 Canada	☎ (418) 694-1414 📄 (418) 692-4572 💻 www.groupeocean.com ocean@groupeocean.com Hamilton : ☎ (905) 528-3960	Benoit Lefrenière ☎ cell. (418) 254-7487 benoit.lafreniere@groupeocean.com Maryse Paré (Bur. / Off. QC) Maryse.Pare@groupeocean.com Frank Montecalvo (Dir, ON) Frank.Montecalvo@groupeocean.com
	The Great Lakes Group 4500 Division Ave Cleveland, OH 44102-2228 USA Cette compagnie offre aussi un service de réparation d'urgence 24hr/7	☎ (216) 621-4854 📄 (216) 621-7616 💻 www.thegreatlakesgroup.com <i>This company also offer a 24hr/7 emergency repair services</i>	Kyles Fries Assistant Vice-President-Ship Repair ☎ 1-800-321-3663 ext 132 ☎ cell. (440) 714-1439
	McKeil Marine Limited Fleet Management	☎ (905) 528-4141 ext.248	Chris Kirby 💻 ckirby@mckeil.com
	Corporation de gestion de la Voie maritime du Saint-Laurent St. Lawrence Seaway Development Corporation 151, rue de l'Écluse Saint-Lambert, QC J4R 2V6	☎ (450) 672-4110 📄 (450) 672-7098 💻 www.grandslacs-voiemaritime.com	Position des navires Montréal au Lac Ontario ☎ (450) 672-4115 Surveillant ext :2232 Controlleurs ext :2229 Welland Canal Surveillant ext :5370 Control Center ext :5450

<p>TC Sureté Maritime TC Marine Security</p>	<p>Sûreté des Transport Région du Québec 401-1550 av d'Estimauville Québec, QC, G1J 0C8</p>	<p>☎ 24hrs 1-888-857-4003 ☎ Bureau (418) 648-4351 ☎ cell: (418) 572-4604 ✉ langis.tremblay@tc.gc.ca</p>	
<p>Inspecteurs sécurité maritime Marine Safety Inspectors</p>	<p>St. Catharines</p>	<p>☎ (905) 688-4360 ☎ (905) 688-6285</p>	
	<p>Sarnia</p>	<p>☎ 1-877-281-8824 ☎ (519) 383-1826 ☎ (519) 383-1997</p>	
	<p>Thunder Bay</p>	<p>☎ (807) 345-6953 ☎ (807) 345-0521</p>	
	<p>Baie-Comeau</p>	<p>☎ (418) 296-3524 ☎ (418) 296-6680</p>	
	<p>Gaspé</p>	<p>☎ (418) 368-2444 ☎ (418) 368-7022</p>	
	<p>Îles-de-la-Madeleine</p>	<p>☎ (418) 986-6275 ☎ (418) 986-4751</p>	
	<p>Kangiqsuuaq</p>	<p>☎ (819) 338-1213 ☎ (819) 338-1241</p>	
	<p>Montréal</p>	<p>☎ Général: 1-888-649-6262 ☎ Inspection:(514)496-2084 ☎ (514) 283-6595 ✉ marinesafetymtl@tc.gc.ca</p>	
	<p>Québec</p>	<p>☎ (418) 648-4166 ☎ (418) 648-3790</p>	
	<p>Rimouski</p>	<p>☎ 1-800-427-4417 ☎ (418) 722-3040 ☎ (418) 722-3332</p>	
	<p>Sept-Îles</p>	<p>☎ 1-877-303-3435 ☎ (418) 968-4991 ☎ (418) 968-5516</p>	
	<p>Charlottetown</p>	<p>☎ 1-855-859-3123 ☎ (902) 566-7987 ☎ (902) 566-7991</p>	
	<p>Corner Brook</p>	<p>☎ 1-855-859-3123 ☎ (709) 637-4390 ☎ (709) 637-4391</p>	
	<p>Dartmouth</p>	<p>☎ 1-855-859-3123 ☎ (902) 426-4421 ☎ (902) 426-6657</p>	

	Saint-John	☎ ☎ 📠	1-855-859-3123 (506) 636-4748 (506) 636-4756	
	St. John's	☎ ☎ 📠	1-855-859-3123 (709) 772-5166 (709) 772-0210	
	Sydney	☎ ☎ 📠	1-855-859-3123 (902) 564-7002 (902) 564-7648	
Inspecteur en devoir / Surveyor on duty : : Se référer à la Garde Côtière / Refer to Coast Guard 1-800-363-4735				
Sécurité Maritime Garde Côtière Canadienne CCG Marine Safety	200 rue Kent, 5^e étage Ottawa, ON K1A 0E6	☎ 📠	(613) 993-6943 (613) 998-3255	
Intervention Environnementale Garde Côtière Canadienne Environmental Response Canadian Coast Guard	Région de Terre-Neuve et Labrador / Newfoundland and Labrador Region	☎	24hrs 1-800-563-9089	
	Région du Centre et de l'Arctique Central and Arctic Region	☎	24hrs 1-800-265-0237	
	Région du Québec Quebec Region	☎	24hrs 1-800-363-4735	
	Région des Maritimes Maritimes Region	☎	24hrs 1-800-565-1633	
	Région du Pacifique Pacific Region	☎	24hrs 1-800-889-8852	

Bureau des Glaces Ice Office	Région de l'Atlantique Atlantic Region	☎ (709) 779-2078 ☎ 1-800-565-1633 📠 (709) 772-5369 Telex : 016-4530 📧 CGGCICEWATCH@DFO-MPO.GC.CA	Basé à St-John's
	Région du Québec Quebec Region	☎ (418) 648-7290 ☎ (418) 648-5620 📠 (418) 648-7305	Basé à Québec
	Région du Centre et de l'Arctique Arctic and Central Region	☎ (519) 383-1814 ☎ 1-800-265-0237 📠 (519) 337-2498	Basé à Sarnia
Recherche et Sauvetage Search and Rescue	Terre-Neuve et Labrador Newfoundland and Labrador	☎ 1-800-563-2444 ☎ (902) 427-8200	Basé à Halifax
	Nouvelle-Écosse, Nouveau-Brunswick, Ile-du-Prince-Édouard Nova Scotia, New Brunswick, Prince Edward Island	☎ 1-800-565-1582 ☎ (902) 427-8200	Basé à Halifax
	Québec Quebec	☎ 1-800-463-4393 ☎ (418) 648-3599	Basé à Québec
	Ontario, Territoires du Nord-Ouest, Nunavut Ontario, NorthWest Territories, Nunavut	☎ 1-800-267-7270 ☎ (613) 965-3870	Basé à Trenton
	Colombie-Britannique, Yukon British-Columbia, Yukon	☎ 1-800-567-5111 ☎ (250) 413-8933 ☎ cell. #727	Basé à Victoria

<p>Société de classification Classification Society</p>	<p>Lloyd's Register North America Bureau de Montréal 1868, boul. des Sources, Suite 125 Pointe-Claire, QC H9R 5R2</p>	<p>☎ (514) 630-3784 ☎ (514) 630-3923 💻 montreal@lr.org</p>	<p>Emmanuel Patrouille Senior Surveyor ☎ cell. (514) 209-3710 💻 Emmanuel-Patrouille@lr.org</p>
<p>NAVIRES-CITERNES Maria Sarah</p>			<p>Igor Potey Surveyor (Quebec City) ☎ cell. (418) 564-6736 💻 igor.potey@lr.org</p>
<p>NAVIRE PASSAGERS Bella Nordik Express</p> <p>NAVIRE DE CHARGE Acadia</p>	<p>Lloyd's Register North America Bureau de Halifax Suite 812, Queen Square 45 Alderney Drive Dartmouth, NS B2Y 2N6</p>	<p>☎ (902) 423-7506 ☎ (902) 425-2913 💻 halifax@lr.org</p>	<p>Bud Streeter VP & Operations Manager ☎ cell. (902) 499-0244 💻 bud.streeter@lr.org</p> <p>Craig Williams Senior Surveyor In Charge ☎ (902) 406-4166 ☎ cell. (902) 497-9849 💻 Craig.Williams@lr.org</p>
	<p>Lloyd's Register North America Bureau de Toronto 3050 Harvester Road, Suite 208 Burlington, ON L7N 3J1</p>	<p>☎ (905) 631-9420 ☎ (905) 631-9430 💻 toronto@lr.org</p>	<p>Barry Shepherd Marine Manager Eastern Canada ☎ cell. (905) 515-7385 💻 barry.shepherd@lr.org</p> <p>Vitaliy Melnyk Senior Surveyor In Charge ☎ cell. (905) 320-6139 💻 vitaliy.melnyk@lr.org</p> <p>Michael Skrzypczak Senior Surveyor ☎ cell. (905) 515-7384 💻 Michael.Skrzypczak@lr.org</p> <p>James Zheng Senior Surveyor ☎ cell. (905) 320-9039 💻 James.Zheng@lr.org</p>
	<p>Lloyds' Register of Shipping Bureau de Londres 71 Fenchurch Street London, England EC3M 4BS</p>	<p>☎ 011 44 20 7709 9166 💻 www.lr.org</p>	

<p>NAVIRE CITERNE Damia Mia Paul A. Rossi A.</p> <p>NAVIRE DE CHARGE Argentia</p>	<p>Bureau Veritas (Canada) inc. 25 rue Marché-ChAMPLAIN, Suite 403, Québec, Qc, Canada, G1K 8Z8</p>	<p> (418) 914 1741  www.bureauveritas.com</p>	<p>Jocelyn Roussel Marine Surveyor  cell. (438) 823-8285  Jocelyn.Roussel@ca.bureauveritas.com</p> <p>Darrell Ashley Marine Surveyor  cell. (418) 806-3835  Darrell.Ashley@ca.bureauveritas.com</p>
<p>NAVIRES-CITERNES Dara Esta Jana Espada Laurentia</p> <p>NAVIRES DE CHARGE Claude A. Rosaire A. Sedna Taïga Zélada Nordika</p>	<p>DNV GL Montreal office 4100 Rue Molson, Suite 100 Montreal, Qc., H1Y 3N1</p>	<p> (514) 861-0660   montreal.maritime@dnvgl.com</p>	<p>Ozan Burhan Directeur DNV GL Montréal  (514) 974-1658  burhan.ozan@dnvgl.com</p> <p>Krieger, Kai Senior Surveyor  cell. (514) 815-8134  kai.krieger@dnvgl.com</p>
	<p>Halifax Office 99 Wyse Road, Suite 900 Dartmouth, Nova Scotia, B3A 4S5 Canada</p>	<p> (902) 464-0905  halifax.maritime@dnvgl.com</p>	



Services d'intervention d'urgence en cas de déversement aux USA
Spill Emergency Response Services in USA

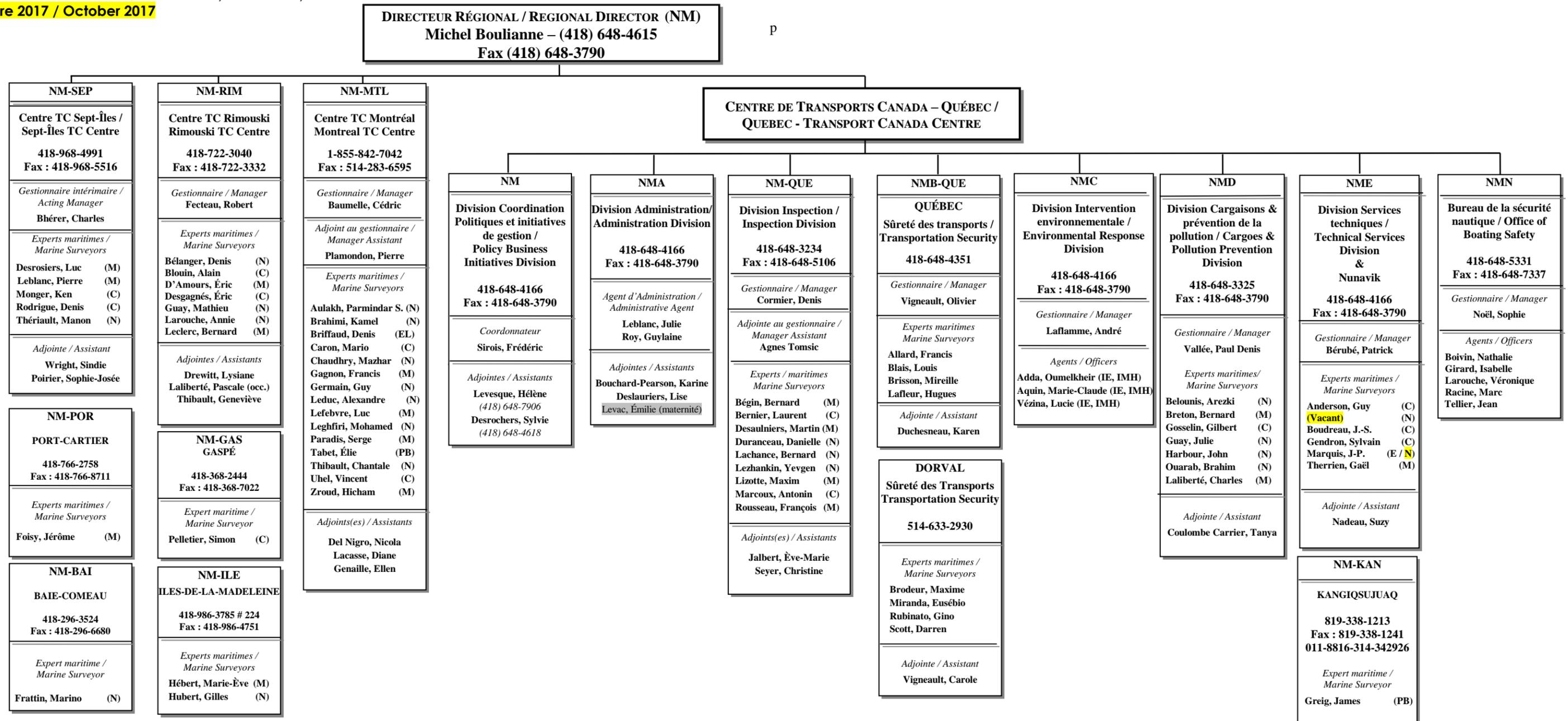
Catégorie <i>Category</i>	Nom et adresse <i>Name and Address</i>	Numéros <i>Numbers</i>	Contacts / Remarques <i>Contacts / Remarks</i>
USCG	<i>National Response Center</i>	☎ ☎ 📄 (800) 424-8802 (202) 267-2675 (202) 479-7165	VRP Section 10
USCG	<i>Captain of the Port</i>		VRP Section 10
USCG	<i>State Agencies</i>		VRP Section 10
USCG	<i>Boundary States</i>		VRP Section 10
Qualified Individual (QI)	Hudson Marine Management Services Ferry Terminal Building, Suite 300 2 Aquarium Drive Camden, NJ 08103 (under contract)	☎ 24 h 📄 💻 💻 (856) 342-7500 (856) 342-8888 hmms@hudsonmarine.com www.hudsonmarine.com	VRP Section 2 Per W. Christensen President and CEO Cynthia A. Hudson V.P. response management
Oil Spill Removal Organization (OSRO)	National Response Corp. & Clean Pacific Alliance Suite T-103 3500 Sunrise Highway Great River, NY 11739 (under contract)	☎ 24 h ☎ 📄 📄 IOC* 💻 💻 💻 ** (800) 899-4672 (631) 224-9141 ext 0 (631) 224-9082 (631) 224-9086 iocdo.@nrcc.com dwick.@nrcc.com www.nrcc.com *IOC: International Operations Center **Login username : clients Password : access2007	VRP Section 2 Steve A. Candito President 📧 scandito@nrcc.com
Oil Spill Removal Organization (OSRO)	Marine Pollution Control US Great Lakes 8631 West Jefferson Detroit, Michigan 48209-2691 (not under contract)	☎ 24h ☎ 24h 📄 📄 💻 💻 (313) 849-2333 1-800-521-8232 (313) 849-1623 (313) 216-1778 info@marinepollutioncontrol.com www.marinepollutioncontrol.com	VRP Section 2 Mike McInchak Operations Manager Jim Kemeny Director of Operations
Oil Spill Removal Organization (OSRO)	Washington State Maritime Cooperative (WSMC) 100 West Harrison, suite S560, Seattle, WA 98119 (not under contract)	☎ 24h 📄 💻 💻 (206) 448-7557 (206) 443-3839 admin@wsmpcoop.org www.wsmcoop.org	VRP Section 2 Roger Mowery Executive Director

Catégorie <i>Category</i>	Nom et adresse <i>Name and Address</i>	Numéros <i>Numbers</i>	Contacts / Remarques <i>Contacts / Remarks</i>
Salvage, Firefighting, & Lightering	Resolve Marine Group P.O. Box 165485 Port Everglades, FL 33316 (under contract)	 24 h INTL (954) 764-8700  (954) 764-8724  24 h USA (866) 764-1397  www.resolvemarine.com  info@resolvemarine.com	VRP Section 2 Joseph E. Farrell Jr. President / CEO Todd Schauer Senior Project Manager Mobile: (954) 658-6429  tschauer @resolvemarine.com Frank Leckey Director of Operations Resolve Towing and Salvage Todd Duke Resolve Fire and Hazards Response Cell. (954) 444-3433
Salvage, Firefighting, & Lightering	Titan Maritime Industries Inc. 700 NW 33rd Street, Suite 290 Pompano Beach, FL 33064, USA (not under contract)	 24 h (954) 545-4143  (954) 545-4552  www.titansalvage.com	Dan Olson Operations Manager Mobile (206) 854-4057 Richard Fairbanks Vice President Tel home: (954) 522-6276 Mobile: (954) 914-9876 Int'l. beeper: (954) 879-4806 David Parrot Managing Director Tel home: (954) 462-7763 Mobile: (954) 914-9874 Int'l beeper: (954) 879-6348 Phil Reed Director Engineering Tel home: (954) 753-8464 Mobile: (954) 682-9936

**Services d'intervention d'urgence
en cas de déversement aux USA**

**Spill Emergency Response Services
in USA**

<p>Salvage, Firefighting, & Lightering</p>	<p>Donjon Marine Co. Inc. 1250 Liberty Ave. Hillside, New Jersey 07205 (not under contract)</p>	<p> 24 h  </p>	<p>(908) 964-8812 (908) 964-7426 www.donjon.com</p>	<p>J. Arnold Witte Pres. & CEO (Salv. Master) Tel. home: (908) 353-4718</p> <p>William "Billy" Kratz Jr. Salvage Master Tel home: (609) 443-4972</p> <p>John A. Witte Jr. Ex. V-P (Asst. Salv. Master) Tel home: (908) 352-8168</p>
<p>Dispersants and In-Situ Burning</p>	<p>Spiltec 19220 N.E. 143rd Place Woodinville, WA 98077-7839 USA (not under contract)</p>	<p> </p>	<p>(425) 869-0988 (425) 869-7881</p>	<p>VRP Section 2</p> <p>Alan A. Allen Tel. home: (425) 869-2578</p>
<p>National Vessel Movement Center</p>	<p>Avis d'arrivée et de départ douanes américaines <i>Notice of arrival and departure US Customs</i></p>	<p></p>	<p>24hrs 1-800-708-9823</p>	



NOTE : ↑ Hiérarchie organisationnelle

LEGENDE / LEGEND

- (occ.) } Employé(e) occasionnel(le), 90 jours / Temporaire
- (C) } Coque / Hull (i.e. Architecte Naval)
- (EL) } Électrique / Electrical
- (EQ) } Équipement / Equipment
- (IMH) } Installations de manutention d'hydrocarbures / Oil Handling Facilities
- (M) } Machinerie / Machinery
- (N) } Nautique / Nautical
- (PB) } Petits bâtiments / Small Vessels
- (IE) } Intervention environnementale

SÉCURITÉ ET SÛRETÉ MARITIMES	MARINE SAFETY AND SECURITY
Région du Québec 401-1550, avenue d'Estimauville Québec (Québec) G1J 0C8	Quebec Region 401-1550, d'Estimauville Avenue Quebec City, Quebec G1J 0C8
Michel Boulianne, Directeur régional Tél. : 418-648-4615 Télec. : 418-648-3790 Sans frais : 1-888-649-6292	Michel Boulianne, Regional Director Phone : 418-648-4615 Fax : 418-648-3790 Toll Free : 1-888-649-6292

QUÉBEC – POLITIQUES ET INITIATIVES DE GESTION	
401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	401-1550, d'Estimauville Ave. Quebec City, Quebec G1J 0C8
Frédéric Sirois, Coordonnateur Tél. : 418-648-4356 Télec. : 418-648-3790	Frédéric Sirois, Coordinator Phone : 418-648-4356 Fax : 418-648-3790

QUÉBEC – SERVICE TECHNIQUE	
401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	401-1550, d'Estimauville Ave Quebec City, Quebec G1J 0C8
Patrick Bérubé, Gestionnaire Tél. : 418-648-5343 Télec. : 418-648-3790	Patrick Bérubé, Manager Phone : 418-648-5343 Fax : 418-648-3790

MONTREAL – CENTRE DE SERVICES TC	
8-305, boul. René-Lévesque O. Montréal (Québec) H2Z 1X1	8-305, René-Lévesque W. blvd Montreal, Quebec H3B 1X9
Cédric Baumelle, Gestionnaire Tél. : 1-855-842-7042 Télec. : 514-283-6595	Cédric Baumelle, Manager Phone : 1-855-842-7042 Fax : 514-283-6595
Immatriculation Sans frais : 1-877-242-8770	Ship Registry Toll Free : 1-877-242-8770

RIMOUSKI – CENTRE DE SERVICES TC	
180, de la Cathédrale Rimouski (Québec) G5L 5H9	180 de la Cathédrale Rimouski, Quebec G5L 5H9
Robert Fecteau, Gestionnaire Tél. : 418-722-3040 Télec. : 418-722-3332 Sans frais : 1-800-427-4417	Robert Fecteau, Manager Phone : 418-722-3040 Fax : 418-722-3332 Toll-free : 1-800-427-4417

SEPT-ÎLES - CTC	
Case postale 596 701, boul. Laure, bureau 205 Sept-Îles (Québec) G4R 4K7	P.O. Box 596 701 Laure Blvd, suite 205 Sept-Îles, Quebec G4R 4K7
Charles Bhérer, gestionnaire int. Qc. : 418-648-5340 Sept-I. : 418-968-5439 Télec. : 418-296-6680	Charles Bhérer, Manager (int.) Qc. : 418-648-5340 Sept-I. : 418-968-5439 Fax : 418-296-6680

QUÉBEC – INTERVENTION ENVIRONNEMENTALE	
401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	401-1550, d'Estimauville Ave. Quebec City, Quebec G1J 0C8
André Laflamme, Gestionnaire Tél. : 418-648-7481 Cell. : 613-854-3135 Télec. : 418-648-3790	André Laflamme, Manager Phone : 418-648-7481 Cell. : 613-854-3135 Fax : 418-648-3790

QUÉBEC – SÉCURITÉ NAUTIQUE	
Bureau de la sécurité nautique 401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	Office of Boating Safety 401-1550, d'Estimauville Ave Quebec (Quebec) G1J 0C8
Sans frais : 1-800-267-6687	Toll-free : 1-800-267-6687
Sophie Noël, Gestionnaire Tél. : 418-572-5917 Télec. : 418-648-7337	Sophie Noël, Manager Phone 418-572-5917 Fax : 418-648-7337

QUÉBEC – CENTRE DE SERVICES TC	
401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	401-1550, d'Estimauville Ave Quebec City, Quebec G1J 0C8
Denis Cormier, Gestionnaire Tél. : 418-648-3234 Télec. : 418-648-5106	Denis Cormier, Manager Phone : 418-648-3234 Fax : 418-648-5106
Immatriculation Sans frais : 1-877-242-8770	Ship Registry Toll Free : 1-877-242-8770

GASPÉ - CENTRE DE SERVICES TC	
Édifice Frédérica-Giroux 98-1, rue de la Reine Gaspé (Québec) G4X 3B3	Frederica-Giroux Building 98-1 de la Reine Street Gaspé Quebec G4X 3B3
Tél. : 418-368-2444 Télec. : 418-368-7022	Phone : 418-368-2444 Fax : 418-368-7022

PORT-CARTIER - CENTRE DE SERVICES TC	
Centre Transports Canada A l'intérieur du Centre local d'emploi, 2, rue Elie-Rochefort Port-Cartier (Québec) G5B 2N2	Transport Canada Center Inside the Local employment centre 2, rue Elie-Rochefort Port-Cartier (Quebec) G5B 2N2
Tél. : 418-766-2758 Télec. : 418-766-8711	Phone : 418-766-2758 Fax : 418-766-8711

QUÉBEC – CARGAISONS ET PRÉVENTION DE LA POLLUTION	
401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	401-1550, d'Estimauville Ave. Quebec City, Quebec G1J 0C8
Paul Denis Vallée, Gestionnaire Tél. : 418-648-4617 Télec. : 418-648-3790	Paul Denis Vallée, Manager Phone : 418-648-4617 Fax : 418-648-3790

KANGIQSUJUAQ	
Nanuturik Landholding Corporation of Kangirsujuaq Case postale 39 Kangiqsujuaq (Québec) J0M 1K0	Nanuturik Landholding Corporation of Kangirsujuaq P.O. Box 39 Kangiqsujuaq, Quebec J0M 1K0
Tél. : 819-338-1213 Télec. : 819-338-1241 Sans frais : 1-888-649-6292 Satellite : 011-8816-314-342926	Phone : 819-338-1213 Fax : 819-338-1241 Toll-free : 1-888-649-6292 Satellite : 011-8816-314-342926

ÎLES-DE-LA-MADELEINE- CENTRE DE SERVICES TC	
264, chemin du Quai Case postale 1030 Cap-aux-Meules (Québec) G4T 1J4	264 Chemin du Quai P.O. Box 1030 Cap-aux-Meules, Quebec G4T 1J4
Tél. : 418-986-3785 Télec. : 418-986-4751	Phone : 418-986-3785 Fax : 418-986-4751

BAIE-COMEAU - CENTRE DE SERVICES TC	
337, boul. Lasalle, bureau 212 Baie-Comeau (Québec) G4Z 2Z1	337 Lasalle Blvd, suite 212 Baie Comeau, Quebec G4Z 2Z1
Tél. : 418-296-3524 Télec. : 418-296-6680	Phone : 418-296-3524 Fax : 418-296-6680

QUÉBEC – SÛRETÉ MARTIME	
Sûreté maritime 401-1550, av. d'Estimauville Québec (Québec) G1J 0C8	Marine Security 401-1550, d'Estimauville Ave Quebec (Quebec) G1J 0C8
Olivier Vigneault, Gestionnaire Tél. : 418-648-4368	Olivier Vigneault, Manager Phone : 418-648-4368

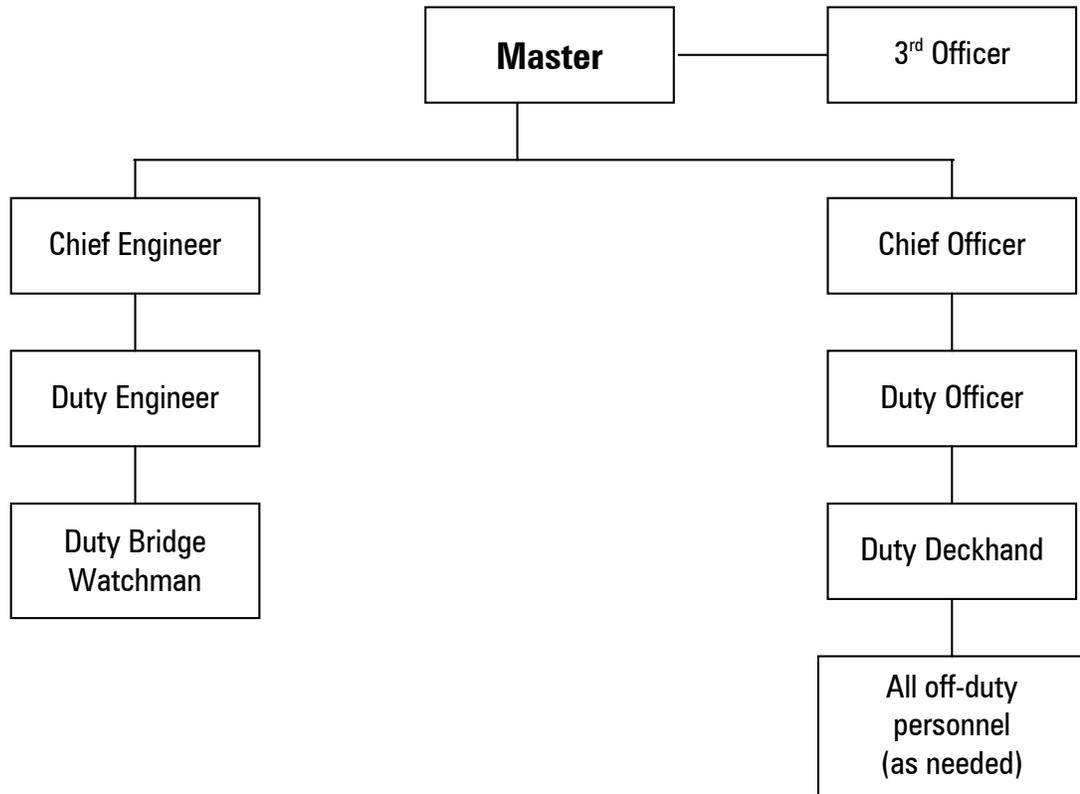
DORVAL – SÛRETÉ MARITIME	
Sûreté maritime 700, Leigh-Capreol, 3 ^e étage Dorval, Québec H4Y 1G7	Marine Security 700 Leigh-Capreol Dorval, Quebec H4Y 1G7
Olivier Vigneault, Gestionnaire Tél. : 514-633-2930	Olivier Vigneault, Manager Phone : 514-633-2930



Shipboard Marine Pollution Emergency Plan

Appendix 4 Oil Pollution Prevention Team

1. Shipboard Oil Pollution Prevention Team Organisation Chart



2. Shipboard Oil Pollution Prevention Team General Responsibilities

The following crew members are in charge in the event of a spill – actual or probable – to bring the accident under control, limit outflows, organize onboard clean-up procedures and determine the additional manpower needed.

2.1 Master

Overall in charge of operation on board dealing with a spill; responsible for all steps to be taken especially for the two main categories – reporting and action. Report incident as required (Chapt. 2,2). Remains as owner's senior representative until relieved by the Fleet Manager, Superintendent or Head Office Representative.

2.2 3rd Officer

Secretary to Master. Transmit and receive reports as requested by Master. Keep log of all events and progress.

2.3 Chief Officer

In charge of deck operation. Keep Master informed and updated on the situation and the results from actions taken to limit outflow.

2.4 Chief Engineer

In charge of bunker operation; should keep the Master informed and updated on the situation and the results from action taken to limit oil outflow.

2.5 Duty Officer

Mobilise deckhands to the best position for keeping escaping oil from running over the vessel's sides. Mobilise fire fighting squad as needed.

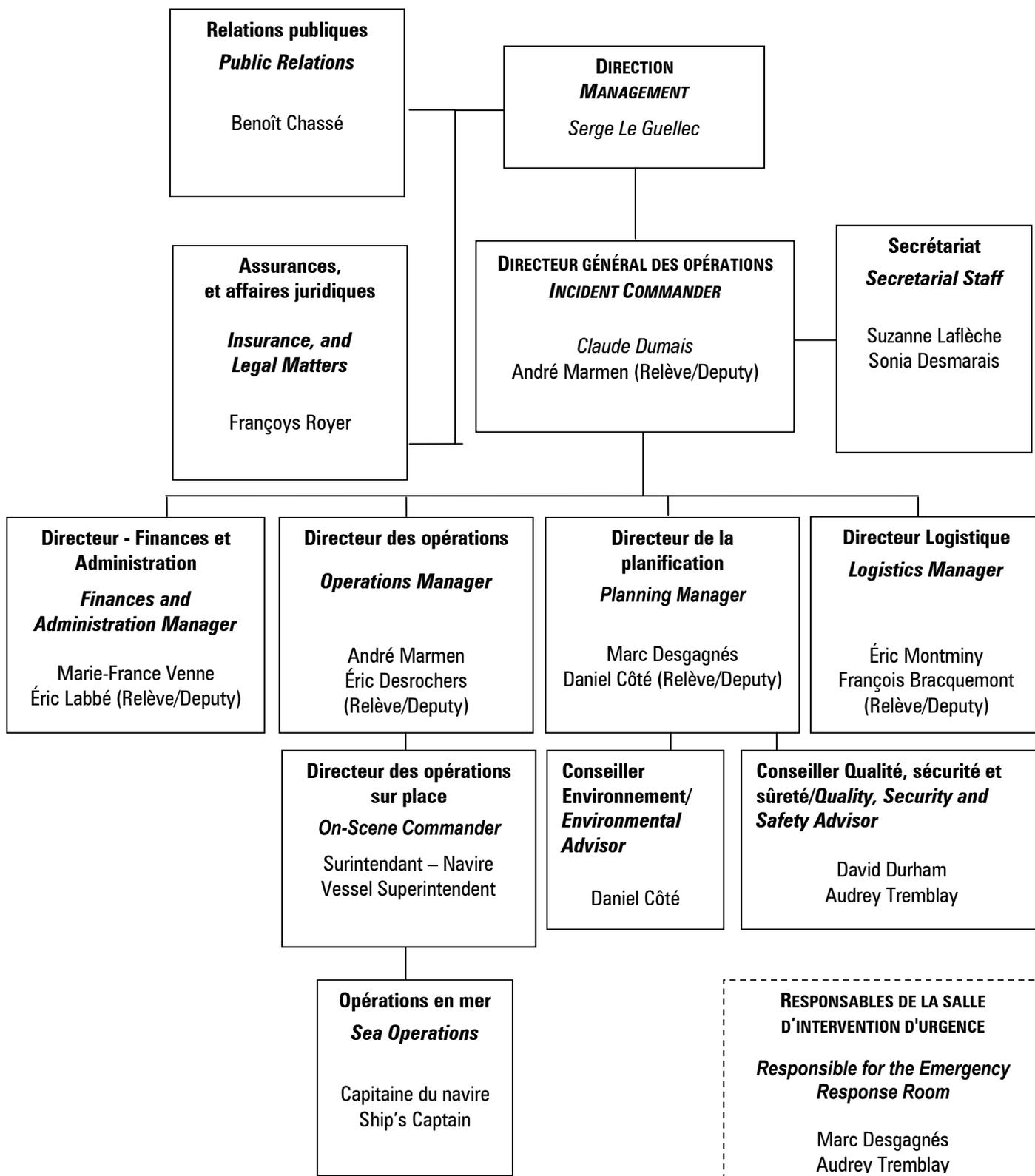
2.6 Duty Engineer

Assist Chief Engineer. Prepare for fire fighting. Ensure sufficient power and water to deck; organize on board clean-up equipment.

2.7 Duty Deckhand

Position sorbent material to prevent any oil from reaching the railing. Commence clean-up by using the on board spill clean-up equipment.

3. Shore Oil Pollution Prevention Team Organisation Chart



4. Shore Oil Pollution Prevention Team General Responsibilities

4.1 Incident Commander

He is the leader of the team and responsible for co-ordination between all parties. He is the main interlocutor of the Master, authorities and various entities. Contacts classification Societies & Shipyards.

4.2 On-Scene Commander

The Shore Operation Manager arranges and provides information for emergency, medical assistance as needed. He provides additional personnel and equipment as required.

4.3 Planning Manager

He is the adviser for safety, security and environmental matters.

He communicates with relatives or manning agency in case of casualties amongst officers and crew members.

4.4 Insurance and Finance Manager

The insurance manager advises on liability and insurance matters. He confers with underwriters and local agents. He consults and requires the advice of P & I Club average adjusters and salvage interface. He is also responsible for all matters relating to finance.

4.5 Logistics Manager

In charge to deliver to the ship the fire fighting and the pollution control equipment as well as the other spares and materials as required by circumstances.

4.6 Public Relations Coordinator

The Public Relation Coordinator as official media spokesman, will maintain a constructive dialogue with the news media, make available to the press relevant information about any on-going operation, supply additional relevant background information, prepare and distribute press releases, arrange press conferences as appropriate and assess the need to contact a public relations firm.

4.7 Secretaries

The secretaries and the operators are on duty during working hours. They are responsible for the ship documentation and will provide the Emergency Response Team with any necessary plans, notices and so forth.

5. Organisation

5.1 Permanence

The Emergency Response Team is operational on a non-stop 24-hour basis.

5.1 Emergency Response Room

A fully-equipped Emergency Response Room is at the disposal of the Emergency Response Team.

5.2 Communication equipment

The equipment listed below is available in the main office or in the emergency response room:

- Main switchboard phone lines plus dedicated phone lines
- Fax machines
- Computers with access to Internet
- Electronic board, flip charts, etc.

5.3 Documentation

- Vessels detailed plans
- Nautical documentation
- Company Contingency Plans
- SOPEP
- VRP
- SERS
- Emergency Response Team Handbook



Shipboard Marine Pollution Emergency Plan

Appendix 5 Operational Spills Check list

A. Operational oil/NLS spill response check list

This check list is intended for response guidance when dealing with an oil/NLS spill during bunkering operations. Responsibility for action to deal with other emergencies which result from the oil/NLS spill will be as laid down in existing plans, such as the Emergency Muster List.

<u>ACTION TO BE CONSIDERED</u>	<u>ACTION TAKEN</u>		<u>PERSON RESPONSIBLE</u>
IMMEDIATE ACTION			
Sound emergency alarm	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Person discovering incident
Initiate vessel emergency response procedures	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
INITIAL RESPONSE			
Cease bunkering operations	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
Close manifold valves	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
Stop air intake to accommodation	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
Stop non-essential air intake to engine room	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Engineer on duty
Locate source of leakage	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
Commence clean-up procedures using absorbents and permitted solvents	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Comply with reporting procedures	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
SECONDARY RESPONSE			
Assess fire risk from release of flammable substances	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Reduce oil level in relevant tank by dropping oil into an empty of slack tank	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
Drain affected line to empty or slack tank	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
Prepare pumps for transfer of oil, to other tanks or to shore or lighter	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
FURTHER RESPONSE			
Pump water into leaking tank to create water cushion and prevent further oil loss	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
If leakage is below waterline, arrange divers for further investigation	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Calculate stresses/stability. If necessary, request shore assistance with this	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Transfer bunkers to alleviate high stresses	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Stow residues from clean-up carefully prior to disposal			Officer on duty

B. Casualty oil/NLS spill response check list

This check list is intended for response guidance when dealing with an oil/NLS spill following a casualty. Responsibility for action to deal with the casualty itself will be as laid down in existing plans, such as the Emergency Muster List.

The term “navigator” refers to the officer responsible for passage planning and voyage analysis, usually the second officer.

<u>ACTION TO BE CONSIDERED</u>	<u>ACTION TAKEN</u>		<u>PERSON RESPONSIBLE</u>
IMMEDIATE ACTION			
Sound emergency alarm	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
Initiate vessel emergency response procedures	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
INITIAL RESPONSE			
Stop air intake to accommodation	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
Stop non-essential air intake to engine room	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Engineer on duty
Assess further danger to ship or personnel such as capsize or immediate sinking	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Cease all cargo and other non-essential operations	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
Assess whether oil/NLS has actually been spilt	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Is there a probability that it will be spilt	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Comply with reporting procedures	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief engineer
Sound oil/NLS compartments			Chief officer
Sound around vessel if aground			Master
Request outside assistance	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Counter excessive list	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Officer on duty
Contain spilt oil/NLS	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Commence clean-up procedures using absorbents and permitted solvents	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
FURTHER RESPONSE			
Assess fire risk from release of flammable substances	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Consider evacuation of non-essential crew	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Assess likelihood of further damage to vessel of cargo	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Calculate stresses/stability. If necessary, request shore assistance with this	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Transfer cargo or bunkers to alleviate high stresses	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief officer
Request assistance or escort to port of refuge	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Manoeuvre upwind of spill/away from land	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Master
Assess whether tide will worsen situation	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Navigator
Obtain weather forecast and assess effect	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Navigator
Prepare pumps for transfer of oil/NLS to other tanks or to shore or lightening vessel	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Chief Engineer



Shipboard Marine Pollution Emergency Plan

Appendix 6 Contingency Documents *M/T Dara Desgagnés*

List of Contingency Documents enclosed hereafter:

- Main particulars of vessel;
- Drawings
 - Cargo Piping, sheet 1 of 2 (996.51.31)
 - Schematic Cargo and Stripping Lines, sheet 2 of 2 (996.51.31)
 - Diagram of Fuel Bunkering (996.41.13)
 - General Arrangement Plan, Side (996.31.01)
 - General Arrangement Plan, Stowage (996.31.02)
 - General Arrangement Plan, Upper Deck (996.31.05)
 - Tank Plan (100.25.01b)
 - Vessel Capacity Plan (996.24.04)
- Salvage Agreement (LOF 2000, US Open Form))



Shipboard Marine Pollution Emergency Plan

Appendix 6 Contingency Documents *M/T Dara Desgagnés*

List of Contingency Documents enclosed hereafter:

- Main particulars of vessel;
- Drawings
 - Cargo Piping, sheet 1 of 2 (996.51.31)
 - Schematic Cargo and Stripping Lines, sheet 2 of 2 (996.51.31)
 - Diagram of Fuel Bunkering (996.41.13)
 - General Arrangement Plan, Side (996.31.01)
 - General Arrangement Plan, Stowage (996.31.02)
 - General Arrangement Plan, Upper Deck (996.31.05)
 - Tank Plan (100.25.01b)
 - Vessel Capacity Plan (996.24.04)
- Salvage Agreement (LOF 2000, US Open Form))



VESSEL PARTICULARS

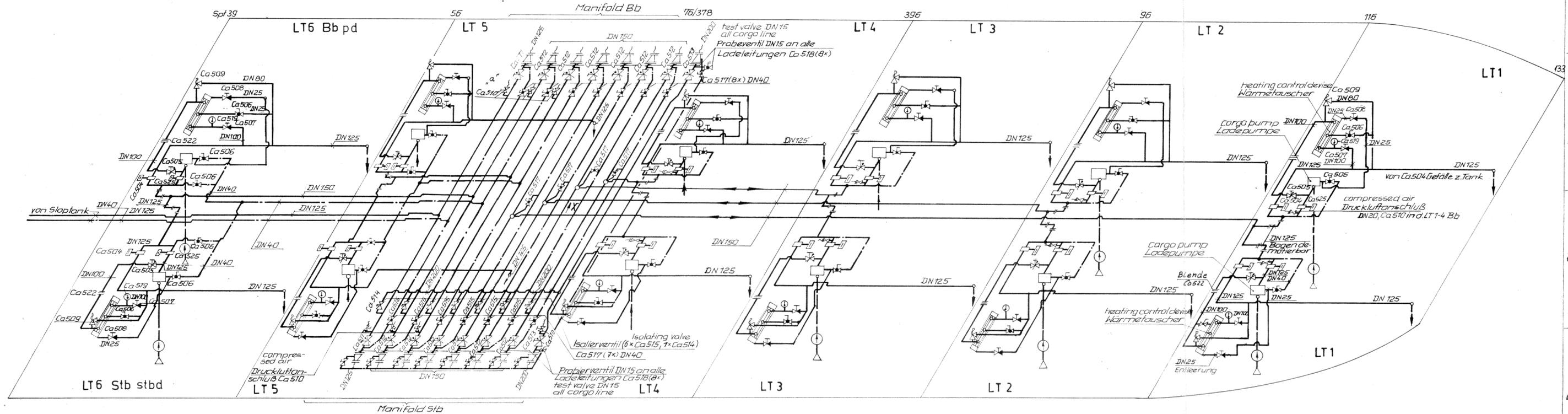
GENERALITIES

1. SHIP'S NAME : M/V *Dara Desgagnés*
2. SHIP TYPE: Oil/Chemical Tanker
3. PORT OF REGISTRY: Québec
4. OWNER: Transport Desgagnés inc.
5. INTERNATIONAL CALL SIGN: VCBW
6. FLAG: Canadian
7. GROSS TONNAGE/ Deadweight: 6,262 / 10,511
8. IMO NUMBER: 9040089
9. VESSEL DIMENSIONS:
 - Length Overall: 123.72 M.
 - Breadth (Moulded): 17.70 M.
 - Draft – Summer DWT: 8.36 M.
10. KEEL LAID: July 24th, 1992
11. DELIVERY: January 1st, 1993

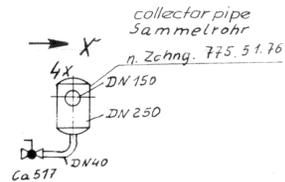
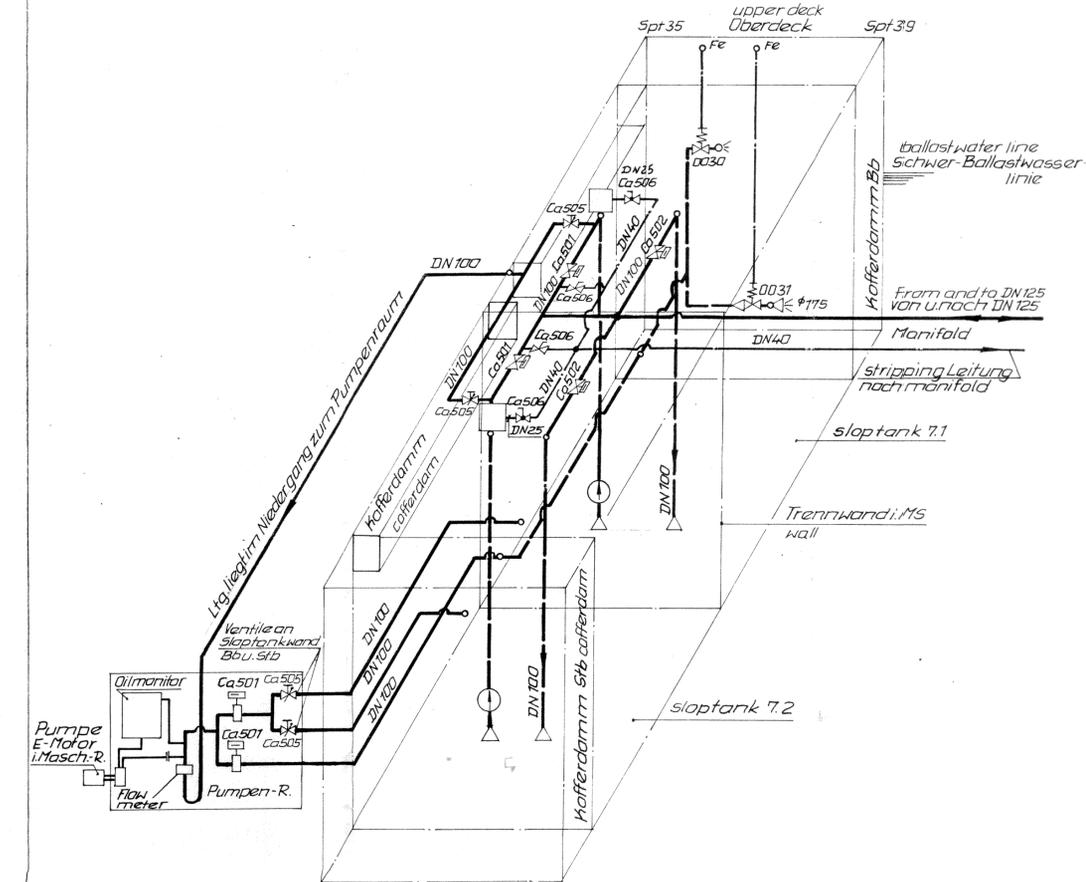
This plan should be kept available for inspection on request by a port state control officer or by a port state quarantine officer.

Revision 0 25 October 2012	Verified by	Environmental Advisor	Approved by	Quality, Safety, Security and Environment Manager
----------------------------------	-------------	-----------------------	-------------	--

Cargotanks 1-6 Bb.u. Stb.
Schaltung auf Oberdeck
upper deck pd and stbd



Slop tanks Bb.u. Stb



3.8
56

Niro-Leitungen

DN 25	-	33,7	x	1,6
40	-	44,5	x	2,0
50	-	60,3	x	2,0
80	-	88,9	x	2,0
100	-	114,3	x	2,0
125	-	139,7	x	2,3
150	-	168,3	x	2,6
200	-	219,1	x	2,9
250	-	273,	x	4,0

- Ladeleitung - cargo line
- Restleitung (strippingleitung)
- Leitungen in den Tanks-pipe line to bzw. Kofferdamm tanks and cofferdam

Bemerkungen u. Zeichenerklärungen siehe Bl.1 PTD 1

Q 142	24.692	Niro		COT 12,5		Chem. Tanker		Auftr. Nr. 123-126	
Werkstoff	1992	Tag	Name	Benennung	Schema der Lade- und Strippingleitungen cargo- and strippingline				
Niro 14571	12.6	12.6	Niro						
Massen kg	12.6	12.6	Niro						
MTW Schiffswerft GmbH Niro		T.M.2		Zeichnungs-Nr. 996.51.31					
Schiffswerft Niro		T.M.2		Blatt					
Erstellt durch:		Ersetzt durch:		Bl.-Zahl 2					



LLOYD'S STANDARD FORM OF SALVAGE AGREEMENT

(Approved and Published by the Council of Lloyd's)

NO CURE – NO PAY

<p>1 Name of the salvage Contractors:</p> <p>(referred to in this agreement as “the Contractors”)</p>	<p>2 Property to be salvaged:</p> <p>The vessel:</p> <p>her cargo freight bunkers stores and any other property thereon but excluding the personal effects or baggage of passengers master or crew (referred to in this agreement as “the property”)</p>
<p>3 Agreed place of safety:</p>	<p>4 Agreed currency of any arbitral award and security (if other than United States dollars)</p>
<p>5 Date of this agreement</p>	<p>6 Place of agreement</p>
<p>7 Is the Scopic Clause incorporated into this agreement? State alternative: Yes/No</p>	
<p>8 Person signing for and on behalf of the Contractors</p> <p>Signature:</p>	<p>9 Captain</p> <p>or other persons signing for an on behalf of the property</p> <p>Signature:</p>

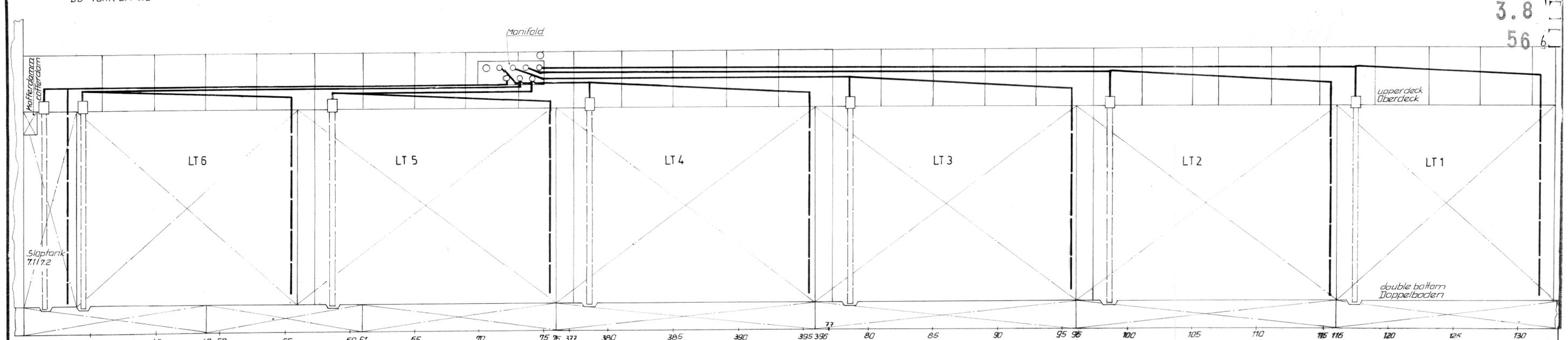
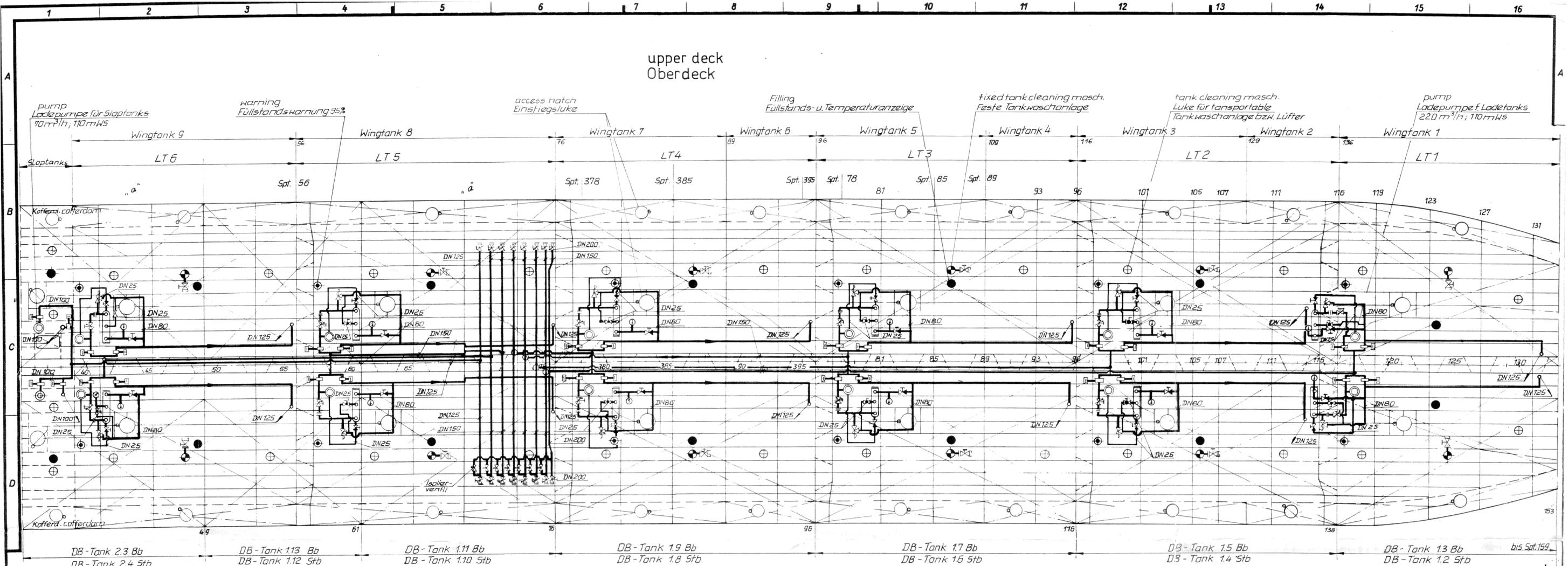
- A Contractors' basic obligation:** The Contractors identified in Box 1 hereby agree to use their best endeavours to salvage the property specified in Box 2 and to take the property to the place stated in Box 3 or to such other place as may hereafter be agreed. If no place is inserted in Box 3 and in the absence of any subsequent agreement as to the place where the property is to be taken the Contractors shall take the property to a place of safety.
- B Environmental protection:** While performing the salvage services the Contractors shall also use their best endeavours to prevent or minimise damage to the environment.
- C Scopic Clause:** Unless the word “No” in Box 7 has been deleted this agreement shall be deemed to have been made on the basis that the Scopic Clause is not incorporated and forms no part of this agreement. If the word “No” is deleted in Box 7 this shall not of itself be construed as a notice invoking the Scopic Clause within the meaning of sub-clause 2 thereof.

- D Effect of other remedies:** Subject to the provisions of the International Convention on Salvage 1989 as incorporated into English law (“the Convention”) relating to special compensation and to the Scopic Clause if incorporated the Contractors services shall be rendered and accepted as salvage services upon the principle of “no cure - no pay” and any salvage remuneration to which the Contractors become entitled shall not be diminished by reason of the exception to the principle of “no cure - no pay” in the form of special compensation or remuneration payable to the Contractors under a Scopic Clause.
- E Prior services:** Any salvage services rendered by the Contractors to the property before and up to the date of this agreement shall be deemed to be covered by this agreement.
- F Duties of property owners:** Each of the owners of the property shall cooperate fully with the Contractors. In particular:
- i the Contractors may make reasonable use of the vessel’s machinery gear and equipment free of expense provided that the Contractors shall not unnecessarily damage abandon or sacrifice any property on board;
 - ii the Contractors shall be entitled to all such information as they may reasonably require relating to the vessel or the remainder of the property provided such information is relevant to the performance of the services and is capable of being provided without undue difficulty or delay;
 - iii the owners of the property shall co-operate fully with the Contractors in obtaining entry to the place of safety stated in Box 3 or agreed or determined in accordance with Clause A.
- G. Rights of termination:** When there is no longer any reasonable prospect of a useful result leading to a salvage reward in accordance with Convention Articles 12 and/or 13 either the owners of the vessel or the Contractors shall be entitled to terminate the services hereunder by giving reasonable prior written notice to the other.
- H Deemed performance:** The Contractors’ services shall be deemed to have been performed when the property is in a safe condition in the place of safety stated in Box 3 or agreed or determined in accordance with clause A. For the purpose of this provision the property shall be regarded as being in safe condition notwithstanding that the property (or part thereof) is damaged or in need of maintenance if (i) the Contractors are not obliged to remain in attendance to satisfy the requirements of any port or harbour authority, governmental agency or similar authority and (ii) the continuation of skilled salvage services from the Contractors or other salvors is no longer necessary to avoid the property becoming lost or significantly further damaged or delayed.
- I Arbitration and the LSSA Clauses:** The Contractors remuneration and/or special compensation shall be determined by arbitration in London in the manner prescribed by Lloyds Standard Salvage and Arbitration Clauses (“the LSSA Clauses”) and Lloyd’s Procedural Rules. The provisions of the LSSA Clauses and Lloyd’s Procedural Rules are deemed to be incorporated in this agreement and form an integral part hereof. Any other difference arising out of this agreement or the operations hereunder shall be referred to arbitration in the same way.
- J Governing law:** This agreement and any arbitration hereunder shall be governed by English law.
- K Scope of authority:** The Master or other person signing this agreement on behalf of the property identified in Box 2 enters into this agreement as agent for the respective owners thereof and binds each (but not the one for the other or himself personally) to the due performance thereof.
- L Inducements prohibited:** No person signing this agreement or any party on whose behalf it is signed shall at any time or in any manner whatsoever offer provide make give or promise to provide or demand or take any form of inducement for entering into this agreement.

IMPORTANT NOTICES

- 1 Salvage security.** As soon as possible the owners of the vessel should notify the owners of other property on board that this agreement has been made. If the Contractors are successful the owners of such property should note that it will become necessary to provide the Contractors with salvage security promptly in accordance with Clause 4 of the LSSA Clauses referred to in Clause I. The provision of General Average security does not relieve the salvaged interests of their separate obligation to provide salvage security to the Contractors.
- 2 Incorporated provisions.** Copies of the Scopic Clause; the LSSA Clauses and Lloyd’s Procedural Rules may be obtained from (i) the Contractors or (ii) the Salvage Arbitration Branch at Lloyd’s, One Lime Street, London EC3M 7HA.

Telephone + 44(0)20 7327 5408
Fax +44(0)20 7327 6827
Email lloyds-salvage@lloyds.com
www.lloydsagency.com



remarks

Filling warning 95% over flowing
 Filling and temperature
 fixed tank cleaning masch.
 transport washing masch.
 blind
 cargo pumps
 access to cargo tanks
 * to wingtank and cofferdam
 safety valve
 stop cock
 ball valve
 isolating valve

Zeichenerklärung

- Füllstandswarnung 95% Füllung
- Füllstands- u. Temperaturanzeige
- feste Tankwaschanlage
- ⊕ Dampftransp. Tankwaschmasch. u. Lüfter
- ⊖ Blende
- ⊙ Ladepumpe
- Einstieg zu den Ladetanks
- Einstieg z.d. Wing tanks bzw. Kofferdamm
- ⊗ Sicherheitsventil
- ⊗ Absperrklappe
- ⊗ Kugelhahn
- ⊗ Isolierventil

shut-off non-return valve
 absperrbares Rückschlagventil
 Druckluftventil mit Schlauchansch.
 compressed-air valve

Cargo Oil Pumps

Type:
 SD 125 für Lade- u. Wingtanks
 SD 100 für Slop tanks
 Frank Mohr Norwegen
 Betriebsdruck: 11.0 bar
 Probedruck: 16.5 bar

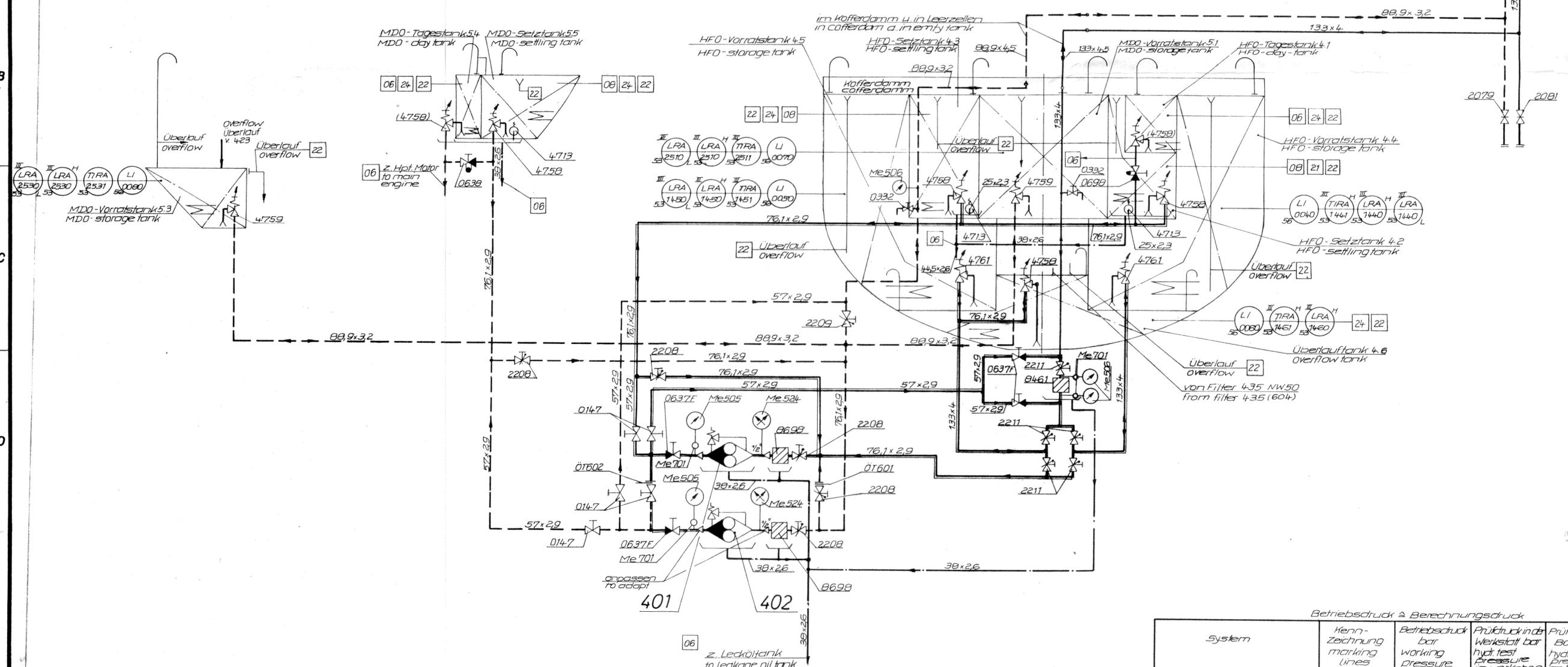
Strippingleitungen, Druckluftanschluß
 u. Slop tankentleerung siehe Bl. 2
 P.T.O. 2

Niro-pipe/line
 Niro-Rohrleitungs-
 abmessungen
 DN 25 - 33,7 x 1,6
 40 - 44,5 x 2,0
 50 - 60,3 x 2,0
 80 - 88,9 x 2,0
 100 - 114,3 x 2,0
 125 - 139,7 x 2,3
 150 - 168,3 x 2,6
 200 - 219,1 x 2,9
 250 - 273 x 4,0

123-126			COT-10	
1992	Tag	Name	Benennung	Maßstab 1:100
Erth	23.10.	Sty	Schema d. Ladeleitungen	
Gez.			Schema of cargo line	
Stgepr.				
Geschr.				
MTW-Schiffbau GmbH Nismar			Zeichn. Nr. 996.51.31	Bl. Z. 2 Bl. Nr. 1

Tank 5.3, 5.4, 5.5 v vorne gesehen
tank 5.3, 5.4, 5.5 seen from front

Spt 30 von achtern gesehen
fr. 30 seen from aft



Bemerkungen:

1. Sinnbilder und allgemeine Bemerkungen siehe Zeichn. Nr. 996.41.21
2. Meßstellen (Zeichen ⊖ u. ⊙) siehe Liste der Meßstellen 800.62.35
3. Technische Daten der Maschinen u. Apparate siehe Zeichn. Nr. 996.41.02
4. Werkstoffe: Röhre St geschweißt
Armaturen an Tanks: GS/Niro oder GGK/Niro
in Leitungen: GGL/Niro
GT/Niro
5. Anschlußzeichnungen:

06	Schema Brennstoff betriebssystem Z.Nr. 996.41.12
22	Schema Luft-Feil- u. Überlaufrohre Z.Nr. 996.51.25 u. 26
24	Schema Tankheizung Z.Nr. 996.51.01
08	Schema Brennstoffreinigung Z.Nr. 996.41.14

Remarks:

1. Symbols and general remarks see drw. N° 996.41.21
2. measuring points (characters ⊖ a. ⊙) see list of measuring points drw. N° 800.62.35
3. techn. data of machines a. devices see drw. N° 996.41.02
4. materials: pipe
fittings on tanks: cast steel / stainless steel
modular cast iron / stainless steel
in lines: cast iron laminar / stainless steel
malleable cast iron / stainless steel
5. drawing of connection:

06	diagramm of fuel service lines drw. N° 996.41.12
22	diagramm of vent, sounding and overflow pipes drw. N° 996.51.25 u. 26
24	diagramm of tank heating drw. N° 996.51.01
08	diagramm of fuel cleaning drw. N° 996.41.14

402	1	MDO- und Reserve HFO-Förderpumpe MDO- and stand by HFO-delivery pump	10 m³/h 3 bar
401	1	HFO-Förderpumpe HFO-delivery pump	10 m³/h 3 bar
Pos	sick	Benennung	Bemerkung
Qty	item	designation	remarks

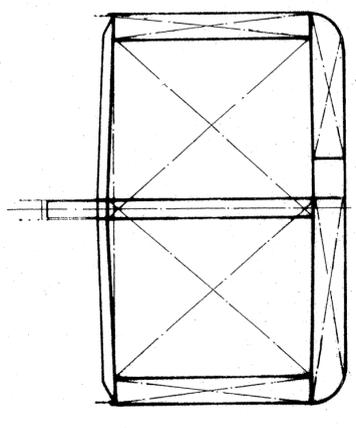
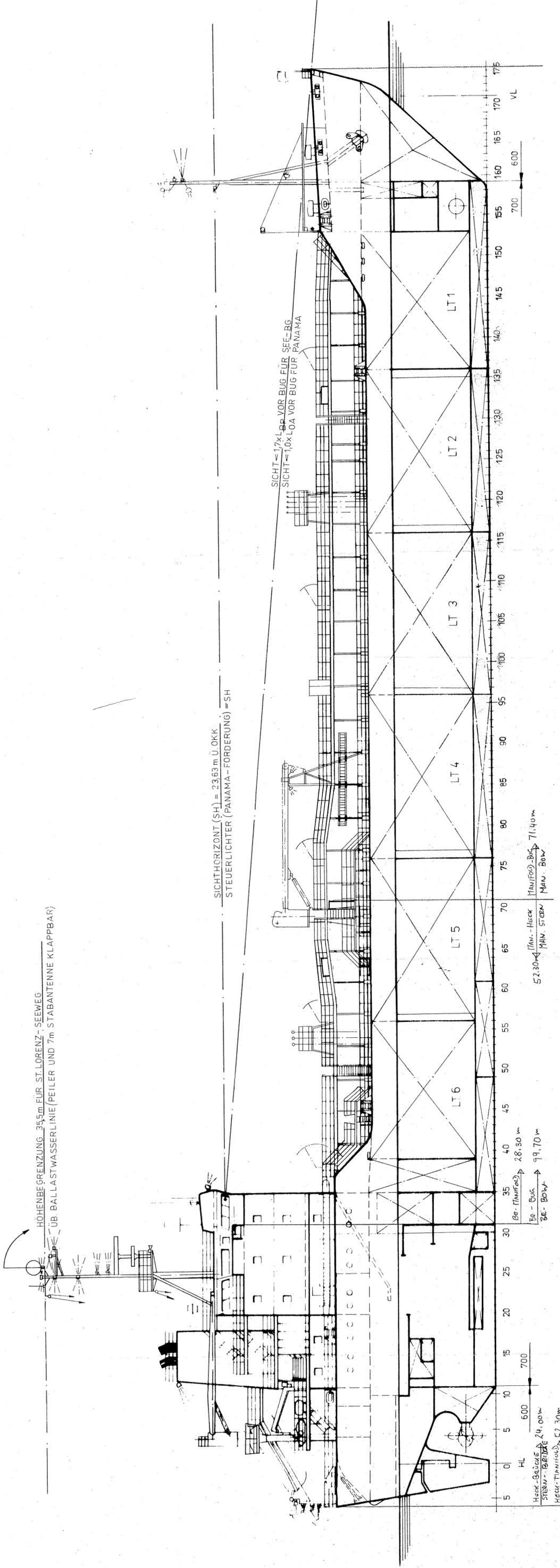
Betriebsdruck & Berechnungsdruck

System	Hein-Zeichnung marking lines	Betriebsdruck bar working pressure	Prüfdruck in der Werkstatt bar hydr. test pressure in workshop	Prüfdruck an Bord bar hydr. test pressure on board vessel
HFO-Übernahmeline HFO-bunkering line	———	6	9	9
HFO-Umförderleitung HFO-transfer line	———	3,5	—	5,5
MDO-Übernahmeline MDO-bunkering lines	———	6	9	9
MDO-Umförderleitung MDO-transfer line	———	3,5	—	5,5
Leckölleitungen Leakage oil lines	———	0	—	—

AB	A-Mittlg	Tag	Name	AB	A-Mittlg	Tag	Name
COT 10/125				121-126			
1991	Tag	Name	Benennung	Schema		Maßstab	
Entw.	M.10.	K.10.11	Brennstoffübernahmesystem Diagram of fuel bunkering	996.41.13		0,35 r/f	
Gez.	18.10.	K.10.11					
Gepr.	15.11.	K.10.11					
Gepr.	43.3.	G.10.11	Zeichn. Nr.		Liste Bl. Z.		
MTW GmbH Wismar				Bl. 12	Hierzu Bl.		Bl. Nr.

HAUPTDATEN / MAIN PARTICULARS

- LÄNGE ÜBER ALLES ca. 124,00m
- LENGHT OVERALL abt. 117,60m
- LÄNGE ZWISCHEN DEN LÖTEN 17,70m
- LENGHT BETWEEN PERPENDICULARS 10,60m
- BREITE AUF SPANTEN 8,36m
- MOULDED BREADTH 8,36m
- SEITENHÖHE OBERDECK ÜBER BASIS 10,500 tdw
- DEPTH TO UPPER DECK ABOVE BASE LINE abt. 10810 m³
- TIEFGANG ENTWURF abt. 3700kW, 210min⁻¹
- DRAUGHT DESIGNED 12,5 kn
- FREIBORDTIEFGANG (SOMMER OKK) 16 PERSONEN
- SUMMER FREEBOARD DRAUGHT REP. TO BL. PERSONS
- TRAGFÄHIGKEIT BEI FREIBORDTIEFGANG 2 PERSONS
- DEADWEIGHT AT FREEBOARD DRAUGHT 1 PERSON
- LADEKAPAZITÄT / NETTOKAPAZITÄT
- CARGO OIL TANKS / NET LOADING CAPACITY
- HAUPTMASCHINENLEISTUNG
- MAIN ENGINE OUTPUT
- GESCHWINDIGKEIT
- SERVICE SPEED
- BESATZUNG
- CREW
- EIGNER
- OWNER
- LOTSE
- PILOT



Tag	Name	Tag	Name	Tag	Name
1992	Tag	1992	Tag	1992	Tag
AUFTRAGS-NR 123-126 CHEMICAL OIL TANKER TYP: COT 125					
Benennung: GENERAL PLAN SEITENSICHT GENERAL ARRANGEMENT PLAN SIDE VIEW					
Masse kg					
MTW-Schiffswert 996.31.01					
GmbH Wismar					
Ersatzf. Nr. 097/01/2000 BOB'S COPY CENTRE LTD.					

HÖHENGRENZUNG 3,5m FÜR ST. LORENZ- SEEWEG
ÜB BALLASTWASSERLINIE (PEILER UND 7m STABANTENNE KLAPPBAR)

SICHTHORIZONTI (SH) = 23,63m Ü. OKK
STEUERLICHTER (PANAMA-FÖRDERUNG) = SH

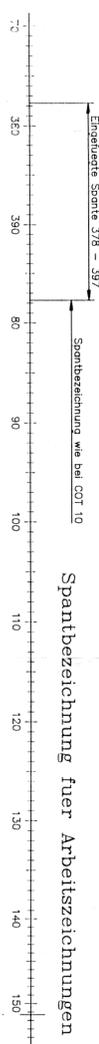
SICHT=1,7x LOA VOR BUG FÜR SEE=BG
SICHT=1,0x LOA VOR BUG FÜR PANAMA

52,30m (Min.-Heck)
MAN. STEB
MAN. BOB
71,40m

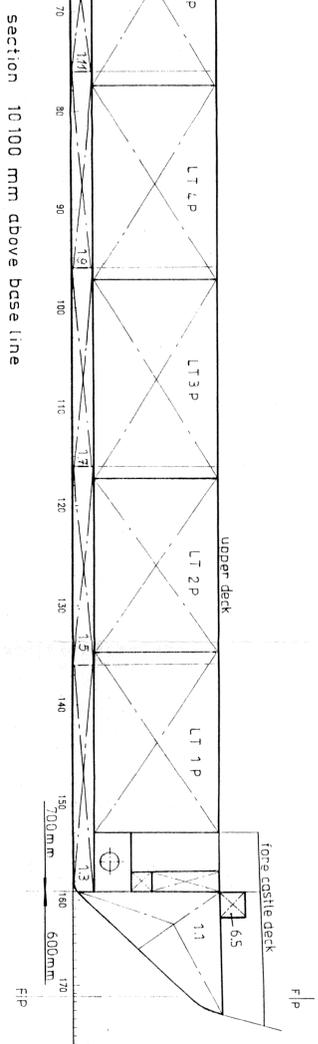
600 (Manuf)
2,8,30m
99,70m

24,00m
52,30m
STERN - PLAN

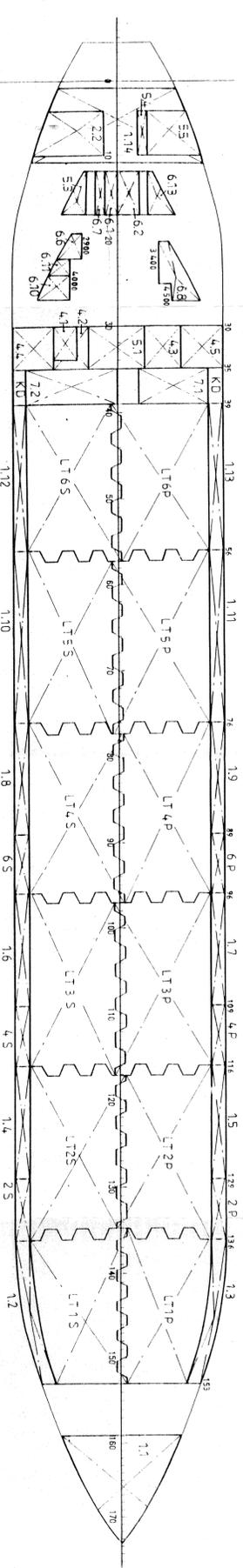
Section on centre line



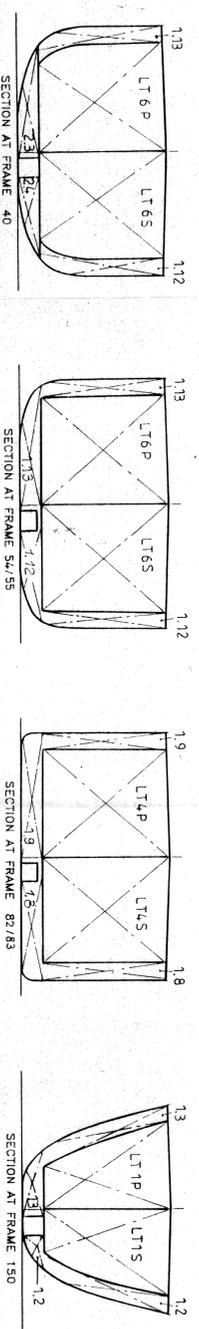
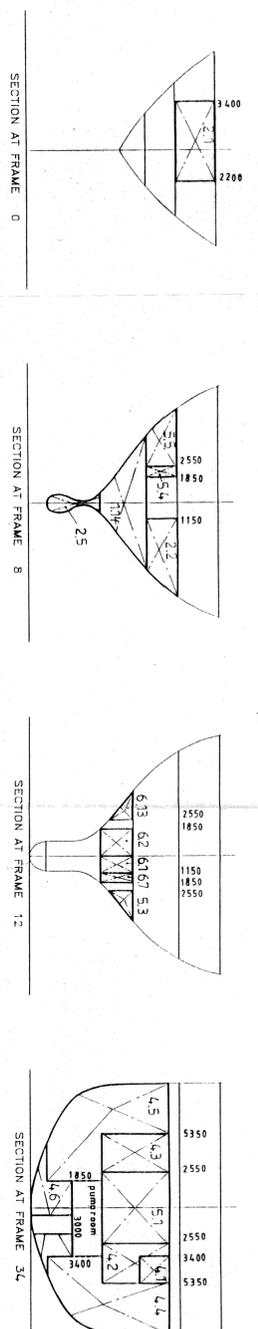
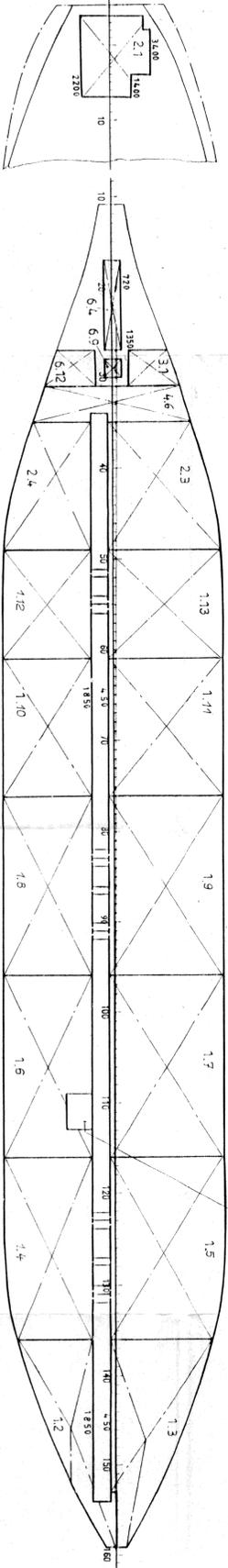
Section 10 100 mm above base line



Section below poop



Section below inner bottom



Tankprüfung:
- Alle LT für jedes Schiff mit Wasserdruk entsprechend Tabelle.
- Alle Ballasttanks mit Luftdruck 0,2 bar.
- Nach Fertigstellung Prüfung mittels Überlauf durch Wasser.
- Alle Betriebsstanks mit Luftdruck 0,2 bar.
- Endprüfung durch Befüllen mit Medium während der Bebungung des Schiffes.

tank test:
- With water pressure corresponding to the table for all cargo tanks for each ship.
- With 0,2 bar compressed air for all ballast water tanks.
- After completion tank test by means of overflow with water.
- With 0,2 bar compressed air for all service tanks.
- During bunkering of the ship the final tank test will be done tank filling with medium.

TANK NO.	DESIGNATION	MEDIUM	POSITION	RANGE OF FRAME	GROSS VOLUME	NET VOLUME	CENTRE OF GRAVITY ABOVE BASE	LONGITUDINAL GRAVITY	OVERFLOW ABOVE TANK TOP	W-WATER LEVEL ABOVE TANK TOP
LT1P/LT1S	CARGO OIL TANK 1P/1S	CHEMICAL OIL	PORT/STBD	136 - 153	688 / 698	653 / 693	6,42	112,6	500	W 2900
LT2P/LT2S	CARGO OIL TANK 2P/2S	CHEMICAL OIL	PORT/STBD	116 - 136	921 / 921	914 / 914	6,18	87,1	—	W 2875
LT3P/LT3S	CARGO OIL TANK 3P/3S	CHEMICAL OIL	PORT/STBD	96 - 116	988 / 988	980 / 980	6,17	73,6	—	W 2875
LT4P/LT4S	CARGO OIL TANK 4P/4S	CHEMICAL OIL	PORT/STBD	76 - 96	988 / 988	980 / 980	6,17	59,6	—	W 2875
LT5P/LT5S	CARGO OIL TANK 5P/5S	CHEMICAL OIL	PORT/STBD	56 - 76	988 / 988	980 / 980	6,17	45,6	—	W 2875
LT6P/LT6S	CARGO OIL TANK 6P/6S	CHEMICAL OIL	PORT/STBD	36 - 56	887 / 887	880 / 880	6,19	32,4	—	W 2875
1.1	FOREPEAK	BALLAST WATER	CENTRE LINE	159 - 174	193	184	8,08	112,6	500	W 2900
1.2	BALLAST WATER TANK	BALLAST WATER	STBD	136 - 159	197	193	4,51	99,9	290	W 2900
1.3	BALLAST WATER TANK	BALLAST WATER	PORT	136 - 159	215	200	3,84	100,0	290	W 2900
1.4	BALLAST WATER TANK	BALLAST WATER	STBD	116 - 136	241	236	2,98	85,9	290	W 2900
1.5	BALLAST WATER TANK	BALLAST WATER	PORT	116 - 136	289	284	2,61	86,1	290	W 2900
1.6	BALLAST WATER TANK	BALLAST WATER	STBD	96 - 116	242	237	2,97	72,0	290	W 2900
1.7	BALLAST WATER TANK	BALLAST WATER	PORT	96 - 116	299	293	2,55	72,3	290	W 2900
1.8	BALLAST WATER TANK	BALLAST WATER	STBD	76 - 96	251	246	2,89	58,1	290	W 2900
1.9	BALLAST WATER TANK	BALLAST WATER	PORT	76 - 96	299	293	2,55	58,3	290	W 2900
1.10	BALLAST WATER TANK	BALLAST WATER	STBD	56 - 76	285	280	3,44	43,9	290	W 2900
1.11	BALLAST WATER TANK	BALLAST WATER	PORT	56 - 76	301	295	3,47	46,0	290	W 2900
1.12	BALLAST WATER TANK	BALLAST WATER	STBD	36 - 61	219	214	3,94	34,3	290	W 2900
1.13	BALLAST WATER TANK	BALLAST WATER	PORT	36 - 61	248	243	3,57	34,7	290	W 2900
1.14	BALLAST WATER TANK	BALLAST WATER	CENTRE LINE	1 - 11	85	82	7,44	4,1	5650	W 5650
2.1	DRINKING WATER TANK	DRINKING WATER	CENTRE LINE	-4 - 7	93,7	93,8	12,37	0,7	500	W 2900
2.2	CONDENSATE TANK	FRESH WATER	STBD	4 - 10	34,5	33,8	9,88	4,3	3500	W 3500
2.3	TECHNICAL FRESH WATER TANK	TECHNICAL FRESH WATER	PORT	35 - 49	103,3	103,2	0,85	28,8	10220	W 10220
2.4	TECHNICAL FRESH WATER TANK	TECHNICAL FRESH WATER	STBD	35 - 49	71,7	70,3	0,90	29,0	10220	W 10220
2.5	AFTERPEAK	TECHNICAL FRESH WATER	CENTRE LINE	6 - 11	12,2	12,0	3,07	5,8	9150	W 9150
3.1	COOLING WATER TANK	COOLING WATER	PORT	27 - 31	5,5	5,4	1,18	18,8	12335	W 12335
3.2	COOLING WATER TANK	COOLING WATER	CENTRE LINE	10 - 11	1,5	1,5	2,90	6,3	10700	W 10700
4.1	H.F.O. DAILY SUPPLY TANK	HEAVY FUEL OIL	STBD	30 - 34	12,0	11,8	9,10	21,3	500	W 2900
4.2	H.F.O. SETTLING TANK	HEAVY FUEL OIL	STBD	30 - 35	31,1	30,5	7,38	22,0	-50	W 2900
4.3	H.F.O. SETTLING TANK	HEAVY FUEL OIL	PORT	30 - 35	48,5	47,5	7,33	21,7	-50	W 2900
4.4	H.F.O. STORAGE TANK	HEAVY FUEL OIL	STBD	30 - 35	110,3	108,1	5,86	21,7	-50	W 2900
4.5	H.F.O. STORAGE TANK	HEAVY FUEL OIL	PORT	30 - 35	130,4	128,0	5,47	21,7	-50	W 2900
4.6	H.F.O. OVERFLOW TANK	HEAVY FUEL OIL	CENTRE LINE	31 - 35	51,4	50,4	1,46	22,0	11400	W 11400
5.1	W.D.O. STORAGE TANK	MARINE DIESEL FUEL OIL	CENTRE LINE	30 - 35	78,5	77,0	7,86	21,8	-50	W 2900
5.3	W.D.O. STORAGE TANK	MARINE DIESEL FUEL OIL	STBD	12 - 17	16,8	16,5	6,66	9,2	1000	W 2900
5.4	W.D.O. DAILY SUPPLY TANK	MARINE DIESEL FUEL OIL	PORT	4 - 10	5,5	5,4	9,80	4,2	1000	W 2900
5.5	W.D.O. SETTLING TANK	MARINE DIESEL FUEL OIL	PORT	4 - 10	23,4	22,9	9,92	4,4	-50	W 2900
6.1	CYLINDER OIL TANK	CYLINDER OIL	STBD	12 - 17	9,5	9,3	6,43	9,1	2800	W 2800
6.2	LUBRICATING OIL TANK	LUBE OIL	PORT	12 - 17	12,4	12,2	6,80	8,9	2800	W 2800
6.3	LUBR. OIL. AUX. DIESEL	LUBE OIL	PORT	14 - 17	2,8	2,7	5,83	9,6	4000	W 4000
6.4	LUBRICATING OIL CIRCUL. TANK	LUBE OIL	CENTRE LINE	18 - 17	6,6	6,5	1,36	14,3	9210	W 10000
6.5	HYDRAULIC OIL DRAIN TANK	HYDRAULIC OIL	CENTRE LINE	159 - 182	4,5	4,4	11,50	111,1	2500	W 2500
6.6	USED OIL TANK	USED OIL	STBD	19 - 22	6,3	6,2	4,39	13,4	9150	W 9150
6.7	SEPARATED OIL TANK	LUBE OIL	STBD	12 - 17	5,8	5,6	6,43	9,1	2800	W 2800
6.8	SLUDGE OIL TANK	LUBE OIL	PORT	20 - 27	16,7	16,3	4,56	15,6	9150	W 9150
6.9	LEAKAGE OIL TANK	LEAKING OIL	STBD	28 - 30	1,9	1,9	1,18	19,2	12630	W 12630
6.10	TECHNICAL OIL TANK	TECHNICAL OIL	STBD	24 - 27	8,4	8,3	4,55	16,8	9150	W 9150
6.11	TECHNICAL OIL TANK	TECHNICAL OIL	STBD	22 - 24	3,8	3,7	4,39	15,1	9150	W 9150
6.12	BILGE WATER TANK	BILGE WATER	STBD	27 - 31	8,1	7,9	1,22	19,2	12335	W 12335
6.13	BILGE WATER SETTLING TANK	BILGE WATER	PORT	12 - 17	16,8	16,5	6,66	9,3	8800	W 8800
7.1	SLIP TANK	WATER/OIL RESIDUE	PORT	35 - 39	140	137	6,49	24,8	2500	W 2500
7.2	SLIP TANK	WATER/OIL RESIDUE	STBD	35 - 39	189	185	6,42	24,8	2500	W 2500

SHIP NO.	SHIP NAME	SHIP TYPE	SHIP CLASS	SHIP NO.	SHIP NAME	SHIP TYPE	SHIP CLASS
151	26 5 22 W/LA	W/LA	W/LA	151	26 5 22 W/LA	W/LA	W/LA
152	22 0 22 S 22	S 22	S 22	152	22 0 22 S 22	S 22	S 22
153	22 0 22 S 22	S 22	S 22	153	22 0 22 S 22	S 22	S 22
154	22 0 22 S 22	S 22	S 22	154	22 0 22 S 22	S 22	S 22
155	22 0 22 S 22	S 22	S 22	155	22 0 22 S 22	S 22	S 22

TRM4 (Propulsion)
 TRM5/2 (Hull)
 TRM6 (Machinery)
 TRM7 (Electrical)
 TRM8 (Paint)
 TRM9 (Cable)
 TRM10 (Rigging)
 TRM11 (Deck)
 TRM12 (Hull)
 TRM13 (Machinery)
 TRM14 (Electrical)
 TRM15 (Paint)
 TRM16 (Cable)
 TRM17 (Rigging)
 TRM18 (Deck)
 TRM19 (Hull)
 TRM20 (Machinery)
 TRM21 (Electrical)
 TRM22 (Paint)
 TRM23 (Cable)
 TRM24 (Rigging)
 TRM25 (Deck)

Schiff Nr. 123-106
 Schiff COT 125
 tank plan
 100.25.01 b

The Society of Maritime Arbitrators, Inc.
U.S. OPEN FORM SALVAGE AGREEMENT
Codename -- MARSALV®

This **SALVAGE AGREEMENT** ("The Agreement"), between _____, Master and/or Owner and/or Underwriter of the vessel _____ ("The Vessel") and _____ ("The Salvor"), is for salvage services rendered or to be rendered to the Vessel, her cargo and other property currently lying at or near _____, under the following terms and conditions:

FIRST: The Salvor shall use his best endeavors to save the Vessel, her cargo and other property and deliver same safely afloat, hauled or drydocked at or near _____, at which place and time the Salvor's services will terminate unless otherwise mutually agreed.

SECOND: The Master and crew of the Vessel agree to lend their aid and assistance to the Salvor, who shall be entitled, free of expense, to the reasonable use of the Vessel's equipment.

THIRD: The Salvor's services are to be performed on the following basis (check and initial):

No Cure-No Pay (Compensation to be conditioned upon successful salvage of the Vessel and/or her cargo and/or other property. In such case, the Salvor's compensation shall be pursuant to the criteria and other provisions of Article 13 of the 1989 International Convention on Salvage shown on the reverse of this Agreement).

No Cure-No Pay, Fixed Fee \$ _____

Per Diem/Hourly at \$ _____ **per day/hour pro rata**

Other _____

FOURTH: Notwithstanding the election(s) made in Paragraph **THIRD**, the Salvor shall in any event be entitled to compensation for actions he takes to prevent or minimize damage to the environment, pursuant to Articles 13 and 14 of the 1989 International Convention on Salvage shown on the reverse of this Agreement.

FIFTH: The Salvor shall have a lien upon the Vessel, her cargo and other property for services rendered pursuant to Paragraphs **THIRD** and **FOURTH**, and his statement for services rendered shall be submitted as promptly as possible after completion or termination of such services. In lieu of arrest or attachment of the Vessel the Salvor may demand reasonable security for such services from the Vessel and cargo interests as a condition for releasing same.

SIXTH: This Agreement shall be governed by and construed in accordance with the Federal Maritime Law of the United States. Any dispute arising out of this Agreement shall be referred to arbitration in the United States in accordance with the applicable Arbitration Rules of the Society of Maritime Arbitrators, Inc. The Arbitrator(s) shall be familiar with maritime salvage. Any award made hereunder may include interest, attorney's fees and costs, and shall be final and binding. For the purpose of enforcement the Award may be entered for judgment in any court of competent jurisdiction.

Dated this ____ day of _____, 20__

For: **SALVOR**

For: **VESSEL, CARGO and/or PROPERTY**

(authorized signature)

(authorized signature)

(print name and title)

(print name and title)

White: Salvor; Yellow: Master/Owner; Pink: Underwriter

INTERNATIONAL CONVENTION ON SALVAGE, 1989

Article 13

Criteria for Fixing the Reward

1. The reward shall be fixed with a view to encouraging salvage operations, taking into account the following criteria without regard to the order in which they are presented below:

- (a) the salvaged value of the vessel and other property;
- (b) the skill and efforts of the salvors in preventing or minimizing damage to the environment;
- (c) the measure of success obtained by the salvor;
- (d) the nature and degree of the danger
- (e) the skill and efforts of the salvors in salvaging the vessel, other property and life;
- (f) the time used and expenses and losses incurred by the salvors;
- (g) the risk of liability and other risks run by the salvors or their equipment;
- (h) the promptness of the services rendered;
- (i) the availability and use of vessels or other equipment intended for salvage operations;
- (j) the state of readiness and efficiency of the salvor's equipment and the value thereof.

2. Payment of a reward fixed according to paragraph 1 shall be made by all of the vessel and other property interests in proportion to their respective salvaged values. However, a State Party may in its national law provide that the payment of a reward has to be made by one of these interests, subject to a right of recourse of this interest against the other interests for their respective shares. Nothing in this article shall prevent any right of defence.

3. The rewards, exclusive of any interest and recoverable legal costs that may be payable thereon, shall not exceed the salvaged value of the vessel and other property.

Article 14

Special Compensation

1. If the salvor has carried out salvage operations in respect of a vessel which by itself or its cargo threatened damage to the environment and has failed to earn a reward under article 13 at least equivalent to the special compensation assessable in accordance with this article, he shall be entitled to special compensation from the owner of that vessel equivalent to his expenses as herein defined.

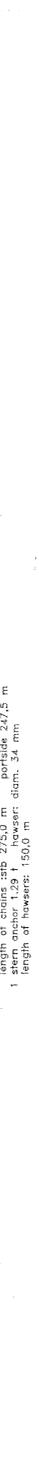
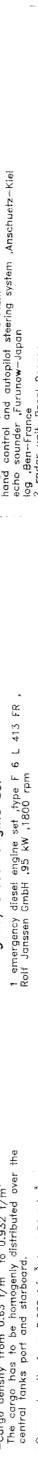
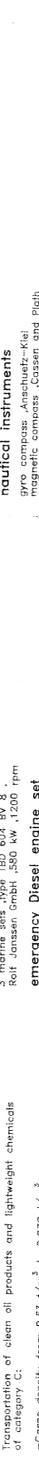
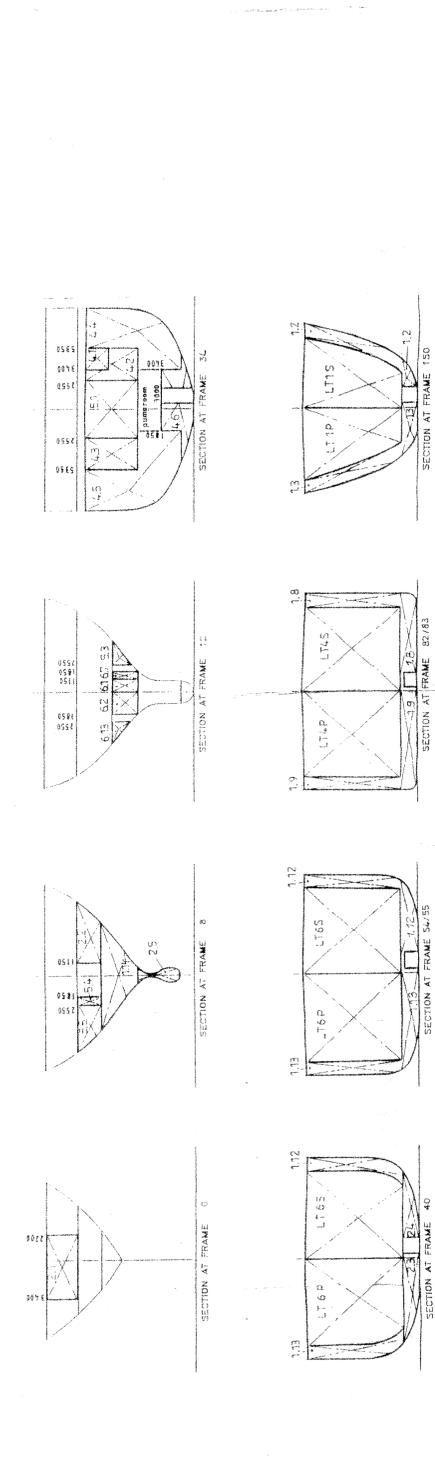
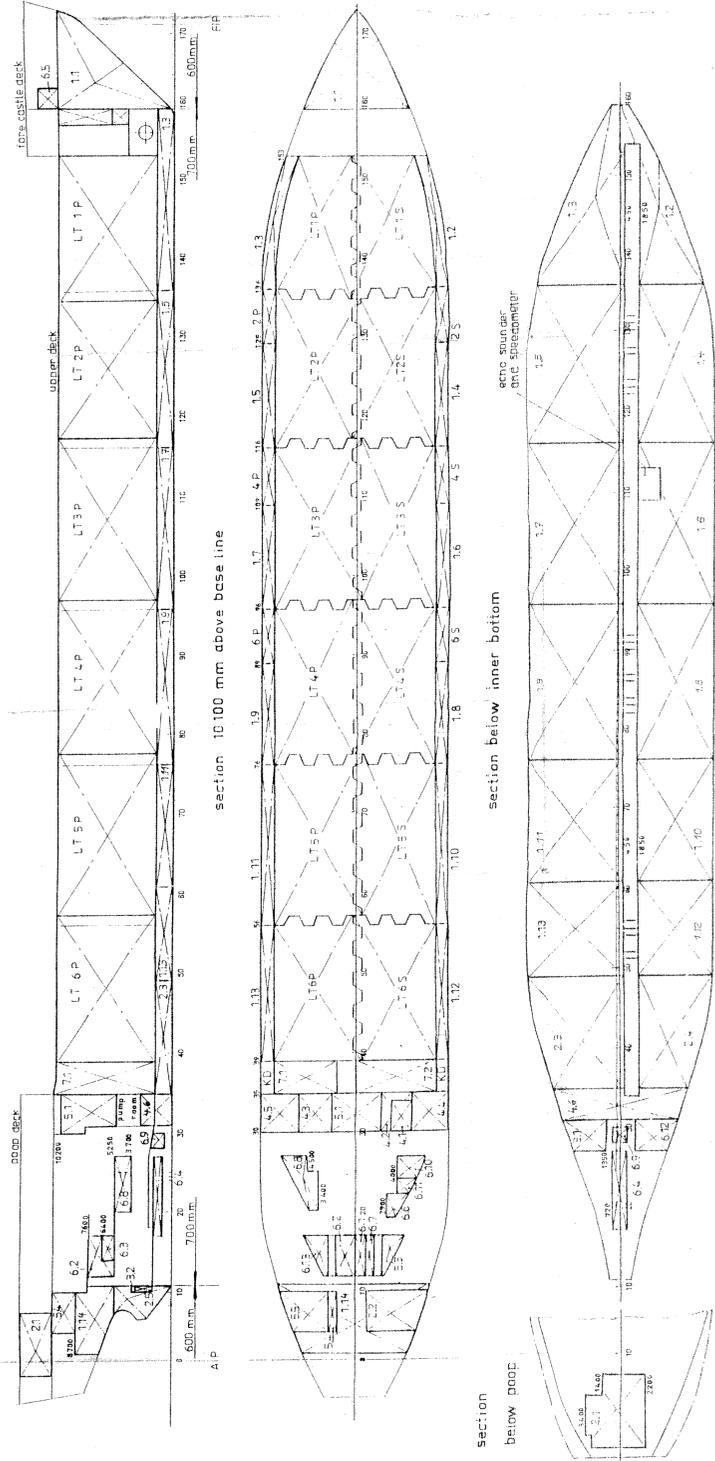
2. If, in the circumstances set out in paragraph 1, the salvor by his salvage operations has prevented or minimized damage to the environment, the special compensation payable by the owner to the salvor under paragraph 1 may be increased up to a maximum of 30% of the expenses incurred by the salvor. However, the tribunal, if it deems it fair and just to do so and bearing in mind the relevant criteria set out in article 13, paragraph 1, may increase such special compensation further, but in no event shall the total increase be more than 100% of the expenses incurred by the salvor.

3. Salvor's expenses for the purpose of paragraphs 1 and 2 means the out-of-pocket expenses reasonably incurred by the salvor in the salvage operation and a fair rate for equipment and personnel actually and reasonably used in the salvage operation, taking into consideration the criteria set out in article 13, paragraph 1(h), (i) and (j).

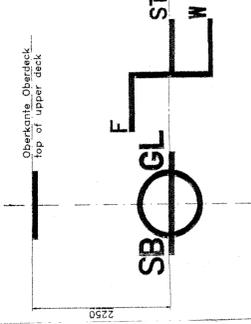
4. The total special compensation under this article shall be paid only if and to the extent that such compensation is greater than any reward recoverable by the salvor under article 13.

5. If the salvor has been negligent and has thereby failed to prevent or minimize damage to the environment, he may be deprived of the whole or part of any special compensation due under this article.

6. Nothing in this article shall affect any right of recourse on the part of the owner of the vessel.



TANK NO.	DESIGNATION	MEDIUM	POSITION	RANGE OF FRAME	CROSS VOLUME m ³	NET VOLUME m ³	CENTRE OF GRAVITY ABOVE BASE LINE m	LONGITUDINAL GRAVITY M
1.1	FOREPEAK	BALLAST WATER	CENTRE LINE	159 - 174	193	184	6.08	112.6
1.2	BALLAST WATER TANK	BALLAST WATER	STBD	136 - 159	247	183	4.51	98.9
1.3	BALLAST WATER TANK	BALLAST WATER	STBD	116 - 136	247	183	3.94	100.0
1.4	BALLAST WATER TANK	BALLAST WATER	STBD	96 - 116	247	183	3.36	85.8
1.5	BALLAST WATER TANK	BALLAST WATER	STBD	76 - 96	247	183	2.79	72.9
1.6	BALLAST WATER TANK	BALLAST WATER	STBD	56 - 76	247	183	2.21	60.0
1.7	BALLAST WATER TANK	BALLAST WATER	STBD	36 - 56	247	183	1.64	47.1
1.8	BALLAST WATER TANK	BALLAST WATER	STBD	16 - 36	247	183	1.06	34.2
1.9	BALLAST WATER TANK	BALLAST WATER	PORT	159 - 174	193	184	6.08	112.6
1.10	BALLAST WATER TANK	BALLAST WATER	PORT	136 - 159	247	183	4.51	98.9
1.11	BALLAST WATER TANK	BALLAST WATER	PORT	116 - 136	247	183	3.94	100.0
1.12	BALLAST WATER TANK	BALLAST WATER	PORT	96 - 116	247	183	3.36	85.8
1.13	BALLAST WATER TANK	BALLAST WATER	PORT	76 - 96	247	183	2.79	72.9
1.14	BALLAST WATER TANK	BALLAST WATER	PORT	56 - 76	247	183	2.21	60.0
1.15	BALLAST WATER TANK	BALLAST WATER	PORT	36 - 56	247	183	1.64	47.1
1.16	BALLAST WATER TANK	BALLAST WATER	PORT	16 - 36	247	183	1.06	34.2
2.1	DRINKING WATER TANK	DRINKING WATER	CENTRE LINE	4 - 7	95.7	91.8	12.32	13.7
2.2	TECHNICAL FRESH WATER TANK	TECHNICAL FRESH WATER	STBD	4 - 10	105.3	98.8	9.88	11.1
2.3	TECHNICAL FRESH WATER TANK	TECHNICAL FRESH WATER	STBD	11 - 17	105.3	98.8	9.88	11.1
2.4	TECHNICAL FRESH WATER TANK	TECHNICAL FRESH WATER	STBD	18 - 24	105.3	98.8	9.88	11.1
2.5	TECHNICAL FRESH WATER TANK	TECHNICAL FRESH WATER	STBD	25 - 31	105.3	98.8	9.88	11.1
3.1	COOLING WATER TANK	COOLING WATER	PORT	27 - 31	2.5	5.4	1.18	18.9
3.2	COOLING WATER TANK	COOLING WATER	PORT	10 - 11	1.5	1.5	2.90	6.3
4.1	H.F.O. DAILY SUPPLY TANK	HEAVY FUEL OIL	STBD	30 - 34	12.0	11.8	9.10	21.3
4.2	H.F.O. SETTLING TANK	HEAVY FUEL OIL	STBD	30 - 35	31.1	30.3	7.38	22.0
4.3	H.F.O. SETTLING TANK	HEAVY FUEL OIL	PORT	30 - 35	48.5	47.5	7.73	21.7
4.4	H.F.O. STORAGE TANK	HEAVY FUEL OIL	STBD	30 - 35	110.3	108.1	5.86	21.7
4.5	H.F.O. STORAGE TANK	HEAVY FUEL OIL	PORT	30 - 35	130.4	128.0	5.47	21.7
4.6	H.F.O. OVERFLOW TANK	HEAVY FUEL OIL	CENTRE LINE	31 - 35	31.4	30.4	1.46	23.9
5.1	M.D.O. STORAGE TANK	MARINE DIESEL FUEL OIL	CENTRE LINE	39 - 35	78.3	77.0	7.86	21.8
5.2	M.D.O. STORAGE TANK	MARINE DIESEL FUEL OIL	STBD	12 - 17	16.8	16.3	5.86	9.3
5.3	M.D.O. STORAGE TANK	MARINE DIESEL FUEL OIL	PORT	4 - 10	5.5	5.4	9.00	4.2
5.4	M.D.O. DAILY SUPPLY TANK	MARINE DIESEL FUEL OIL	PORT	4 - 10	23.4	22.9	9.92	4.4
5.5	M.D.O. SETTLING TANK	MARINE DIESEL FUEL OIL	PORT	11 - 12	15.2	12.9	3.07	5.8
6.1	CYLINDER OIL TANK	CYLINDER OIL	STBD	12 - 17	9.5	9.3	6.43	9.1
6.2	LUBRICATING OIL TANK	LUBE OIL	PORT	12 - 17	12.4	12.2	6.80	8.8
6.3	LUBE OIL TANK	LUBE OIL	PORT	14 - 17	2.8	2.7	5.83	3.6
6.4	LUBRICATING OIL STORAGE TANK	LUBE OIL	CENTRE LINE	18 - 27	6.6	6.5	1.56	14.3
6.5	HYDRAULIC OIL STORAGE TANK	HYDRAULIC OIL	CENTRE LINE	18 - 22	4.5	4.4	11.59	11.1
6.6	USED OIL TANK	USED OIL	STBD	19 - 22	8.2	8.2	4.29	13.4
6.7	SEWAGE OIL TANK	LUBE OIL	STBD	12 - 17	3.8	3.8	5.8	6.43
6.8	SLUDGE OIL TANK	OIL RESIDUE	PORT	20 - 27	16.7	16.3	4.36	15.8
6.9	LEAKAGE OIL TANK	LEAKAGE OIL	CENTRE LINE	28 - 30	1.9	1.9	1.18	19.2
6.10	THERMAL OIL TANK	THERMAL OIL	STBD	24 - 27	8.4	8.3	4.35	16.8
6.11	THERMAL OIL TANK	THERMAL OIL	STBD	22 - 24	3.8	3.7	4.55	15.1
6.12	BILGE WATER TANK	BILGE WATER	STBD	27 - 31	8.1	7.9	1.22	19.2
6.13	BILGE WATER SETTLING TANK	BILGE WATER	PORT	12 - 17	16.8	16.5	6.86	9.3
7.1	SLIP TANK	WATER/OIL RESIDUE	PORT	35 - 39	140	137	6.49	24.9
7.2	SLIP TANK	WATER/OIL RESIDUE	STBD	35 - 39	189	185	6.42	24.9
39 / 35	EMPTY COMPARTMENT		PORT / STBD	129 - 136	53 / 53	52 / 52	6.14	91.7
40 / 45	EMPTY COMPARTMENT		PORT / STBD	102 - 118	51 / 51	51 / 51	6.14	71.7
80 / 85	EMPTY COMPARTMENT		PORT / STBD	89 - 96	53 / 53	52 / 52	6.14	63.7



Tm draught	displacement	deaweight	increase displacement in sea water	Tm draught
0.00	1000	1000	1000	0.00
0.05	1000	1000	1000	0.05
0.10	1000	1000	1000	0.10
0.15	1000	1000	1000	0.15
0.20	1000	1000	1000	0.20
0.25	1000	1000	1000	0.25
0.30	1000	1000	1000	0.30
0.35	1000	1000	1000	0.35
0.40	1000	1000	1000	0.40
0.45	1000	1000	1000	0.45
0.50	1000	1000	1000	0.50
0.55	1000	1000	1000	0.55
0.60	1000	1000	1000	0.60
0.65	1000	1000	1000	0.65
0.70	1000	1000	1000	0.70
0.75	1000	1000	1000	0.75
0.80	1000	1000	1000	0.80
0.85	1000	1000	1000	0.85
0.90	1000	1000	1000	0.90
0.95	1000	1000	1000	0.95
1.00	1000	1000	1000	1.00

CLASS

Germanischer Lloyd

100 A5 E3 Chemical Tanker Type 2/Oil Tanker
MC AUT E3 INERT

MAIN PARTICULARS

length overall 123.70 m
length between perpendiculars 117.60 m
maximum moulded depth 17.70 m
depth moulded to main deck 16.60 m
displacement at draught 12863 t
speed at draught 15.11 t (trim=0m)
operating range 5000 nautical miles

TONNAGE

gross 6262
net 3154
international measurement 1969 6501.79 RT
panama 6494.14 RT
suez 5177.34 RT

Loading informations

To comply with the requirements of damage stability, vessel's cargo has depending on cargo's density, to be distributed as mentioned hereinafter:

Transportation of clean oil products and lightweight chemicals

-Cargo density from 0.63 t/m³ to 0.832 t/m³
The cargo has to be homogeneously distributed over the central tanks port and starboard.

-Cargo density from 0.832 t/m³ to 1.55 t/m³
The cargo to be equally distributed to all central tanks.

To ensure damaged stability, ballast water in double bottom tanks is required (see damage stability).

In correspondence with the material list the dimensions of tank bulkheads are designed for:

density 1.31 to 1.55 t/m³; pv = 0 bar (without gas pressure)
density 0.63 to 1.30 t/m³; pv = 0.2 bar

In connection with this:

Transverse tank bulkheads enable to resist loading to on side and the centre longitudinal tank bulkhead to both sides only.

More cargo informations see "TRIM AND STABILITY CALCULATION" drawing No. 996.25.06

rescue equipment

1 free fall lifeboat in tankers condition 19 persons with slip way
2 life rafts 20 persons each
1 accident boat 8 persons

nautical instruments

gyro compass, Cassini and Plich
magnetic compass, Cassini and Plich
hand control and autopilot steering system, Anschütz-Kiel
log, Bar-Frame, window-Japan
2 radar unit, Rical, Decar
1 electronic speed indicator, Decar
satellite navigator (GPS), Decar navigator

main engine

1 slow-speed two-stroke marine Diesel engine, Type 6 L 25 Mc, W A N B & W Alpha Diesel A/S, 3500 kW, 210 rpm

auxiliary Diesel engine set

3 marine sets, Type TBD 604 BV 8, Ref. Janssen OMBH, 580 kW, 1200 rpm

emergency Diesel engine set

1 emergency diesel engine set, Type 6 L 413 F, Ref. Janssen OMBH, 35 kW, 1800 rpm

PTO

1 PTO, Type SPL 75 list 12, the Newbock engineering Co. Ltd., 315 kW

ballast pump

2 ballast pumps, 300 m³/h, 3 bar

controllable pitch propeller

D=3.1 m z=4 ma=4.6 t

bow thruster

fixed-pitch propeller with hydraulic propulsion, 410 kW

rudder and steering engine

1 semi-balanced underhung rudder, area 16 m²
1 electric-hydraulic cylinder steering engine, max. moment 234 kNm

anchor gear

2 bow anchors, 3.54 t, stud link anchor chain, diam. 46 mm
length of chain, slip 275.0 m, portside 247.5 m
length of hawsers, 150.0 m



Shipboard Marine Pollution Emergency Plan

Appendix 7 Spill Kit Inventory M/T *Dara Desgagnés*

Item	Size	Min Quantity	Quantity Onboard	Location Onboard
Portable Pumps and hoses	Sets	2	4	1 Main Deck 1 Dog House 1 Pump Room 1 Spare
Absorbent pads	Bales	5	10	5 in chemical locker 5 distributed between spill kits and stbd rop locker
Absorbent – particulate	Bales	5	30+	Boat Deck Local spill kits
Hand scoops, buckets and shovels	Each	3	3+	
Waste container	55 gal drum	2	3	2 at aft end gangway 1 in chemical locker
Emulsifiers	1 gal	5	5	White box at crane
Tyvec coveralls	Various	12	30	Chemical locker Spill kit drum
Boots, oil resistant	Various	12 pairs	12+	7 in chemical locker drum 5+ in change room
Gloves, oil resistant	Various	12 pairs	12	Chemical locker drum
Rags	Lbs	20	100+	Stbd rope locker

RIGEL SHIPPING CANADA Inc.

SAFETY FORMS
Oil Spill Response Equipment Inventory

Ref: [SMPEP Section 5.1](#) **ONBOARD RESPONSE CAPABILITIES**

Vessel: **Dara Desgagnes**

Date Posted: October 31 2012

Item	Size	Min Quantity	Quantity Onboard	Location Onboard
Portable Pumps and hoses	Sets	2	4	1 main deck, 1 dog house, 1 pump room, 1 spare
Absorbent pads	Bales	5	10	5 in chemical locker, 5 distributed between spill kits and stbd rope locker
Absorbent – particulate	Bales	5	30+	boat deck, local spill kits
Hand scoops, buckets and shovels	Each	3	3+	
Waste container	55 gal drum	2	3	2 at aft end gangway, 1 in chemical locker
Emulsifiers	1 gal	5	5	white box at crane
Tyvec coveralls	Various	12	30	chemical locker spill kit drum
Boots, oil resistant	Various	12 pr	12+	7 pair in chemical locker drum, 5+ in change room
Gloves, oil resistant	Various	12 pr	12	in chemical locker drum
Rags	Lbs	20	100+	stbd rope locker



Shipboard Marine Pollution Emergency Plan

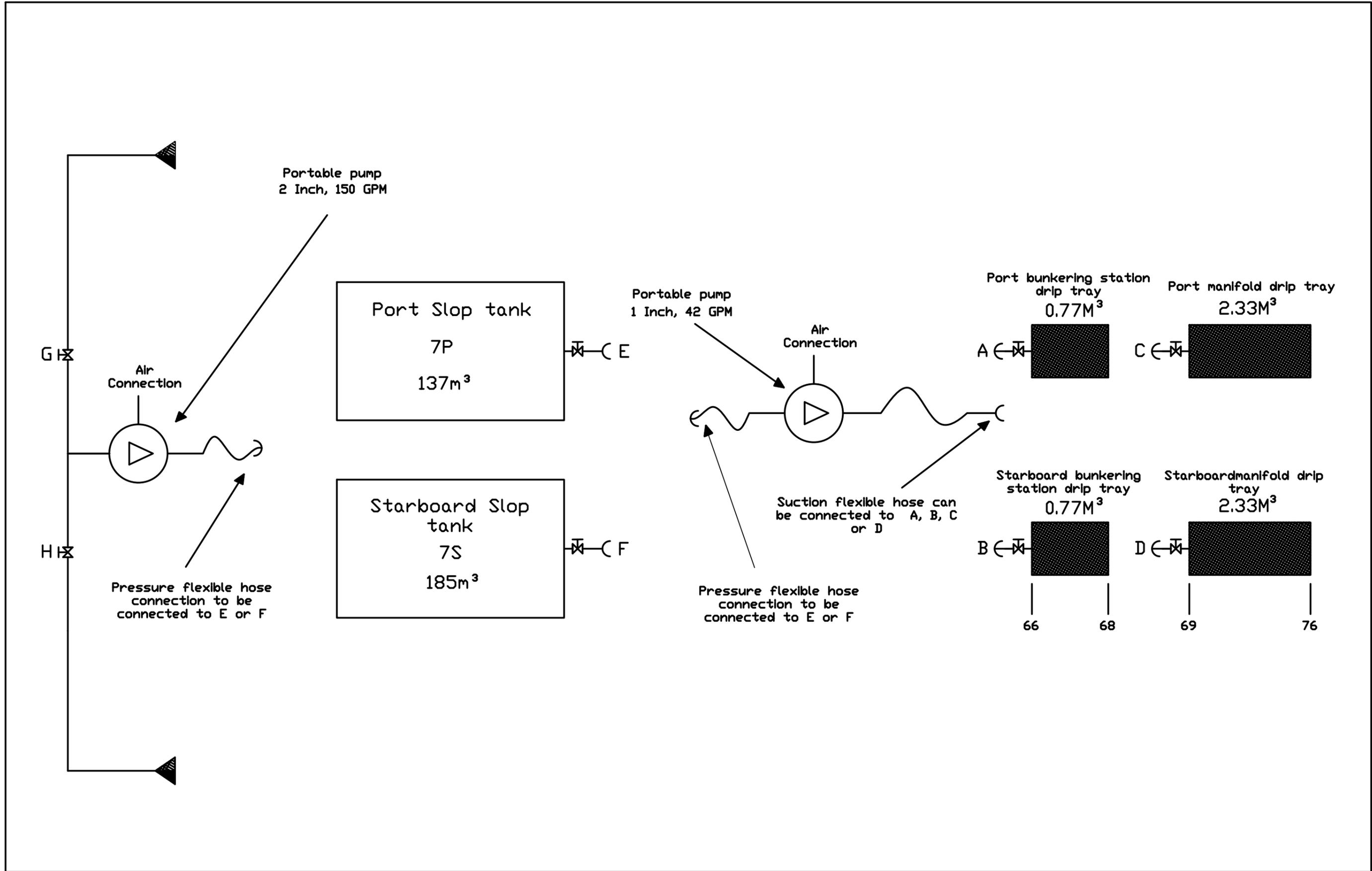
Appendix 8

Foam and water extinguishing lines on cargo deck

- See drawing #996.51.35

Procedures for Oil Spill Air Pump

- Procedure to pump out Drip trays Manifolds:
 1. Connect suction hose from air driven 1" pump to connections A, B, C and D as desired.
 2. Connect discharge hose of air driven 1" pump to either the port dropline E or STBD dropline F on deck. This will usually be the Port dropline E.
 3. Open valves as needed and pump contents to the connected sloptank (E or F).
 4. Close valves and continue with other drip trays using above procedure.
 5. When completed drain/purge hoses to slop tank and disconnect.
- Procedure to pump liquid from the Deck:
 1. Connect suction hoses to Y-section of air driven 2" pump.
 2. Connect port side hose with valve G and STBD side hose with valve H to Y-section.
 3. Connect discharge hose of air driven 2" pump to either the Port dropline E or STBD dropline F on deck. This will usually be the Port dropline E.
 4. Open valves as needed and pump liquids to the connected sloptank (E or F).
 5. When finished pumping liquids drain/purge hoses and close valves and disconnect.



APPENDIX B - The Central and Arctic Regional Response Plan (2008)

Canadian Coast Guard Central & Arctic Region



Regional Response Plan

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.

**Central & Arctic Regional Response Plan
Table of Contents**

LETTER OF PROMULGATION	i
REVISION RECORD	ii
SECTION 1 – INTRODUCTION	
Authority	1-1
Purpose.....	1-1
Area of Responsibility.....	1-1
Safety Policy	1-2
Links to the National Response Plan	1-2
Regional Response Plan Structure	1-2
Linkages to International Joint Plans.....	1-3
Linkages to International Joint Plans	1-3
SECTION 2 – AGREEMENTS & MEMORANDA OF UNDERSTANDING	
Overview	2-1
SECTION 3 – ORGANIZATION	
General Application.....	3-1
Environmental Response Branch (DFO/CCG/ER)	3-1
Internal Partners – Fisheries and Oceans.....	3-3
Internal Partners – Other Federal Departments	3-5
External Partners	3-8
Clients	3-9
External Resources.....	3-10
SECTION 4 – PREPAREDNESS	
Overview	4-1
Response Management System (RMS).....	4-1
Planning	4-4
Training Program and Curriculum	4-6
Exercise Program.....	4-12
Inventory Management, Maintenance and Infrastructure	4-14
SECTION 5 – RESPONSE OPERATIONS	
Pattern of Response	5-1
Spill Potential or Pollution Risk Assessment	5-5
Notification	5-5
Verification	5-5
Spill Assessment.....	5-6
Activation of Canadian Coast Guard Response Resources	5-11
Response Implementation	5-11
Summary Report and Post Incident Review	5-16

Central & Arctic Regional Response Plan
Table of Contents

SECTION 6 – CLAIMS AND COST RECOVERY

- Purpose..... 6-1
- Policy Guidelines..... 6-1
- Responsibilities 6-2
- Process 6-2
- Documentation 6-2
- References..... 6-4
- Third Party Claims..... 6-4

SECTION 7 – PLAN MAINTENANCE AND CUSTODIANS

- Maintenance Process..... 7-1
- Canadian Coast Guard Custodians..... 7-1
- Plan Distribution 7-2

SECTION 8 – CONTACTS

- Pollution Reports for Canadian Coast Guard (CCG), Central & Arctic Region (C&A)..... 8-1
- Other Lead Agencies that Maintain Spill Report Lines 8-1
- Environmental Response Branch Phone List..... 8-1

SECTION 9 – REFERENCES AND ANNEXES

- References..... 9-1
- Annexes 9-1

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° 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

Central & Arctic Regional Response Plan
Section 2 – Agreements and Memoranda of Understanding

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 date 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 Health & 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 24/7 facility 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

Central & Arctic Regional Response Plan
Section 3 - Organization

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.

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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.

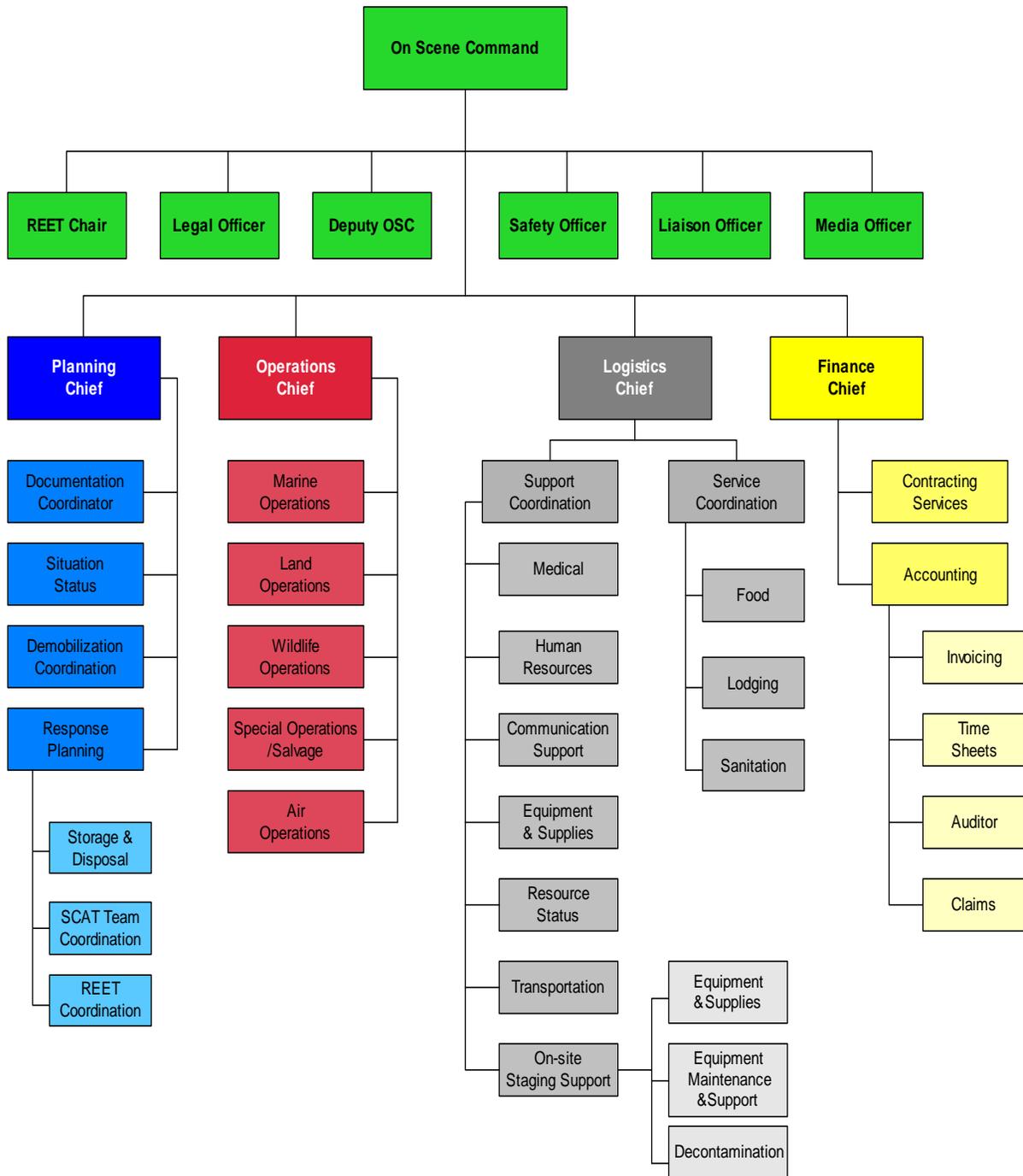
The system structure is designed to expand or contract to best fit the specific circumstances of the incident. Not all positions within the system will be staffed for every incident; in those cases the supervising position shall be responsible for all subordinate tasks/roles. Regional staff members have 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)).

**Central & Arctic Regional Response Plan
Section 4 - Preparedness**

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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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.

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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.

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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) (9th) ninth (Great Lakes) and (17th) 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

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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° 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 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.

Central & Arctic Regional Response Plan

Section 4 - Preparedness

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 complimentary² to the equipment held in the Δ 1000T 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.

Central & Arctic Regional Response Plan
Section 4 - Preparedness

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 (Kangiqtusi)	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 Δ1000T depots will be at a 1000T capacity. Hence, the delta or “Δ” is the difference between the RAT150T and a full 1000T. The Δ1000T 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 Δ1000T 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.

Central & Arctic Regional Response Plan
Section 4 - Preparedness

Table 4-3 - Canadian Coast Guard Arctic Design Inventory³

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.

Central & Arctic Regional Response Plan
Section 4 - Preparedness

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

Central & Arctic Regional Response Plan

Section 5 – Response Operations

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

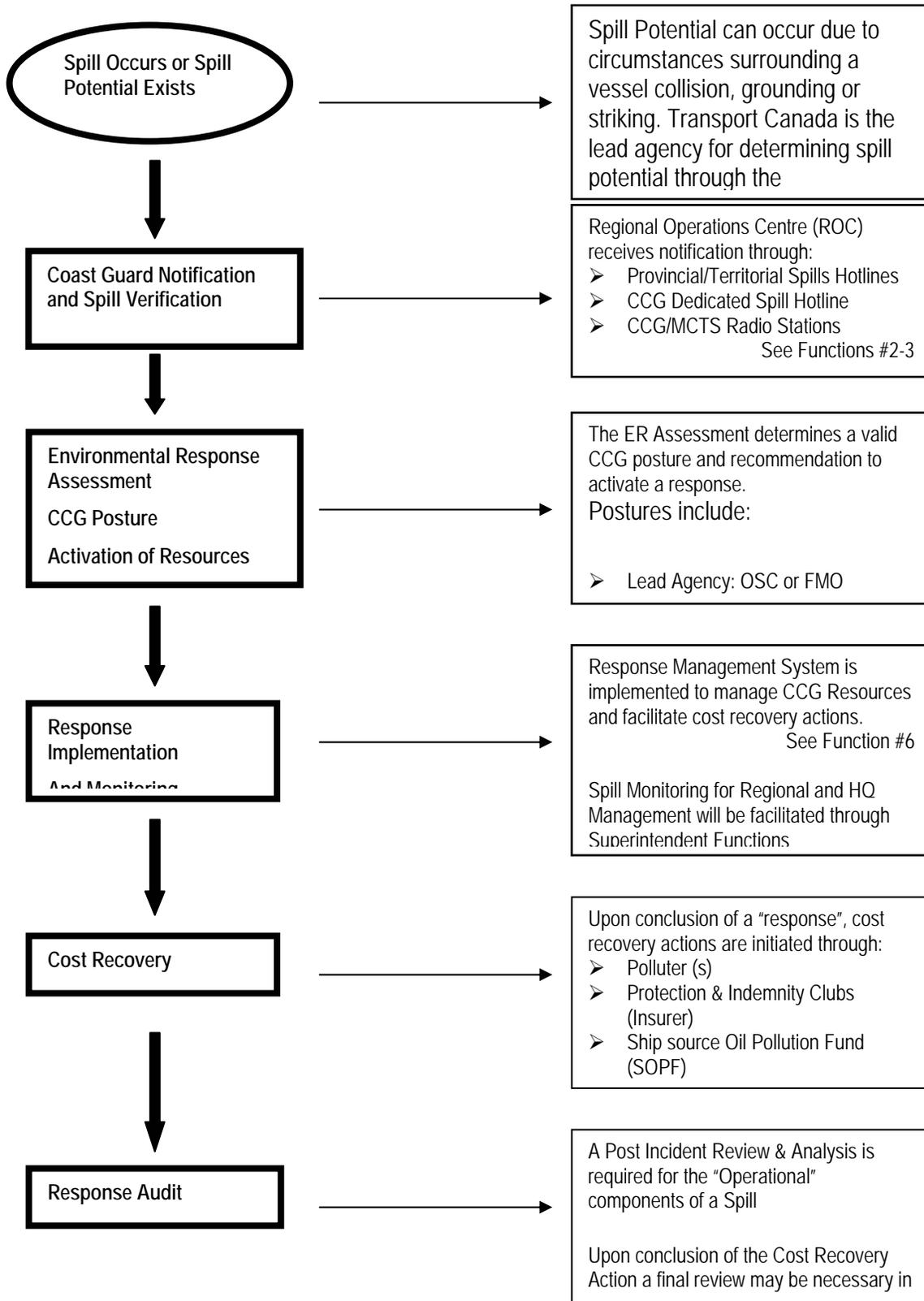
For the purpose of this plan, a small spill will be defined based on the maximum oil transfer rate of the oil handling facility (i.e. what Level it is assigned under the *Canada Shipping Act, 2001*), which directly links to the minimum spill size to which it must be prepared to respond to within one 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.

Central & Arctic Regional Response Plan
Section 5 – Response Operations

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



Central & Arctic Regional Response Plan
Section 5 – Response Operations

Table 5-1 - Pattern of Response – Function Descriptions

Function		Description
1	Responsible Party/Third Party Functions (<i>Spill occurs or sufficient potential risk exists</i>)	<ul style="list-style-type: none"> • 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 (<i>Canadian Coast Guard Notification</i>)	<ul style="list-style-type: none"> • 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 (<i>Canadian Coast Guard Spill Verification</i>)	<ul style="list-style-type: none"> • Spill Assessment-pollution verification <ul style="list-style-type: none"> ➢ Mandate Confirmation ➢ Pollution Verification ➢ Source Credibility • Notification to ERDO • Dissemination • Initiation of MPIRS
4	ER Duty Officer Functions (<i>Environmental Response Assessment – CCG Posture</i>)	<ul style="list-style-type: none"> • Spill Assessment-response analysis • Source Control/Mitigation • Safety Issues • Tactical & Logistical Issues • Recommendation to Superintendent of likely Response Posture • Documentation – MPIRS
5	Superintendent Functions (<i>Environmental Response Assessment – Activation of CCG Resources</i>)	<ul style="list-style-type: none"> • Response Posture Evaluation <ul style="list-style-type: none"> ➢ 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 (<i>Response Implementation</i>)	<ul style="list-style-type: none"> • 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 (<i>Cost Recovery</i>)	<ul style="list-style-type: none"> • Utilizing CCG Ship-source and Marine Pollution Response Costing Principles and Documentation Standards (DFO 6332) compile pollution response costs recovery claim.

Central & Arctic Regional Response Plan
Section 5 – Response Operations

8.	Internal Review Team Functions <i>(Audit)</i>	<ul style="list-style-type: none">• 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

Central & Arctic Regional Response Plan

Section 5 – Response Operations

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.

Central & Arctic Regional Response Plan

Section 5 – Response Operations

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

Central & Arctic Regional Response Plan

Section 5 – Response Operations

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):

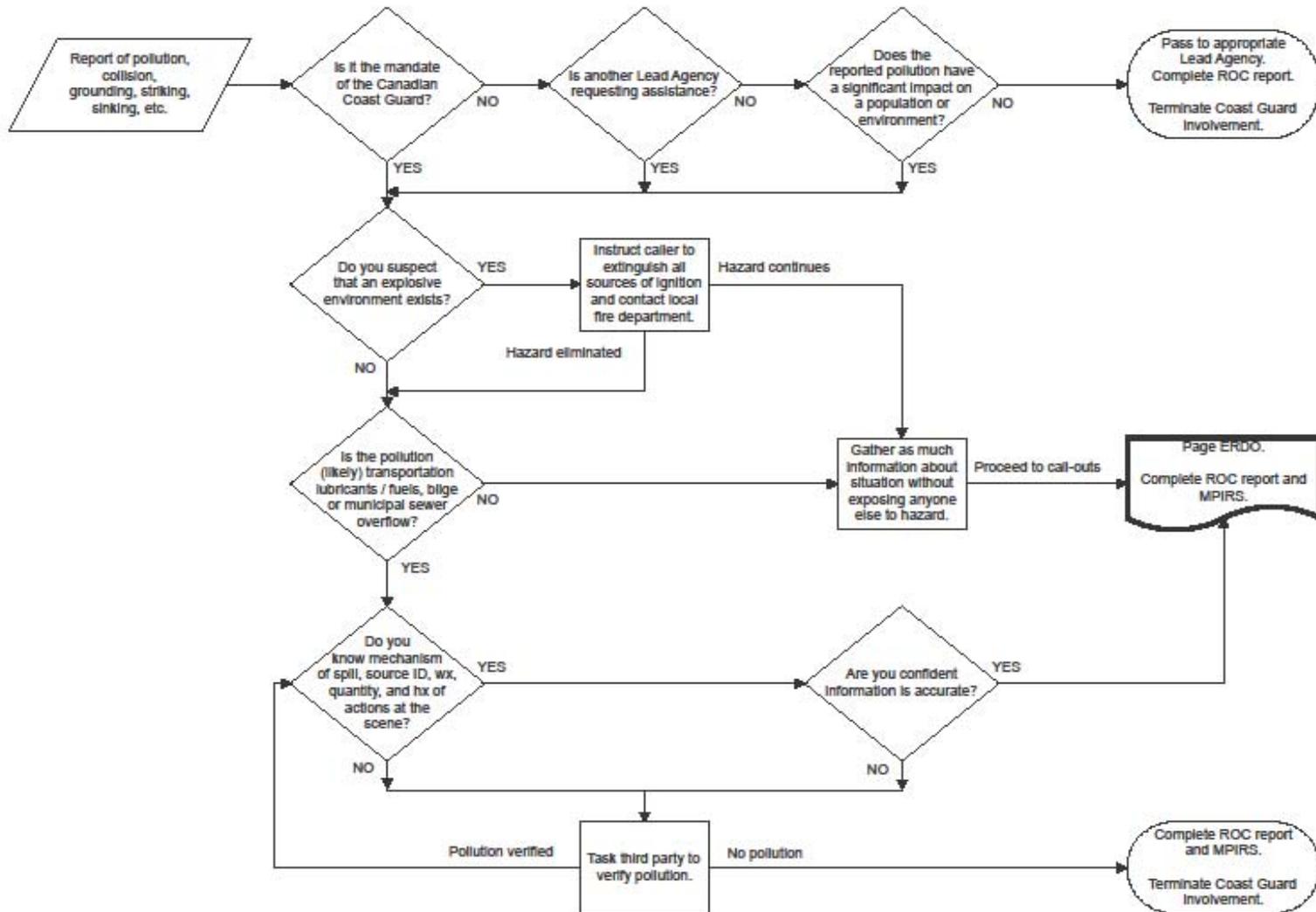
- polluter's actions and intentions (if applicable);
- safety concerns, tactical, logistical, and environmental feasibility of any response.

** 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.

Central & Arctic Regional Response Plan

Section 5 – Response Operations

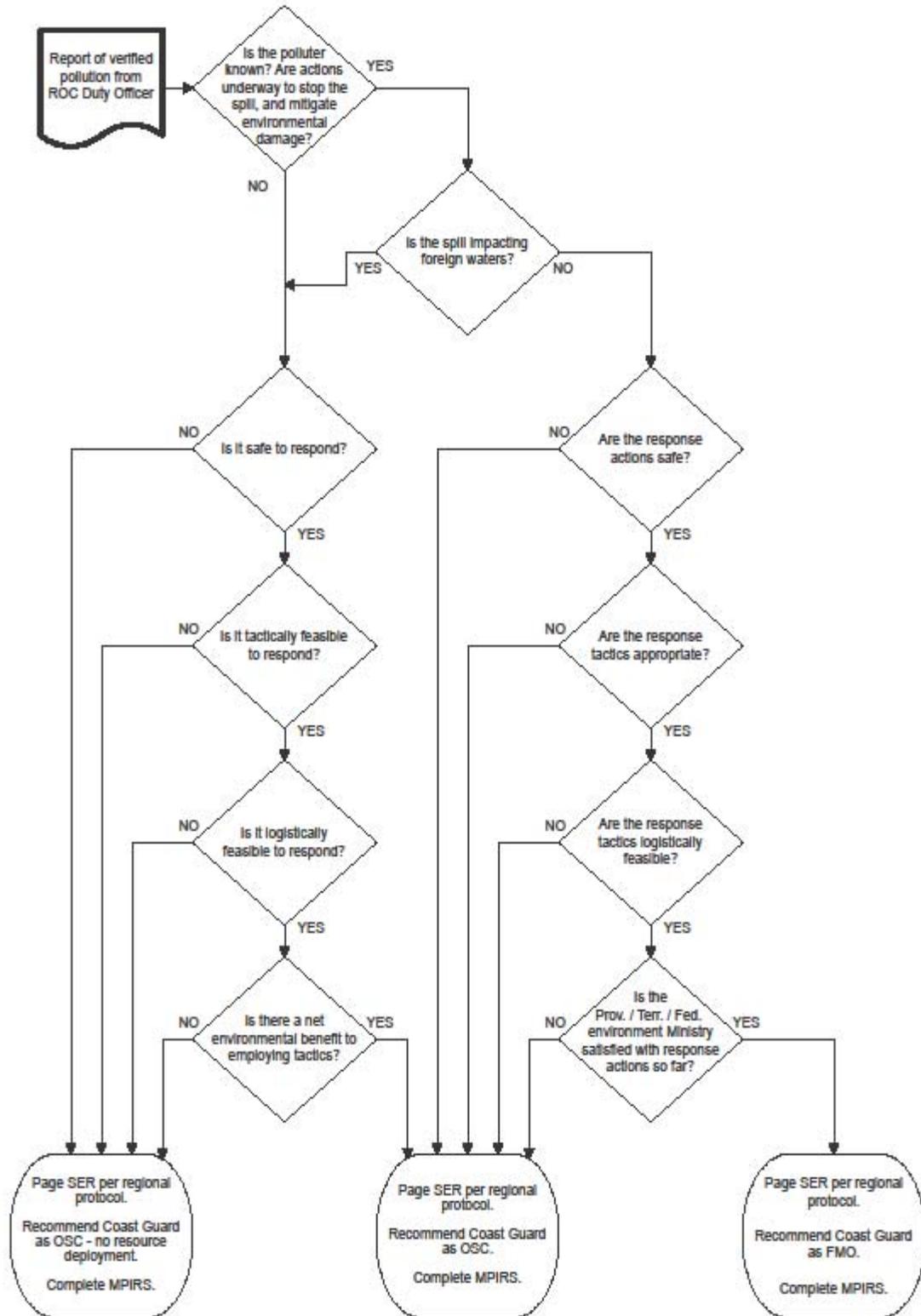
Spill assessment: *pollution verification process*



Central & Arctic Regional Response Plan

Section 5 — Response Operations

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

Central & Arctic Regional Response Plan

Section 5 — Response Operations

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 60⁰ 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

Central & Arctic Regional Response Plan
Section 5 — Response Operations

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.

Central & Arctic Regional Response Plan
Section 5 — Response Operations

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 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

Central & Arctic Regional Response Plan

Section 5 — Response Operations

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]

Central & Arctic Regional Response Plan

Section 5 — Response Operations

- 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

Central & Arctic Regional Response Plan

Section 5 — Response Operations

- 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)

Central & Arctic Regional Response Plan
Section 5 — Response Operations

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.

Central & Arctic Regional Response Plan

Section 6 — Claims & Cost Recovery

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

Central & Arctic Regional Response Plan
Section 7 — Plan Maintenance and Custodians

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

Central & Arctic Regional Response Plan
Section 7 — Plan Maintenance and Custodians

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

Central & Arctic Regional Response Plan
Section 8 — Contacts

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 C - MSDS Jet-A and Diesel

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

DIESEL FUEL

000003000395



Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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.

DIESEL FUEL

000003000395



Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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 (NO_x), sulphur oxides (SO_x), 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/m ³	ACGIH
kerosine (petroleum)	8008-20-6	TWA	100 mg/m ³	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)

SAFETY DATA SHEET

DIESEL FUEL

000003000395



Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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
---------------------	---------------------------

SAFETY DATA SHEET

DIESEL FUEL

000003000395



Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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

SAFETY DATA SHEET

DIESEL FUEL

000003000395



Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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

SAFETY DATA SHEET

DIESEL FUEL

000003000395



Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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

SAFETY DATA SHEET

DIESEL FUEL

000003000395



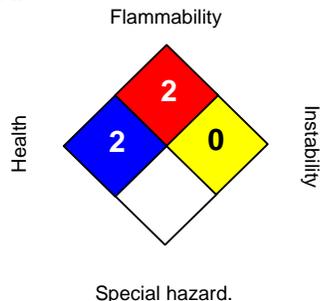
Version 1.0

Revision Date 2015/05/14

Print Date 2015/06/15

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.

Material Safety Data Sheet

JET A/A-1 AVIATION TURBINE FUEL



1. Product and company identification

Product name	: JET A/A-1 AVIATION TURBINE FUEL
Synonym	: Jet A-1; Jet A-1-DI; Aviation Turbine Kerosene (ATK); JP-8; NATO F-34; Jet F-34; Turbine Fuel, Aviation, Kerosene Type (CAN/CGSB-3.32)
Code	: W213, SAP: 149
Material uses	: Used as aviation turbine fuel. May contain a fuel system icing inhibitor. In the arctic, Jet A-1 may also be used as diesel fuel (if it contains a lubricity additive) and heating oil.
Manufacturer	: PETRO-CANADA P.O. Box 2844 150 – 6th Avenue South-West Calgary, Alberta T2P 3E3
<u>In case of emergency</u>	: Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).

2. Hazards identification

Physical state	: Clear liquid.
Odour	: Kerosene-like.
WHMIS (Canada)	:   Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). Class D-2A: Material causing other toxic effects (Very toxic). The WHMIS classification of Jet A/A-1 is B3. The WHMIS classification of Jet A/A-1-DI, JP-8, Jet F-34 and NATO F-34, which all contain FSII (Diethylene Glycol Monomethyl Ether), is B3, D2A.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	: CAUTION! COMBUSTIBLE LIQUID AND VAPOUR. MAY CAUSE EYE AND SKIN IRRITATION. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA. Combustible liquid. Slightly irritating to the eyes and skin. Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapour or mist. Avoid contact with eyes, skin and clothing. Contains material which may cause birth defects, based on animal data. Avoid exposure during pregnancy. Use only with adequate ventilation. Wash thoroughly after handling.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.
<u>Potential acute health effects</u>	
Inhalation	: Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Ingestion	: Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract.
Skin	: Slightly irritating to the skin.
Eyes	: Slightly irritating to the eyes.
<u>Potential chronic health effects</u>	
Chronic effects	: No known significant effects or critical hazards.

2. Hazards identification

- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Contains material which may cause birth defects, based on animal data.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Medical conditions aggravated by over-exposure** : Repeated skin exposure can produce local skin destruction or dermatitis.

See toxicological information (Section 11)

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Complex mixture of petroleum hydrocarbons (C9-C16)*(Kerosene)	8008-20-6	99.9
Fuel System Icing Inhibitor (FSII) (if added**): (Diethylene Glycol Monomethyl Ether)	111-77-3	0.1 - 0.15
Anti-static, antioxidant and metal deactivator additives	Not applicable	<0.1

*Aromatic content is 25% maximum (benzene: nil).

**Please note that Jet A-1-DI, JP-8, Jet F-34 and NATO F-34 all contain Fuel System Icing Inhibitor.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First-aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- 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 recognised skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

- Flammability of the product** : Class II - combustible liquid (NFPA).
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

5 . Fire-fighting measures

- Products of combustion** : Carbon oxides (CO, CO₂), nitrogen oxides (NO_x), sulphur oxides (SO_x), smoke and irritating vapours as products of incomplete combustion.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Special remarks on fire hazards** : 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. May accumulate in confined spaces.
- Special remarks on explosion hazards** : Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Containers may explode in heat of fire.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

7 . Handling and storage

- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Ensure the storage containers are grounded/bonded.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Kerosene	ACGIH TLV (United States). Absorbed through skin. TWA: 200 mg/m ³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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. Recommended: A NIOSH-approved air-purifying respirator with an 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.

Hands

- : 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. Recommended: polyvinyl alcohol (PVA), Viton®. 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.

Eyes

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Clear liquid.

Flash point : Closed cup: $\geq 38^{\circ}\text{C}$ ($\geq 100.4^{\circ}\text{F}$) [Tag. Closed Cup]

Auto-ignition temperature : 210°C (410°F)

Flammable limits : Lower: 0.7%
Upper: 5%

Colour : Clear and colourless.

Odour : Kerosene-like.

Odour threshold : Not available.

pH : Not available.

Boiling/condensation point : 140 to 300°C (284 to 572°F)

Melting/freezing point : Not available.

Relative density : 0.775 to 0.84 (Water=1)

Vapour pressure : 0.7 kPa (5.25 mm Hg) @ 20°C (68°F).

Vapour density : 4.5 [Air = 1]

Volatility : Volatile.

Evaporation rate : Not available.

Viscosity : 1.0 - 1.9 cSt @ 40°C (104°F)

Pour point : $< -51^{\circ}\text{C}$ ($< -60^{\circ}\text{F}$)

Solubility : Insoluble in water. Partially miscible in some alcohols. Miscible with other petroleum solvents.

10 . Stability and reactivity

Chemical stability : The product is stable.

Hazardous polymerisation : Under normal conditions of storage and use, hazardous polymerisation will not occur.

Materials to avoid : Reactive with oxidising agents, acids and alkalis.

Hazardous decomposition products : May release CO_x, NO_x, SO_x, aldehydes, acids, ketones, smoke and irritating vapours when heated to decomposition.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Kerosene	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapour	Rat	>5000 mg/m ³	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

11 . Toxicological information

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kerosene	A3	3	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN1863	FUEL, AVIATION, TURBINE ENGINE	3	III		-
DOT Classification	Not available.	Not available.	Not available.	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Combustible liquid

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2A: Material causing other toxic effects (Very toxic).

The WHMIS classification of Jet A/A-1 is B3.

The WHMIS classification of Jet A/A-1-DI, JP-8, Jet F-34 and NATO F-34, which all contain FSII (Diethylene Glycol Monomethyl Ether), is B3, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

Canada inventory : All components are listed or exempted.

United States inventory (TSCA 8b) : All components are listed or exempted.

Europe inventory : All components are listed or exempted.

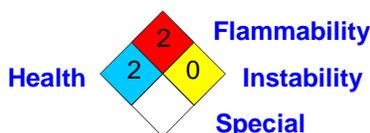
16 . Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOUR. MAY CAUSE EYE AND SKIN IRRITATION. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		2
Physical hazards		0
Personal protection		H

National Fire Protection Association (U.S.A.) :



References : Available upon request.
™ Trademark of Suncor Energy Inc. Used under licence.

Date of printing : 5/24/2012.

Date of issue : 24 May 2012

Date of previous issue : 5/24/2012.

Responsible name : Product Safety - DSR

Indicates information that has changed from previously issued version.

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: (905) 804-4752

Notice to reader

16 . Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

APPENDIX D 1.1– Agnico Pre-discharge and Spill Response Sea Can checklists

OHF / Ship to Shore Fuel Discharge



Agnico Eagle Mines: Meadowbank Division
Environment Department



Pre-discharge Checklist for AEM's Oil Handling Facility in Baker Lake

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 AEM.			
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.			

Comments/Recommendations: _____

Signature : _____

Agnico Eagle Mines: Meadowbank Division Environment Department



Inventory report for Spill Response Sea Can at AEM's Oil Handling Facility in Baker Lake

Date: _____ Inspected By: _____

Time: _____ Vessel Unloading: _____

Subject	Conform	Non-conform	Comments
Is the material and PPE stored in a manner that is <u>organized and accessible</u> in order to easily respond to spill?			
Are the sea cans is physically in good shape? Easy to open?			
Are the sea cans identified as "Environmental Emergency Sea Can"?			
Is all the spill material in place? Nothing Missing?			
3 x Empty drums (sealed)			
2 x Mini Berm 36"x 36"			
2 x 4 Drums Berm 4'x 8'			
4 x Tarp 20'x 30'			
4 x Tarp 30'x 50'			
20 x Oil Spill Absorbent Pads			
10 x Universal Absorbent Boom 5"x 10' (For Hydro-soluble Chemical)			
10 x Universal Absorbent Boom 8"x 10' (For Hydro-soluble Chemical)			
10 x Petroleum base Absorbent Boom 5"x 10' (for Petroleum product)			
8 x Maritime Barrier (Baffle)			
5 x ABS pipe: 10' long x 4" diameter			
2 x Cell-U-Sorb (Absorbent)			
2 x Amerisorb Peat moss (Absorbent)			

Agnico Eagle Mines: Meadowbank Division Environment Department



2 x Oil Gator Absorbent			
1 x Plug Patties			
4 x Quatrex bags			
2 x Fork Lift Crate			
4 x Hand Shovel			
1 x Cro Bar Chisel			
1 x Ice Breaker Chisel			
1 x Sledge hammer			
15 x Rod bar 4'			
1x ½ drum containment			
100 feet of rope			
Knife to cut rope			
Emergency Boat			
18ft Lund boat			
20 HP motor			
Fresh gasoline in jerry can			
Boat Safety Kit			
2 Mustang Suits			
2 Paddles			
Anchor with 30 feet of rope			
Additional 20 feet of rope			
Is all the PPE material in its place?			
6 x Rain gear -- Pants and Top (L & 2-XL)			
6 x Rubber boots (size 8, 10,12)			
12 x Rubber gloves			
6 x Goggles			
6 x Tyvex suits (L & 2 XL)			



OHF / Ship to Shore Fuel Discharge



Agnico Eagle Mines: Meadowbank Division
Environment Department



6 x Safety glasses			
6 x Leather gloves			

Comments/Recommendations: _____

Signature: _____

APPENDIX D 1.2 – OHF Ship to Shore Fuel Discharge Procedure

OHF / Ship to Shore Fuel Discharge



PROCEDURE NUMBER: MBK-ENV-0013 Rev. 2

People concerned	<ul style="list-style-type: none"> • Environment • Site Services • Procurement and Logistics • Health and Safety 	Prepared by	Environment Department
		Authorized by	Jeffrey Pratt – Environment Coordinator
Effective :	July 8, 2015	<p><i>“Safety First, Safety Last ... Safety Always!”</i></p> <p><i>“No Repeats” – Our Stepping Stone to ZERO HARM</i></p>	

This procedure corresponds to the required minimum standard. Each and every one also have to comply with the rules and regulations of the Nunavut Government in terms of health and safety at work.

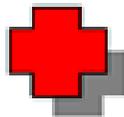
Objective:

- To ensure that prior to the discharge of any fuel into the Agnico Eagle Baker Lake Tank Farm or Agnico Eagle Baker Lake Oil Handling Facility (OHF) that all proper steps are in place to ensure compliance with Canadian Shipping Act, as well as Nunavut Water Board License and Nunavut Impact Review Board Certificate.

Concerned departments:



Environment



Health & Safety



Site Services



Procurement and Logistics

Risks/ Impacts Legend



Health & Safety



Process/quality



Legal Requirement



Environment

Prior to the beginning of the annual fuel discharge the following must be completed.

Procedure	Risks/ Impacts
<p>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:</p> <ul style="list-style-type: none"> 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 <p>This is the responsibility of the Environment department.</p>	
<p>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.</p> <p>This is the responsibility of the Environment department.</p>	
<p>3. Complete <i>Inventory report for Spill Response Sea Can at AEM's Oil Handling Facility in Baker Lake.</i> (*Inventory Checklist found on Page 6)</p> <p>This is the responsibility of the Environment department.</p>	
<p>4. Ensure Woodward (Shipping Company) has provided Transfer Conduit Annual certification.</p> <p>This is the responsibility of Environment Department.</p>	
<p>5. All personnel who will be a part of the fuel transfer (including Baker Lake 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.</p> <p>This is the responsibility of Procurement and Logistics</p>	
<p>6. Install secondary containment underneath each connection of conduit on land.</p> <p>This is the responsibility of Environment Department</p>	

OHF / Ship to Shore Fuel Discharge



<p>7. Monitor secondary containment underneath each connection of conduit on land. This is the responsibility of Procurement and Logistics</p>	
<p>8. Ensure there is two way functional communications between the OHF and the off-loading Vessel. This is the responsibility of Procurement and Logistics</p>	
<p>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 Procurement and Logistics</p>	
<p>10. Prior to any discharge AEM must receive a copy of the Ship/Shore checklist completed by Woodward. And should verify this has been completed (as much as realistically possibly without boarding the ship). This is the responsibility of Procurement and Logistics</p>	
<p>11. Contact must be made with both the H&S and Environmental Departments prior to the discharge of fuels. Meadowbank Health & Safety meadowbank.healthandsafety@agnicoeagle.com Meadowbank Environment meadowbank.environment@agnicoeagle.com This is the responsibility of Procurement and Logistics</p>	
<p>12. The <i>Pre-discharge Checklist for AEM's Oil Handling Facility in Baker Lake</i> 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 Procurement and Logistics</p>	
Transfer	
<p>1. Once the above points are completed, the ship to shore transfer can commence.</p>	
<p>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 department and Procurement and Logistics.</p>	

OHF / Ship to Shore Fuel Discharge



<p>3. During the ship-to-shore transfer, AEM will have competent personnel on location at all times to monitor the fuel transfer and maintain contact with the tanker's crew.</p> <p>This is the responsibility of Procurement and Logistics.</p>	
<p>4. Monitor the fuel transfer at the beginning of each transfer and after that on an hourly basis checking the manifold, conduit, tank, and any connection points on land for spills and/or leaks. Communication between shore and ship should take place on an hourly basis.</p> <p>This is the responsibility of Procurement and Logistics.</p>	
<p>5. We are required by law to have a fuel spill scenario every two years. However, since we have shift work at Meadowbank, to ensure adequate training annually we will do mock spill/training and switch shifts each year. This way each shift completes every second year.</p> <p>This is the responsibility of Environment Department in conjunction with ERT to plan and execute.</p>	

APPENDIX D 1.3 – 2020 Mock Spill Minutes



AGNICO EAGLE

2020 Baker Lake Tank Farm Mock Spill scenario

On September 26, 2020 Agnico Eagle Environment Technician, Louis Dubois, met with Intertek personnel in Baker Lake to conduct a mock spill scenario at the Baker Lake tank farm.

Louis Dubois took photographs and documented the spill actions as well as acted as the “Control Room” responder and the Baker Lake dispatch.

Mock Spill Scenario:

While inspecting the diesel fuel line from the offloading vessel to the shore, an Intertek employee notices a leak coming from a perforation in a pipe very close to the shore.

For the purpose of the scenario, a water pump was pumping water from the lake to a drum near the pipe to act as the diesel spill.

For the sake of realism, we considered that the available resources were the same as in reality. For example, no Agnico employees were at the Baker Lake tank farm and spud barge that day and only two Intertek employees were present.

- **Timeline**
 - 7:28 – Intertek crew discovers a leak on the pipe discharging the fuel.





AGNICO EAGLE

- 7:29 - Intertek crew call on MBK Dike channel (Code 1, Code 1, Code 1). Nobody is answering.
- 7:30 - Intertek crew call again on MBK Dike channel (Code 1, Code 1, Code 1), still no answer.
- 7:32 - Intertek crew call on BL Road BL channel (Code 1, Code 1, Code 1).
 - BL dispatch confirms the spill and advises Intertek that they will relay information to Environment Department.
- 7:33 - Dispatch copied the message and he is now advising environment team at MBK
- 7:35 - Intertek crew calls the vessel to stop the transfer of fuel and relays the message of leaking pipe to the Captain.
- 7:37 - The Intertek crew is now looking for spill response material. They know there are sea cans with spill response material, but since the sea cans are not identified, they lose a little bit of time opening the wrong sea cans.





AGNICO EAGLE

- 7:39 - Intertek crew has received confirmation from the captain of the vessel that fuel transfer has stopped.
- 7:40 - The Intertek crew have now found the sea cans and are looking for spill socks and pads.
 - Meanwhile the Environmental Technician calls the Intertek crew to get an idea of the situation
 - Intertek employee explains briefly the situation and tells the technician that the spill is not yet contained. The Intertek employee explains the action plan with the spill socks and that he will call back as soon as the spill is contained.



- 7:42 – The team is bringing the material to the spill site.



AGNICO EAGLE



- 7:45 to 7:50 – Intertek crew is deploying the spill socks





AGNICO EAGLE





AGNICO EAGLE

- 7:51 – Spill sock is installed and Intertek employee calls environment technician to inform him of the development.
 - ENV. Technician asks if the spill was contained and Intertek explains that even if the fuel discharge process is stopped, diesel is still leaking from the pipe because of the length of the pipe and gravity draining the pipe.
 - ENV. Technician asks the guys to go find some “Plug Pattie” in the sea cans and if possible to dig a sump to contain the spill.
- 7:58 to 8:06– Intertek goes back to the sea cans to search for the “Plug Pattie” and they have a hard time finding it.



- 8:06 – They find the “Plug Pattie” under some ropes and buoys and a shovel.



AGNICO EAGLE



- 8:10 - "Plug Pattie" is used and successfully plugs the punctured pipe and the spill is now contained.



- 8:10 - While the hole was getting plugged, one of the Intertek guys had dug a small sump to contain the spill and also added some absorbent material to "freeze" the diesel.



AGNICO EAGLE



- 8:15 – Intertek communicates with the Environmental. Technician to confirm that the spill is now contained and estimated the volume spilled to be 15 to 20 liters.
 - Environment Department is already on the road to Baker Lake to go evaluate the scene. Since the spill is fairly small, the Environmental Technician ask the Intertek crew if they can shovel the contaminated material in an empty drum before it percolates more into the ground.

- 8:30 – All contaminated soil is now collected in a drum, ready to be shipped to MBK.
 - Environmental. Technician relay the information to Meadowbank Environment Team and Baker Lake Dispatch.



AGNICO EAGLE





AGNICO EAGLE

AEM & Intertek Debriefing, Comments and Recommendations:

During the scenario, a couple of problems were observed. It first started by radio communication when the guys tried to call Code 1 on the MBK Dike channel. According to them, they've been told to be on MBK Dike channel and they were not aware that code 1 needs to be done on PIT OPER MBK. Luckily, they had the idea to go on BL Dispatch channel. In theory, they should have received this information during their induction. They should make sure they have fully understood the communication procedures and ask if they have any doubts.

The second issue was the absence of signage on the emergency response sea cans. They knew roughly where the containers were, but wasted time looking for them. Environment will make sure to add signage on the sea cans.

The third difficulty observed was the poor housekeeping of the area and the poor storage of the emergency sea cans. Around the emergency sea cans all the way to the pipe, they are several items in the way (pallets, drums, welding machine, gas tanks...). One pallet containing compress gas tank was even blocking the access to one of the sea can. (See photos 1 & 2 in appendix A).

It would have been practical to be able to back up close to the containers with a truck and to easily get to the site of the spill. For the storage of the emergency sea cans, good housekeeping would definitely help to save some precious time. Environment will do a good clean-up in the emergency cotenant. For the housekeeping outside, Interkek should not hesitate to address the situation to any AEM employee to make their working environment is safe and efficient.

We also discuss the location and utility of the OPEP and Spill Contingency plans located in the spud barge office. If Intertek crew is unsure of what to do or what procedures to follow – they can refer to the plans listed above or call Environment Department.

To put it in a nutshell, there is certainly room for improvement in terms of communication, signage and housekeeping that needs to be addressed. Like making sure that the emergency communication plan is understood, that signage is installed on the sea cans, and that good housekeeping is kept all the time around our working area.

However, the Intertek team was very cooperative, reacted fast, and had good ideas. The spill was contained quickly with little impact on the environment.



AGNICO EAGLE

Appendix A



AGNICO EAGLE

Photo 1



Photo 2



APPENDIX E 1.1–Desgagnes Ship general Checklist

ARCTIC WATERS OIL TRANSFER

TRANSFER PARTICULARS

VESSEL / STATION INFORMATION				Location:	
	Supplier	Recipient		Start Date	
Vessel / Station Name				Start Time	
Officer in Charge				Finish Date	
Title				Finish Time	
OPERATIONS					
Transfer Type:			Connection Type (eg 2/4 bands):		
Total Length of Hose (m):			Number of Hose Sections:		
Diameter (m):			Test Pressure (kPa):		
Purge Method: Nitrogen / Air			Pig Used: Yes / No		
Boom deployed before transfer: Yes / No			If yes, type:		
Work Boat used: Yes / No					
Hose Strain Relief System used: Yes / No					
PRODUCT INFORMATION				WEATHER CONDITIONS	
Type	Quantity	Start Time	Finish time	Ice:	
				Wind Force (knots):	
				Wind Direction:	
				Sea State:	
				Visibility:	
				Light Conditions:	
COMMUNICATIONS					
Primary Method:		(VHF/UHF CHAN/FREQ)			
Backup Method:		(PHONE, RADIO, ETC)			
Language Used:					

ARCTIC WATERS OIL TRANSFER

GENERAL CHECKLIST FOR ALL TRANSFERS

GENERAL PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
1. Pre-transfer P.A. Announcement made?						
2. All personnel involved are informed & adequately trained? A designated person in charge on duty at all times during the transfer operation?						
3. Language agreed to?						
4. All communications including Backup System tested?						
5. Is fire fighting equipment tested, available & are fire screens in place?						
6. Are all regulations for transfer understood and observed and "NO SMOKING, NAKED LIGHTS or FLAMES" signs posted?						
7. Are flashlights "intrinsically safe" and approved?						
8. Are window type A.C. units switched off?						
9. Are exterior doors and ports leading to main deck closed?						
10. Is equipment, tools & material required for transfer available at hand?						
11. Is containment equipment and absorbent material available?						
12. Has Transfer Emergency Shutdown been tested?						
13. Hoses to be used have been checked for:						
a) correct diameter & length to reach other station,						
b) chafing, cracks or other deformation,						
c) damaged fittings,						
d) blanking of hoses,						
e) continuity.						
14. All repair work at either station stopped. (if dangerous for transfer)						
15. Inert gas system is fully operational (if fitted).						

16. Main transmitting aerials and radar scanners are used with due care .

ARCTIC WATERS OIL TRANSFER

GENERAL CHECKLIST FOR ALL TRANSFERS (Continued)

GENERAL PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
17. All craft alongside are authorised and following hazard warnings, etc.						
18. Is hose test certificate or records available for inspection?						
19. Have weather and ice reports been determined?						
20. Are gas concentration accumulations in still air conditions monitored?						
21. Are all scuppers plugs in place?						
22. Are main decks free of standing water?						
23. Were manifolds drained before removing blanks?						
24. Are pressure gauges ready and in place?						
25. All sea valves on cargo systems closed?						
26. Are drip cans and trays in place, and empty?						
27. Is lighting adequate for all transfer requirements?						
28. Is mooring watch being monitored?						
29. Are spill reporting procedures understood?						
30. Are all tank vents free of blockage?						
31. Have Pressure/Vacuum Relief (PVR) valves been checked?						
32. Has a post-transfer PA announcement been made?						
33. Are International signals being displayed? (if required)						
34. Has a written procedure and the sequence of the transfer been agreed upon?						
35. Is there a clear understanding of the watch and shift arrangement?						
36. Will there be sufficient personnel available at all times to monitor the transfer operation, tend cargo hose and mooring lines and take appropriate action in an emergency?						

APPENDIX E 1.2– Desgagnes Ship To shore Checklist

ARCTIC WATERS OIL TRANSFER

CHECKLIST FOR SHIP TO SHORE TRANSFERS

SHIP to SHORE - PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
1. Has the General Checklist for All Transfers complete?						
2. Are all vehicles outside the agreed safe distance?						
3. Are the emergency towing wires in place?						
4. Is the vessel ready to move under its own power immediately?						
5. Has a hose drainage plan been agreed upon?						
6. Has the hose string been checked to working pressure?						
7. Is a work boat dep loyed to check the hose frequently for leaks during transfer?						
8. Are all transfer associated valves and tanks closed after transfer?						
9. Have hoses been purged prior to their return to the vessel?						
10. Are hoses and other transfer equipm ent properly stowed?						

APPENDIX E 1.3– Desgagnes Cargo Pre Arrival

ARCTIC WATERS OIL TRANSFER

CHECKLIST FOR BARGE TRANSFERS

BARGE - PROCEEDURE	CHECK	SUPPLIER		RECIPIENT		COMMENTS
	YES	INITIAL	DATE	INITIAL	DATE	
1. Has the General Checklist for All Transfers been completed?						
2. Is the discharge pump as close as possible to suction pipe of the discharge tank?						
3. Check hard line hose between pump and tank (if fitted)?						
4. Check couplings on discharge between pump and recipient?						
5. Do not exceed the following: a) maximum list (P & S) b) maximum trim (FWD & AFT)						
6. Are barge tank diagrams and pipe schematics available?						
7. Are fenders between the barge and other vessel?						
8. Is barge equipment bonded to barge structure?						
9. Are fire screens installed in ullage openings?						
10. Are all valves closed and hoses stowed after completion of transfer?						

APPENDIX F– Concordance Table

CONCORDANCE TABLE

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 <small>(page, section, etc.)</small>
	<u>Oil Pollution Prevention Plan (OPPP)</u>	
10(a)	<p>Content</p> <p>The oil pollution prevention plan must contain the following:</p> <p>the position of the person who is responsible for supervising in person the loading or unloading of oil to or from a vessel;</p>	Section 5.3, page 17
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, page 17
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, page 17; Appendix D; Appendix E
10(d)	the procedures to be followed in order to meet the requirements of subsection 38(2) of the <i>Vessel Pollution and Dangerous Chemicals Regulations</i> 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, page 17; Section 8, page 28; Section 10, page 39

10(e)	the measures to be taken in order to meet the requirements of section 33 of the <i>Vessel Pollution and Dangerous Chemicals Regulations</i> 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 28
10(f)	a description of the lighting to be provided in order to meet the requirements of section 34 of the <i>Vessel Pollution and Dangerous Chemicals Regulations</i> ;	Section 5.3, page 17;
10(g)	documentation that demonstrates that the transfer conduit at the oil handling facility meets the requirements of subsection 35(1) of the <i>Vessel Pollution and Dangerous Chemicals Regulations</i> ;	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 <i>Vessel Pollution and Dangerous Chemicals Regulations</i> ;	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 <i>Vessel Pollution and Dangerous Chemicals Regulations</i> ;	Section 10, page 39
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, page 17;
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, page 48
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, page 48

SECTION	REQUIREMENT	REFERENCE (page, section, etc.)
	Oil Pollution Emergency Plan (OPEP)	
	Content	
11(1)(a)	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, page 39
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,	All document, Section 11.4, page 42
11(1)(b)(iii)	(iii) identifies the assumptions on which that scenario is based,	Section 5.2, page 17

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 15
	(B) the types of vessels to or from which the oil product is loaded or unloaded,	Section 5.1 and 5.2, page 15-17
	(C) the tides and currents that exist at the facility,	Section 4.3.7, page 12
	(D) the meteorological conditions that exist at the facility,	Section 4.3.8, page 12
	(E) the surrounding areas of environmental sensitivities that would likely be affected by a discharge,	Section 4.3.9, page 12
	(F) the measures to be taken to minimize the effects of a discharge, and	Section 5.3, page 17
	(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, page 35 Section 10, page 40
	(ii) the safety of the facility,	Section 2.1, page 2; Section 10, page 39
	(iii) the safety of the communities living adjacent to the facility,	Section 2.1, page 2; Section 10, page 39
	(iv) the prevention of fire and explosion,	Section 2.1, page 2; Section 10, page 39
	(v) the minimization of the effects of a discharge,	Section 2.1, page 2; Section 10, page 39
	(vi) the reporting of the oil pollution incident,	Section 2.1, page 2; Section 10, page 39
	(vii) the environmental impact of a discharge, and	Section 2.1, page 2; Section 10, page 39
	(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, page 39

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, page 23
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;	Section 7, page 23
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 7, page 23
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;	Section 12.1 page 48
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, page 48
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, page 43
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 Page 39 Appendix C Page 55
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 <i>Vessel Pollution and Dangerous Chemicals Regulations</i> ; and	Section 10 page 39; Section 11.4, page 43
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 38
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 40
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, page 42

SECTION	REQUIREMENTS	REFERENCE (page, section, etc.)
12(1)	<p style="text-align: center;">Plan Reviews and Updates</p> <p>Annual review</p> <p>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.</p>	Section 2.1 Page 2
12(2)	<p>Review — events</p> <p>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:</p> <p>(a) any change in the law or in environmental factors that could affect the loading or unloading of oil to or from a vessel;</p> <p>(b) any change in personnel involved in the loading or unloading of oil to or from a vessel;</p> <p>(c) the identification of a gap in either of the plans after an oil pollution incident or exercise; and</p> <p>(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.</p>	Section 2.1 Page 2 Section 2.1 Page 2 Section 2.1 Page 2 Section 2.1 Page 2
12(3)	<p>Submission of updates to Minister</p> <p>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.</p>	Section 2.1 Page 2
12(4)	<p>Record</p> <p>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.</p>	Document Control, page V

Procedures, Equipment and Resources		
13(1)	<p>Procedures</p> <p>The procedures referred to in paragraph 168(1)(e) of the Act must include the following:</p> <p>(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;</p>	Section 10.4, page 42
	<p>(b) the reporting of the discharge in accordance with section 133 of the <i>Vessel Pollution and Dangerous Chemicals Regulations</i>;</p>	Section 10.2.1, page 41
	<p>(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;</p>	Section 10.1, page 40
	<p>(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;</p>	Section 2.1, page 2; Section 10, page 39
	<p>(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;</p>	Section 1, page 1
	<p>(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);</p>	Section 3.2, page 5; Section 5.3, page 17; Section 7, page 23; Section 8, page 28; Section 9, page 34 Section 10, page 39; Section 11, page 42
	<p>(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</p>	Section 3.1, page 5
	<p>(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.</p>	Section 9.3, page 38
	13(2)(a)	<p>Equipment and resources</p> <p>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</p> <p>(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</p>
13(2)(b)	<p>(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,</p> <p>(i) for the purposes of containing and controlling the oil, within one hour after the discovery of the discharge, and</p>	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
--	---	------------------------